

FORM 10-K

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D. C., 20549

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

For the fiscal year ended December 31, 2010

Commission file number 0-20713

ENTREMED, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State of Incorporation)

58-1959440
(I.R.S. Employer Identification No.)

9640 Medical Center Drive, Rockville, MD
(Address of principal executive offices)

20850
(Zip Code)

Registrant's telephone number, including area code: (240) 864-2600

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

Common Stock, \$0.01 par value
(Title of each class)

The NASDAQ Stock Market LLC
(Name of each exchange on which registered)

Securities registered pursuant to Section 12(g) of the Act: NONE

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

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

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

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

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

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

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

As of June 30, 2010, the aggregate market value of the shares of common stock held by non-affiliates was approximately \$37,859,172.

As of March 23, 2011, 11,530,429 shares of the Company's common stock were outstanding.

Documents Incorporated By Reference

The registrant intends to file a definitive proxy statement pursuant to Regulation 14A within 120 days of the end of the fiscal year ended December 31, 2010. The proxy statement is incorporated herein by reference into the following parts of the Form 10K:

- Part III, Item 10, Directors, Executive Officers and Corporate Governance;
 - Part III, Item 11, Executive Compensation;
 - Part III, Item 12, Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters;
 - Part III, Item 13, Certain Relationships and Related Transactions, and Director Independence; and
 - Part III, Item 14, Principal Accounting Fees and Services.
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ENTREMED, INC.
FORM 10-K - FISCAL YEAR ENDED DECEMBER 31, 2010

Contents and Cross Reference Sheet

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report contains certain forward-looking statements within the meaning of Section 27A of the Securities Exchange Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements also may be included in other statements that we make. All statements that are not descriptions of historical facts are forward-looking statements. These statements can generally be identified by the use of forward-looking terminology such as “believes,” “expects,” “intends,” “may,” “will,” “should,” or “anticipates” or similar terminology. These forward-looking statements

include, among others, statements regarding the timing of our clinical trials, our cash position and future expenses, and our future revenues.

Actual results could differ materially from those currently anticipated due to a number of factors, including: the risk that we may be unable to continue as a going concern as a result of our inability to raise sufficient capital for our operational needs; the possibility that we may be delisted from trading on the Nasdaq Capital Market; the volatility of our common stock; our inability to enter into strategic partnerships for the development, commercialization, manufacturing and distribution of our proposed product candidate; risks relating to the need for additional capital and the uncertainty of securing additional funding on favorable terms; the failure to consummate a transaction to monetize our Thalomid[®] royalty stream for any reason, including our inability to obtain the required third-party consents; declines in actual sales of Thalomid[®] resulting in reduced royalty payments; risks associated with our product candidates; the early-stage products under development; results in preclinical models are not necessarily indicative of clinical results; uncertainties relating to preclinical and clinical trials, including delays to the commencement of such trials; the lack of success in the clinical development of any of our products; dependence on third parties; and risks relating to the commercialization, if any, of our proposed products (such as marketing, safety, regulatory, patent, product liability, supply, competition and other risks).

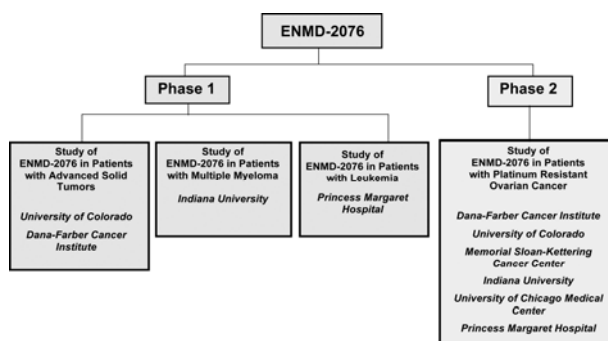
We caution investors that actual results or business conditions may differ materially from those projected or suggested in forward-looking statements as a result of various factors including, but not limited to, those described above and in Section IA, "Risk Factors" of this Annual Report on Form 10-K and our other filings with the Securities and Exchange Commission ("SEC"). We cannot assure you that we have identified all the factors that create uncertainties. Moreover, new risks emerge from time to time and it is not possible for our management to predict all risks, nor can we assess the impact of all risks on our business or the extent to which any risk, or combination of risks, may cause actual results to differ from those contained in any forward-looking statements. Readers should not place undue reliance on forward-looking statements. We undertake no obligation to publicly release the result of any revision of these forward-looking statements to reflect events or circumstances after the date they are made or to reflect the occurrence of unanticipated events.

PART I

ITEM 1. BUSINESS.

EntreMed, Inc. (“EntreMed” or “the Company”) (Nasdaq: ENMD) is a clinical-stage pharmaceutical company focused on developing its lead compound ENMD-2076, an Aurora A and angiogenic kinase inhibitor for the treatment of cancer. ENMD-2076 has completed Phase 1 studies in patients with advanced solid tumors and leukemia and is currently in a Phase 1 study in multiple myeloma and a multi-center Phase 2 study in patients with platinum resistant ovarian cancer.

ENMD-2076



ENMD-2076 is a novel orally-active, Aurora A/angiogenic kinase inhibitor with potent activity against Aurora A and multiple tyrosine kinases linked to cancer and inflammatory diseases. ENMD-2076 is relatively selective for the Aurora A isoform in comparison to Aurora B. Aurora kinases are key regulators of the process of mitosis, or cell division, and are often over-expressed in human cancers. ENMD-2076 exerts its effects through multiple mechanisms of action, including anti-proliferative activity and the inhibition of angiogenesis. ENMD-2076 has demonstrated significant, dose-dependent preclinical activity as a single agent, including tumor regression, in multiple xenograft models (e.g. breast, colon, leukemia), as well as activity towards ex vivo-treated human leukemia patient cells.

ENMD-2076 has received orphan drug designation from the United States Food and Drug Administration (the “FDA”) for the treatment of ovarian cancer, multiple myeloma and acute myeloid leukemia (“AML”). In the United States, the Orphan Drug Act is intended to encourage companies to develop therapies for the treatment of diseases that affect fewer than 200,000 people in this country. Orphan drug designation provides us with seven years of market exclusivity that begins once ENMD-2076 receives FDA marketing approval for a specific indication. It also provides certain financial incentives that can help support the development of ENMD-2076.

OTHER PRODUCT CANDIDATES

ENMD-2076 is our only program currently under active clinical evaluation. The selection of ENMD-2076 as our lead product candidate allows us to direct the majority of our resources to advance its clinical development. However, we also own the intellectual property or have exclusive rights to the intellectual property of our other early-stage therapeutic candidates. We do not intend to initiate additional new studies for programs other than ENMD-2076 unless significant resources become available to us beyond what we would commit to further the clinical development of ENMD-2076. Our other therapeutic candidates include MKC-1, an oral cell-cycle inhibitor with activity against the mTOR pathway that has completed multiple Phase 2 clinical trials for cancer, and ENMD-1198, a novel anti-mitotic agent that has completed a Phase 1 study in advanced cancers. We also have an approved Investigational New Drug Application (“IND”) for the use of Panzem[®] in rheumatoid arthritis (“RA”) treatment. All of our candidates are multi-mechanism and affect multiple pathways necessary for tumor growth.

MKC-1 for Oncology. MKC-1 is an orally-active, small molecule, cell cycle inhibitor with *in vitro* and *in vivo* efficacy against a broad range of human solid tumor cell lines, including multi-drug resistant cell lines. MKC-1 acts through multiple mechanisms of action, arresting cellular mitosis and inducing cell death (apoptosis) by binding to a number of different cellular proteins including tubulin and members of the importin β family. MKC-1 also inhibits activation of the oncogenic kinase Akt and the mTOR pathway.

MKC-1 has demonstrated broad anti-tumor effects in multiple preclinical models, including paclitaxel-resistant models, and was evaluated in several Phase 1 and 2 clinical studies involving nearly 270 patients prior to the licensing from Hoffman La Roche. These studies have provided extensive pharmacokinetic and safety data. Since acquired by Entremed, MKC-1 has shown single agent anti-tumor activity in breast cancer patients and in combination with Alimta[®] in non small cell lung cancer patients. MKC-1 has completed multiple Phase 2 clinical trials for several cancers and has a significant clinical and preclinical data set.

ENMD-1198 for Oncology. ENMD-1198 is a potent, orally-active, anti-mitotic agent that induces cell cycle arrest and apoptosis in tumor cells. ENMD-1198 has shown pronounced anti-tumor activity as well as substantial synergistic effects in combination with standard of care chemotherapeutic agents in numerous preclinical models.

ENMD-1198 does not exhibit sensitivity to multi-drug resistance mechanisms in preclinical studies. ENMD-1198 also has shown preclinical activity towards taxane and vinca alkaloid resistant tumor cells. Additionally, ENMD-1198 decreases the activity of three oncogenic proteins (HIF-1 α , NF- κ B and STAT3) that are known to promote tumor growth and progression. ENMD-1198 has been evaluated in a Phase 1 clinical trial for safety, tolerability, pharmacokinetics, and clinical benefit in advanced cancer patients.

Panzem[®] (2-methoxyestradiol, 2ME2) for Rheumatoid Arthritis. Panzem[®] is an orally active compound that has anti-proliferative, anti-angiogenic and anti-inflammatory properties. The inhibition of angiogenesis is an important approach to the treatment of both cancer and rheumatoid arthritis. Panzem[®] has potential as a single agent in rheumatoid arthritis (RA) based on its anti-angiogenic, anti-inflammatory, and anti-osteoclastic (bone resorption) properties.

An IND to develop 2ME2 in rheumatoid arthritis was accepted based on its safety profile demonstrated throughout the oncology development clinical a program, and preclinical research results showing that 2ME2 has disease modifying anti-arthritis (DMARD) activity in a variety of animal models of RA. DMARDs are drugs that have the ability to slow down disease progression in RA and other autoimmune diseases, in contrast to non-steroidal anti-inflammatory drugs which only treat the immune reaction resulting from tissue damage. We have generated substantial preclinical data demonstrating the positive effects of 2ME2 treatment on inflammation and disease progression in standard animal models of RA. Radiographic and immunohistochemical staining results from these preclinical studies have shown consistent therapeutic effects on the hallmarks of the disease, including the inhibition of the highly angiogenic pannus, infiltrating cells, cartilage lesions and bone resorption.

PANZEM[®] NCD (2-methoxyestradiol, 2ME2) for Oncology

In 2008, we discontinued clinical development of 2ME2 (Panzem[®] NCD) for oncology. Substantial clinical trial and manufacturing/process development costs would be required to narrow the oncology indications for larger registration-track randomized studies. These expenditures would require the commitment of a disproportionate amount of resources and limit clinical development efforts on other assets.

PRECLINICAL

Our focus is on clinical development of ENMD-2076, due to our limited resources at this time. The only preclinical activities underway are those required to support the further development of ENMD-2076 and include the identification of metabolites and their activity, the evaluation of the routes of metabolism and the optimization of manufacturing processes for the active ingredient and final product.

2011 OUTLOOK

In 2011, we will seek additional financing to further the clinical development of ENMD-2076. In addition to utilizing the capital markets, we may seek strategic alliances, co-development partnerships and collaborations with other companies to develop our product candidates and finance further clinical trials and research programs.

OPERATING LOSSES

To date, we have been engaged exclusively in research and development activities. As a result, we have incurred operating losses through December 31, 2010 and expect to continue to incur operating losses for the foreseeable future before commercialization of any products. We spent \$4,830,000 on research and development in 2010, as compared to \$7,902,000 in 2009 and \$20,069,000 in 2008. The decrease in research and development expense is due to our decision to focus our resources solely on ENMD-2076. To accomplish our business goals, we, or prospective development partners, will be required to conduct substantial development activities for product candidates that we intend to pursue to commercialization. We intend to continue to pursue strategic relationships to provide resources for the further development of our product candidates. There can be no assurance, however, that these discussions will result in relationships or additional funding. In addition, we may continue to raise capital through the public or private sale of securities. There can be no assurance that we will be successful in securing such additional capital on favorable terms, if at all.

MANAGEMENT

Our management team has aligned our business strategy with our core scientific strengths, while maintaining prudent resource management, fiscal responsibility and accountability. The team has directed EntreMed's financial resources and R&D strategy to focus primarily on the development of our Aurora A/angiogenic kinase inhibitor, ENMD-2076.

The current senior management team includes: Carolyn F. Sidor, M.D., MBA, Vice President & Chief Medical Officer; Cynthia W. Hu, JD, Chief Operating Officer, General Counsel & Secretary; Sara B. Capitelli, Vice President, Finance & Principal Accounting Officer; and Mark R. Bray, Ph.D., Vice President, Research. This senior management team reports directly to the Executive Chairman and the Board of Directors. Michael M. Tarnow serves as our Executive Chairman and Dwight L. Bush serves as our Vice Chairman.

SCIENTIFIC FOUNDATION

We developed our product candidates based on comprehensive research into the relationship between malignancy and angiogenesis (the growth of new blood vessels). This research led to a focus on product candidates that act on the cellular pathways that affect biological processes important in multiple diseases, specifically angiogenesis and cell cycle regulation through the inhibition of key kinases. Our product candidate, ENMD-2076, has potential applications in oncology and other diseases that are dependent on the regulation of these processes.

Kinase Inhibition. Kinases are enzymes that are primary regulators of many essential processes in living cells. There are approximately 500 different kinases encoded in the human genome, and these proteins act together in intricate communication networks and pathways to control virtually every aspect of cellular function. The reliance of the cell on kinases to regulate function can be disastrous when kinase signaling becomes aberrant. Many human diseases have been linked to these enzymes including all forms of cancer, arthritis, inflammation, diabetes, and cardiovascular disease. The inhibition of kinases as a targeted therapeutic approach has now been validated by several drugs that have advanced successfully through clinical trials to the marketplace. The integral role kinases play in angiogenesis and cell cycle regulation has led EntreMed to develop inhibitors to key kinases involved in these processes.

Cell Cycle Regulation. Precise regulation of the cell cycle is essential for healthy cell functions including the replication, growth, and differentiation. One specific aspect of cell cycle regulation is the programmed control of cell death (apoptosis). In certain diseases, such as cancer, the balance between cell proliferation and cell death is altered, resulting in inappropriate cell growth. Our compounds impact biochemical pathways in cells that result in

their death via apoptosis. We believe that the selective induction of apoptosis through drugs that induce cell cycle arrest can either stabilize or cause the regression of cancer, inflammation and other disease processes characterized by inappropriate cell growth.

Angiogenesis. Angiogenesis is a multi-step process whereby new blood vessels are formed. This tightly regulated process involves the migration, proliferation and differentiation of endothelial cells. In normal physiology, angiogenesis is a necessary component of the menstrual cycle and wound healing, where the process is regulated through appropriate shifts in the balance of pro-angiogenic and anti-angiogenic signals. This tight regulation of angiogenesis in normal physiology is absent or aberrant in multiple disease settings that are characterized by persistent, inappropriate blood vessel development. Inappropriate angiogenesis occurs in more than 80 diseases, particularly in various cancers where the growth of new blood vessels is necessary to sustain tumor growth.

BUSINESS DEVELOPMENT AND COMMERCIALIZATION STRATEGY

Oncology is our principal clinical and commercial focus. Based on ENMD-2076's strong preclinical anti-tumor activity, favorable safety profile and bioavailability, we believe that it has significant therapeutic potential in a broad range of tumor types and continue to focus our resources on ENMD-2076 as our priority program. We believe that ENMD-2076 represents a potential Phase 2 partnering opportunity for large biopharmaceutical companies or drug development companies. As a result, our strategy is to pursue the development of ENMD-2076 for oncology, obtain additional clinical data while being selective and opportunistic in exploring strategic alliances for this and other compounds in our pipeline. We may pursue co-development partners for our other pipeline product candidates to help accelerate their development and strengthen the development program with complementary expertise. We can also provide our co-development partners with substantial know-how relating to small molecules that inhibit angiogenesis and inflammation, as well as regulate cell cycle pathways.

RELATIONSHIPS RELATING TO CLINICAL PROGRAMS

Contract Manufacturing. The manufacturing efforts for the production of our clinical trial materials are performed by contract manufacturing organizations. Established relationships, coupled with supply agreements, have secured the necessary resources to ensure adequate supply of clinical materials to support our clinical development program. We believe that our current strategy of outsourcing manufacturing is cost-effective and allows for the flexibility we require.

Sponsored Research Agreements. To complement our in-house research and development efforts, we have entered into sponsored research agreements with outside scientists to conduct specific projects. Under these agreements, we have secured the rights to intellectual property and to develop under exclusive license any discoveries resulting from these collaborations. The funds we provide in accordance with these agreements partially support the scientists' laboratory, research personnel and research supplies.

Clinical Trial Centers. As of March 30, 2011, we are conducting clinical trials for ENMD-2076 at the following institutions:

-	Dana-Farber Cancer Institute, Boston, MA
-	Memorial Sloan-Kettering Cancer Center, NY, NY
-	Indiana University Melvin & Bren Simon Cancer Center, Indianapolis, IN
-	Princess Margaret Hospital, Toronto, Ontario
-	University of Colorado Cancer Center, Aurora, CO
-	University of Chicago Medical Center, Chicago, IL

PATENTS, LICENSES AND PROPRIETARY RIGHTS

Our success will depend in part on our ability to obtain patent protection for our product candidates, both in the United States and abroad. The patent position of biotechnology and pharmaceutical companies, in general, is highly uncertain and involves complex legal and factual questions.

With respect to our leading program, ENMD-2076, we directly own patent applications for the lead compound, ENMD-2076, and also for a library of over 600 analogs. Ownership includes 1 issued US patent, 3 pending US applications, 5 issued foreign patents and 27 pending foreign applications. Our issued patents for ENMD-2076 expire September 9, 2026, and in the case of the issued US patent, March 5, 2027. Pending patent applications for ENMD-2076 provide coverage through 2026. Patent applications pending for the over 600 analogs provide coverage ranging from 2025 to 2028.

With respect to our entire patent estate for all of our product candidates, we directly own 25 U.S. issued patents and patent applications and 45 foreign issued patents and patent applications, and have exclusively licensed 9 U.S. issued patents and 186 foreign issued patents and patent applications. We review and assess our portfolio on a regular basis to ensure protection and to align our patent strategy with our overall business strategy.

We have trademark protection for the trademarks ENTREMED and PANZEM.

GOVERNMENT REGULATION

Our development, manufacture, and potential sale of therapeutics in the United States and abroad are subject to extensive regulations.

In the United States, the FDA regulates product candidates currently being developed as drugs or biologics. New drugs are subject to regulation under the Federal Food, Drug, and Cosmetic Act (FFDCA), and biological products, in addition to being subject to certain provisions of that Act, are regulated under the Public Health Service Act (PHSA). We believe that the FDA will regulate the products currently being developed by us or our collaborators as new drugs. Both the FFDCA and PHSA and corresponding regulations govern, among other things, the testing, manufacturing, safety, efficacy, labeling, storage, recordkeeping, advertising and other promotion of biologics or new drugs, as the case may be. FDA clearances or approvals must be obtained before clinical testing, and before manufacturing and marketing of biologics or drugs.

Preparing drug candidates for regulatory approval has historically been a costly and time-consuming process. Generally, in order to gain FDA permission to test a new agent, a developer first must conduct preclinical studies in the laboratory and in animal model systems to gain preliminary information on an agent's effectiveness and to identify any safety problems. The results of these studies are submitted as a part of an IND application for a drug or biologic, which the FDA must review before human clinical trials of an investigational drug can begin. In addition to the known safety and effectiveness data on the drug or biologic, the IND must include a detailed description of the clinical investigations proposed. Based on the current FDA organizational structure, ENMD-2076 is regulated as a new chemical entity by the FDA's Center for Drug Evaluation and Research (CDER). Generally, as new chemical entities like our small molecules are discovered, formal IND-directed toxicology studies are required prior to initiating human testing. Clinical testing may begin 30 days after submission of an IND to the FDA unless FDA objects to the initiation of the study or has outstanding questions to discuss with the IND sponsor.

In order to commercialize any drug or biological products, we or our collaborators must sponsor and file an IND and conduct clinical studies to demonstrate the safety and effectiveness necessary to obtain FDA approval of such products. For studies conducted under INDs sponsored by us or our collaborators, we or our collaborators will be required to select qualified investigators (usually physicians within medical institutions) to supervise the administration of the products, test or otherwise assess patient results, and collect and maintain patient data; monitor the investigations to ensure that they are conducted in accordance with applicable requirements, including the requirements set forth in the general investigational plan and protocols contained in the IND; and comply with applicable reporting and recordkeeping requirements.

Clinical trials of drugs or biologics are normally done in three phases, although the phases may overlap. Phase 1 trials for drug candidates to be used to treat cancer patients are concerned primarily with the safety and preliminary effectiveness of the drug, involve a small group ranging from 15 - 40 subjects, and may take from six months to over one year to complete. Phase 2 trials normally involve 30 - 200 patients and are designed primarily to demonstrate effectiveness in treating or diagnosing the disease or condition for which the drug is intended, although

short-term side effects and risks in people whose health is impaired may also be examined. Phase 3 trials are expanded clinical trials with larger numbers of patients which are intended to evaluate the overall benefit-risk relationship of the drug and to gather additional information for proper dosage and labeling of the drug. Phase 3 clinical trials generally take two to five years to complete, but may take longer. The FDA receives reports on the progress of each phase of clinical testing, as well as reports of unexpected adverse experiences occurring during the trial. FDA may require the modification, suspension, or termination of clinical trials, if it concludes that an unwarranted risk is presented to patients, or, in Phase 2 and 3, if it concludes that the study protocols are deficient in design to meet their stated objectives.

If clinical trials of a new drug candidate are completed successfully, the sponsor of the product may seek FDA marketing approval. If the product is classified as a new drug, an applicant must file a New Drug Application (NDA) with the FDA and receive approval before commercial marketing of the drug. The NDA must include detailed information about the product and its manufacture and the results of product development, preclinical studies and clinical trials.

The testing and approval processes require substantial time and effort and there can be no assurance that any approval will be obtained on a timely basis, if at all. Although it is the policy of the FDA to complete the review of the initial submission of NDAs within six to twelve months, the entire FDA review process may take several years. Notwithstanding the submission of relevant data, the FDA may ultimately decide that the NDA does not satisfy its regulatory criteria and deny the approval. Further, the FDA may require additional clinical studies before making a decision on approval. In addition, the FDA may condition marketing approval on the conduct of specific post-marketing studies to further evaluate safety and effectiveness. Even if FDA regulatory clearances are obtained, a marketed product is subject to continuing regulatory requirements and review relating to Good Manufacturing Practices, adverse event reporting, promotion and advertising, and other matters. Discovery of previously unknown problems or failure to comply with the applicable regulatory requirements may result in restrictions on the marketing of a product or withdrawal of the product from the market, as well as possible civil or criminal sanctions.

COMPETITION

Competition in the pharmaceutical, biotechnology and biopharmaceutical industries is intense and based significantly on scientific and technological factors, the availability of patent and other protection for technology and products, the ability and length of time required to obtain governmental approval for testing, manufacturing and marketing and the ability to commercialize products in a timely fashion. Moreover, the biopharmaceutical industry is characterized by rapidly evolving technology that could result in the technological obsolescence of any products that we develop.

We compete with many specialized biopharmaceutical firms, as well as a growing number of large pharmaceutical companies that are applying biotechnology to their operations. It is probable that the number of companies seeking to develop products and therapies for the treatment of unmet needs in oncology will increase. Many biopharmaceutical companies have focused their development efforts in the human therapeutics area, including oncology and inflammation, and many major pharmaceutical companies have developed or acquired internal biotechnology capabilities or made commercial arrangements with other biopharmaceutical companies. These companies, as well as academic institutions, governmental agencies and private research organizations, also compete with us in recruiting and retaining highly qualified scientific personnel and consultants.

Our competition will be determined in part by the potential indications for which our product candidates may be developed and ultimately approved by regulatory authorities. We may rely on third parties to commercialize our products, and accordingly, the success of these products will depend in significant part on these third parties' efforts and ability to compete in these markets. The success of any collaboration will depend in part upon our collaborative partners' own competitive, marketing and strategic considerations, including the relative advantages of alternative products being developed and marketed by our collaborative partners and our competitors.

Many of our existing or potential competitors have substantially greater financial, technical and human resources than we do and may be better equipped to develop, manufacture and market products. In addition, many of

these competitors have extensive experience in preclinical testing and human clinical trials and in obtaining regulatory approvals. The existence of competitive products, including products or treatments of which we are not aware, or products or treatments that may be developed in the future, may adversely affect the marketability of products that we may develop. Our competitors' drugs may be more effective than any drug we may commercialize and may render our product candidates obsolete or non-competitive before we can recover the expenses of developing our product candidates.

EMPLOYEES

Our work force is aligned to support the clinical development of ENMD-2076 and core areas of our operations and currently consists of 12 full-time employees and 2 part-time employees. Certain of our activities, such as manufacturing and clinical trial operations, are outsourced at the present time. We may hire additional personnel, in addition to utilizing part-time or temporary consultants, on an as-needed basis. None of our employees are represented by a labor union, and we believe our relations with our employees are satisfactory.

CORPORATE HEADQUARTERS

We were incorporated under Delaware law in 1991. Our principal executive offices are located at 9640 Medical Center Drive, Rockville, Maryland 20850, and our telephone number is (240) 864-2600. We also lease office space in Durham, North Carolina where our clinical and regulatory operations are based and have shared use of laboratory space in Toronto, Ontario where we conduct correlative research to support our development of ENMD-2076.

AVAILABLE INFORMATION

Through our website at www.entremed.com, we make available, free of charge, our filings with the Securities and Exchange Commission ("SEC"), including our annual proxy statements, annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, and all amendments thereto, as soon as reasonably practicable after such reports are filed with or furnished to the Securities and Exchange Commission. Our filings are also available through the Securities and Exchange Commission via their website, <http://www.sec.gov>. You may also read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The information contained on our website is not incorporated by reference in this annual report on Form 10-K and should not be considered a part of this report.

ITEM 1A. RISK FACTORS.

We Have an Immediate Need for Capital and Will Need to Raise Additional Capital in the Future to Continue our Business, and our Independent Registered Public Accounting Firm Has Expressed Substantial Doubt as to our Ability to Continue as a Going Concern

We estimate that our current capital resources will not be sufficient to fund our operations through the fourth quarter of 2011 without new financing. In addition, our financial statements have been prepared on the assumption that we will continue as a going concern, which contemplates the realization of assets and liquidation of liabilities in the normal course of business. However, our independent registered public accounting firm's report on our financial statements as of and for the fiscal year ended December 31, 2010 includes an explanatory paragraph that states that our recurring losses from operations raise substantial doubt about our ability to continue as a going concern.

Our ability to continue as a going concern is dependent on our success at raising additional capital sufficient to meet our obligations on a timely basis and to ultimately attain profitability. In the event we are unable to successfully raise additional capital, it is unlikely that we will have sufficient cash flows and liquidity to finance our business operations as currently contemplated. Accordingly, in the event new financing is not obtained, we will likely reduce general and administrative expenses and delay clinical development activity until we are able to obtain sufficient financing to do so. These factors could significantly limit our ability to continue as a going concern.

We Have a History of Losses and Anticipate Future Losses and May Never Become Profitable on a Sustained Basis

To date, we have been engaged primarily in research and development activities. Although we receive limited revenues on royalties from sales of Thalamid® and in the past have received license fees and research and development funding from a former collaborator and limited revenues from certain research grants, we have not derived significant revenues from operations.

We have experienced losses in each year since inception. Through December 31, 2010, we had an accumulated deficit of approximately \$374 million. We will seek to raise capital to continue our operations and although we have been successfully funded to date through the sales of our equity securities and through limited royalty payments, there is no assurance that our capital-raising efforts will be able to attract the funding needed to sustain our operations beyond that date or that such royalty payments will not continue to decline. If we are unable to obtain additional funding for operations, we may not be able to continue operations as proposed, requiring us to modify our business plan, curtail various aspects of our operations or cease operations. In such event, investors may lose a portion or all of their investment.

Losses have continued since December 31, 2010. We expect that our ongoing clinical and corporate activities will result in operating losses for the foreseeable future before we commercialize any products, if ever. In addition, to the extent we rely on others to develop and commercialize our products, our ability to achieve profitability will depend upon the success of these other parties. To support our research and development of certain product candidates, we may seek and rely on cooperative agreements from governmental and other organizations as a source of support. If a cooperative agreement were to be reduced to any substantial extent, it may impair our ability to continue our research and development efforts. Even if we do achieve profitability, we may be unable to sustain or increase it.

Our Common Stock May be Delisted From The NASDAQ Capital Market, Which Could Negatively Impact the Price of Our Common Stock and Our Ability to Access the Capital Markets

The Nasdaq Capital Market imposes, among other requirements, listing maintenance standards as well as minimum bid and public float requirements. In particular, Nasdaq rules require us to maintain a minimum bid price of \$1.00 per share of our common stock and to have a specified level of stockholder equity. If the closing bid price of our common stock is below \$1.00 per share for 30 consecutive trading days, which was the case in 2010, or we do not meet other requirements, which was the case in 2010 when we failed to meet the stockholders equity or minimum market value listing requirement, we would fail to be in compliance with Nasdaq's continued listing standards and, if we are unable to cure the listing deficiency, our common stock may be delisted from the Nasdaq Capital Market and we may not be able to maintain the continued listing of our common stock on the Nasdaq Capital Market. Although we regained compliance with the Nasdaq listing standards for minimum bid price and minimum market value during 2010, there is no assurance that we would be able to cure another listing rule deficiency.

The Current Capital and Credit Market Conditions May Adversely Affect the Company's Access to Capital, Cost of Capital, and Ability to Execute its Business Plan as Scheduled

Access to capital markets is critical to our ability to operate. Traditionally, biopharmaceutical companies (such as we) have funded their research and development expenditures through raising capital in the equity markets. Declines and uncertainties in these markets over the past two years have severely restricted raising new capital in amount sufficient to significantly conduct our ENMD-2076 program and have affected our ability to continue to expand or fund research and development efforts with our other product candidates. We require significant capital for research and development for our product candidates and clinical trials. In recent years, the general economic and capital market conditions in the United States have deteriorated significantly and have adversely affected our access to capital and increased the cost of capital, and there is no certainty that a recovery in

the capital and credit markets, enabling us to raise capital in an amount to sufficiently fund our short-term and long-term plans, will occur in 2011. If these economic conditions continue or become worse, the Company's future cost of equity or debt capital and access to the capital markets could be adversely affected. In addition, an inability by the Company to access the capital markets on favorable terms because of our low stock price, or upon our delisting from the NASDAQ Capital Market if we fail to satisfy a listing requirement, could affect our ability to execute our business plan as scheduled. Moreover, we rely and intend to rely on third parties, including our clinical research organizations, third party manufacturers, and certain other important vendors and consultants. As a result of the current volatile and unpredictable global economic situation, there may be a disruption or delay in the performance of our third-party contractors and suppliers. If such third parties are unable to adequately satisfy their contractual commitments to us in a timely manner, our business could be adversely affected.

We are Uncertain Whether Additional Funding Will Be Available For Our Future Capital Needs and Commitments, and If We Cannot Raise Additional Funding, or Access the Credit Markets, We May Be Unable to Complete Development of Our Product Candidates

We will require substantial funds in addition to our existing working capital to develop our product candidates and otherwise to meet our business objectives. We have never generated sufficient revenue during any period since our inception to cover our expenses and have spent, and expect to continue to spend, substantial funds to continue our clinical development programs. Any one of the following factors, among others, could cause us to require additional funds or otherwise cause our cash requirements in the future to increase materially:

- progress of our clinical trials or correlative studies;
- results of clinical trials;
- changes in or terminations of our relationships with strategic partners;
- changes in the focus, direction, or costs of our research and development programs;
- competitive and technological advances;
- establishment of marketing and sales capabilities;
- manufacturing;
- the regulatory approval process;
- product launch; or
- significant declines in our royalty revenue

At December 31, 2010, we had cash, cash equivalents and short-term investments of approximately \$4,912,000. We currently have no commitments or arrangements for any financing. We may continue to seek additional capital through public or private financing or collaborative agreements. Our operations require significant amounts of cash. We may be required to seek additional capital, whether from sales of equity or debt or additional borrowings, for the future growth and development of our business. We can give no assurance as to the availability of such additional capital or, if available, whether it would be on terms acceptable to us. In addition, we may continue to seek capital through the public or private sale of securities, if market conditions are favorable for doing so. If we are successful in raising additional funds through the issuance of equity securities, stockholders will likely experience substantial dilution, or the equity securities may have rights, preferences, or privileges senior to those of the holders of our common stock. If we raise funds through the issuance of debt securities, those securities would have rights, preferences, and privileges senior to those of our common stock. The current credit environment has negatively affected the economy, and we have considered how it might affect our business. If we are not successful in obtaining sufficient capital because we are unable to access the capital markets on favorable terms, it could reduce our research and development efforts, curtail significantly our development of ENMD-2076 and may materially adversely affect our future growth, results of operations and financial results.

We Rely Exclusively on the Royalty Payments Based upon Thalomid® Sales by a Third Party to Produce our Revenues, and We Do Not Have Any Late Stage Product Candidates

We entered into a licensing agreement in 2001 regarding royalty payments for Thalomid®, and in 2004, certain provisions of that agreement were satisfied, which then entitled the Company to share in royalty payments

received by Royalty Pharma Finance Trust on annual Thalomid[®] sales above a certain threshold. Based on the licensing agreement royalty formula, annual royalty sharing with Royalty Pharma commences when net royalties received by Royalty Pharma exceeds \$15,375,000, which equates to approximately \$225 million in Thalomid[®] annual sales. During the year ended December 31, 2010, royalty payments from Thalomid[®] sales by Celgene Corporation accounted for substantially all of our total revenues. As Thalomid[®] is distributed and sold by Celgene and/or its affiliates, we are reliant on a third party for our revenues.

Our royalty payment in 2010 and 2009 experienced a decline as compared to 2009 and 2008, respectively, and our total revenues earned in 2010 and 2009 were lower than 2009 and 2008, respectively. Based on the trend, we expect annual sales of Thalomid[®] in 2011 to decrease, which will result in a material reduction in our revenues. A wide variety of events could cause Thalomid[®] sales to decline, including for example, if a competing drug gains greater market share or wider acceptance, or if regulatory approvals for certain uses of Thalomid[®] are withdrawn, such events could adversely affect our royalty revenue. In the event that Celgene determines to cease selling Thalomid[®] or target its sales efforts to other proprietary drugs, or unexpected adverse effects are reported by patients or doctors in connection with the use of Thalomid[®], patient and physician confidence in Thalomid[®] as a treatment could be adversely affected. The inability of one of these third parties to perform these functions, or the failure of any of these parties to perform successfully, could cause our revenues to suffer. Additionally, if a competitor to Celgene successfully introduces a generic pharmaceutical product equivalent to Thalomid[®] at a relatively lower price and bypasses Celgene's S.T.E.P.S.[®] proprietary distribution program, such action could have the effect of reducing the market share and profitability of Thalomid[®], thus potentially causing a material adverse effect on our revenues and cash flow. Because we are dependent on sales of Thalomid[®], any reduction in Thalomid[®] sales for any reason, including, but not limited to, the reasons described, would cause our results of operations to suffer.

Additionally, we do not have any late stage clinical programs, and ENMD 2076 is in a Phase II trial. There is no assurance that ENMD-2076 will progress to further Phase II trials or advance to a Phase III trial, or that we will be able to finance such clinical trials. Accordingly, we do not have any near-term prospects of generating revenues from the commercial sale of ENMD-2076 or any of our product candidates.

The Market Price of Our Common Stock May Be Highly Volatile or May Decline Regardless of Our Operating Performance

Our common stock price has fluctuated from year-to-year and quarter-to-quarter and will likely continue to be volatile. During 2010, our stock price ranged from \$2.42 to \$11.88. We expect that the trading price of our common stock is likely to be highly volatile in response to factors that are beyond our control. The valuations of many biotechnology companies without consistent product revenues and earnings are extraordinarily high based on conventional valuation standards, such as price to earnings and price to sales ratios. These trading prices and valuations may not be sustained. In the future, our operating results in a particular period may not meet the expectations of any securities analysts whose attention we may attract, or those of our investors, which may result in a decline in the market price of our common stock. Any negative change in the public's perception of the prospects of biotechnology companies could depress our stock price regardless of our results of operations. These factors may materially and adversely affect the market price of our common stock.

Our Preferred Stockholder Would Have Priority in Distributions Over our Common Stockholders Following a Liquidation Event Affecting the Company. As a Result, in the Event of a Liquidation Event, our Common Stockholders Would Receive Distributions Only After Priority Distributions Are Paid

In the event of a Liquidation Event (as such term is defined in our Certificate of Designation of Series A Convertible Preferred Stock), Celgene, the sole holder of our outstanding Series A Convertible Preferred Stock ("Series A Preferred"), would be paid an amount equal to the Series A Preferred liquidation preference of \$10.00 per share of Series A Preferred in the aggregate amount of \$33,500,000, plus all accrued and unpaid dividends on such shares of Series A Preferred, which totals approximately \$8 million as of December 31, 2010. Additionally, unless waived, the holder of the Series A Preferred would be entitled to receive the Series A liquidation preference plus all accrued and unpaid dividends prior to any distributions to our common stockholders upon the occurrence of certain

other liquidation events. As a result, in the event of a Liquidation Event, our common stockholders' ability to realize value for their shares would be subject to the payment of such priority distributions.

Development of Our Products is Uncertain

ENMD-2076 is in Phase 2 development and our other product candidates were in the early stage of clinical development and require significant, time-consuming and costly research and development, testing and regulatory clearances. In developing our products, we are subject to risks of failure that are inherent in the development of these product candidates. For example, it is possible that any or all of our proposed products will be ineffective or toxic, or otherwise will fail to receive necessary FDA clearances. There is a risk that the proposed products will be uneconomical to manufacture or market or will not achieve market acceptance. There is also a risk that third parties may hold proprietary rights that preclude us from marketing our proposed products or that others will market a superior or equivalent product. Further, our research and development activities might never result in commercially viable products.

A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in advanced clinical trials even after promising results in earlier trials. Since ENMD-2076 is our primary product candidate any significant clinical setback or an unfavorable outcome in our Phase 2 trials for ENMD 2076 may require us to delay, reduce the scope of, or eliminate this program and could have a material adverse effect on our company and the value of our common stock.

Once a clinical trial has begun, it may be delayed, suspended or terminated due to a number of factors, including:

- ongoing discussions with regulatory authorities regarding the scope or design of our clinical trials or requests by them for supplemental information with respect to our clinical trial results;
- failure to conduct clinical trials in accordance with regulatory requirements;
- lower than anticipated retention rate of patients in clinical trials;
- serious adverse events or side effects experienced by participants; and
- insufficient supply or deficient quality of product candidates or other materials necessary for the conduct of our clinical trials.

Many of these factors may also ultimately lead to denial of regulatory approval of a product candidate. If we experience delays, suspensions or terminations in a clinical trial, the commercial prospects for the related product candidate will be harmed, and our ability to generate product revenues will be delayed.

Although several of our other product candidates have demonstrated some promising results in early clinical (human) trials and preclinical (animal) studies, they may not prove to be effective in subsequent clinical trials. For example, testing on animals may occur under different conditions than testing in humans and therefore the results of animal studies may not accurately predict human experience. Likewise, early clinical studies may not be predictive of eventual safety or effectiveness results in larger-scale pivotal clinical trials. We are not currently pursuing clinical investigation of any of our other product candidates due to our limited resources at this time, and there is assurance that we will have sufficient funding to initiate further trials for these programs.

There are many regulatory steps that must be taken before any of these product candidates will be eligible for regulatory approval and subsequent sale, including the completion of preclinical and clinical trials. We do not expect that these product candidates will be commercially available for several years, if ever.

Developments By Competitors May Render Our Products Obsolete

If competitors were to develop superior drug candidates, our products could be rendered noncompetitive or obsolete, resulting in a material adverse effect to our business. Developments in the biotechnology and pharmaceutical industries are expected to continue at a rapid pace. Success depends upon achieving and maintaining a competitive position in the development of products and technologies. Competition from other biotechnology and pharmaceutical companies can be intense. Many competitors have substantially greater research and development capabilities, marketing, financial and managerial resources and experience in the industry. Even if a competitor creates a product that is not superior, we may not be able to compete.

We Must Show the Safety and Efficacy of Our Product Candidates Through Clinical Trials, the Results of Which are Uncertain

Before obtaining regulatory approvals for the commercial sale of our products, we must demonstrate, through preclinical studies (animal testing) and clinical trials (human testing), that our proposed products are safe and effective for use in each target indication. Testing of our product candidates will be required, and failure can occur at any stage of testing. Clinical trials may not demonstrate sufficient safety and efficacy to obtain the required regulatory approvals or result in marketable products. The failure to adequately demonstrate the safety and efficacy of a product under development could delay or prevent regulatory approval of the potential product.

Clinical trials for the product candidates we are developing may be delayed by many factors, including that potential patients for testing are limited in number. The failure of any clinical trials to meet applicable regulatory standards could cause such trials to be delayed or terminated, which could further delay the commercialization of any of our product candidates. Newly emerging safety risks observed in animal or human studies also can result in delays of ongoing or proposed clinical trials. Any such delays will increase our product development costs. If such delays are significant, they could negatively affect our financial results and the commercial prospects for our products.

The Independent Clinical Investigators and Contract Research Organizations That We Rely Upon to Assist in the Conduct of Our Clinical Trials May Not Be Diligent, Careful or Timely, and May Make Mistakes, in the Conduct of Our Trials

We depend on independent clinical investigators and contract research organizations, or CROs, to assist in the conduct of our clinical trials under their agreements with us. The investigators are not our employees, and we cannot control the amount or timing of resources that they devote to our programs. If independent investigators fail to devote sufficient time and resources to our drug development programs, or if their performance is substandard, it could delay the approval of our FDA applications and our introduction of new drugs. The CROs we contract with to assist with the execution of our clinical trials play a significant role in the conduct of the trials and the subsequent collection and analysis of data. Failure of the CROs to meet their obligations could adversely affect clinical development of our products.

The Success of Our Business Depends Upon the Members of Our Senior Management Team, Our Scientific Staff and Our Ability to Continue to Attract and Retain Qualified Scientific, Technical and Business Personnel

We are dependent on the principal members of our senior management team and scientific staff for our business success. The loss of any of these people could impede the achievement of our development and business objectives. We do not carry key man life insurance on the lives of any of our key personnel. There is intense competition for human resources, including management, in the scientific fields in which we operate and there can be no assurance that we will be able to attract and retain qualified personnel necessary for the successful development of ENMD-2076, and any expansion into areas and activities requiring additional expertise. In addition, there can be no assurance that such personnel or resources will be available when needed. In addition, we rely on a

significant number of consultants to assist us in formulating our clinical strategy and other business activities. All of our consultants may have commitments to, or advisory or consulting agreements with, other entities that may limit their availability to us.

We May Need New Collaborative Partners to Further Develop and Commercialize Products, and if We Enter Into Such Arrangements, We May Give Up Control Over the Development and Approval Process and Decrease our Potential Revenue

We plan to develop and commercialize our product candidates both with and without corporate alliances and partners. Nonetheless, we intend to explore opportunities for new corporate alliances and partners to help us develop, commercialize and market our product candidates. We expect to grant to our partners certain rights to commercialize any products developed under these agreements, and we may rely on our partners to conduct research and development efforts and clinical trials on, obtain regulatory approvals for, and manufacture and market any products licensed to them. Each individual partner will seek to control the amount and timing of resources devoted to these activities generally. We anticipate obtaining revenues from our strategic partners under such relationships in the form of research and development payments and payments upon achievement of certain milestones. Since we generally expect to obtain a royalty for sales or a percentage of profits of products licensed to third parties, our revenues may be less than if we retained all commercialization rights and marketed products directly. In addition, there is a risk that our corporate partners will pursue alternative technologies or develop competitive products as a means for developing treatments for the diseases targeted by our programs.

We may not be successful in establishing any collaborative arrangements. Even if we do establish such collaborations, we may not successfully commercialize any products under or derive any revenues from these arrangements. There is a risk that we will be unable to manage simultaneous collaborations, if any, successfully. With respect to existing and potential future strategic alliances and collaborative arrangements, we will depend on the expertise and dedication of sufficient resources by these outside parties to develop, manufacture, or market products. If a strategic alliance or collaborative partner fails to develop or commercialize a product to which it has rights, we may not recognize any revenues on that particular product.

We Have No Current Manufacturing or Marketing Capacity and Rely on Only One Supplier For Some of Our Products

We do not expect to manufacture or market products in the near term, but we may try to do so in certain cases. We do not currently have the capacity to manufacture or market products and we have limited experience in these activities. The manufacturing processes for all of the small molecules we are developing have not yet been tested at commercial levels, and it may not be possible to manufacture these materials in a cost-effective manner. If we elect to perform these functions, we will be required to either develop these capacities, or contract with others to perform some or all of these tasks. We may be dependent to a significant extent on corporate partners, licensees, or other entities for manufacturing and marketing of products. If we engage directly in manufacturing or marketing, we will require substantial additional funds and personnel and will be required to comply with extensive regulations. We may be unable to develop or contract for these capacities when required to do so in connection with our business.

We depend on our third-party manufacturers to perform their obligations effectively and on a timely basis. These third parties may not meet their obligations and any such non-performance may delay clinical development or submission of products for regulatory approval, or otherwise impair our competitive position. Any significant problem experienced by one of our suppliers could result in a delay or interruption in the supply of materials to us until such supplier resolves the problem or an alternative source of supply is located. Any delay or interruption would likely lead to a delay or interruption of manufacturing operations, which could negatively affect our operations. Although we have identified alternative suppliers for our product candidates, we have not entered into contractual or other arrangements with them. If we needed to use an alternate supplier for any product, we would experience delays while we negotiated an agreement with them for the manufacture of such product. In addition, we may be unable to negotiate manufacturing terms with a new supplier as favorable as the terms we have with our current suppliers.

Problems with any manufacturing processes could result in product defects, which could require us to delay shipment of products or recall products previously shipped. In addition, any prolonged interruption in the operations of the manufacturing facilities of one of our sole-source suppliers could result in the cancellation of shipments. A number of factors could cause interruptions, including equipment malfunctions or failures, or damage to a facility due to natural disasters or otherwise. Because our manufacturing processes are or are expected to be highly complex and subject to a lengthy regulatory approval process, alternative qualified production capacity may not be available on a timely basis or at all. Difficulties or delays in our manufacturing could increase our costs and damage our reputation.

The manufacture of pharmaceutical products can be an expensive, time consuming, and complex process. Manufacturers often encounter difficulties in scaling-up production of new products, including quality control and assurance and shortages of personnel. Delays in formulation and scale-up to commercial quantities could result in additional expense and delays in our clinical trials, regulatory submissions, and commercialization.

Failure of Manufacturing Facilities Producing Our Product Candidates to Maintain Regulatory Approval Could Delay or Otherwise Hinder Our Ability to Market Our Product Candidates

Any manufacturer of our product candidates will be subject to applicable Good Manufacturing Practices (GMP) prescribed by the FDA or other rules and regulations prescribed by foreign regulatory authorities. We and any of our collaborators may be unable to enter into or maintain relationships either domestically or abroad with manufacturers whose facilities and procedures comply or will continue to comply with GMP and who are able to produce our small molecules in accordance with applicable regulatory standards. Failure by a manufacturer of our products to comply with GMP could result in significant time delays or our inability to obtain marketing approval or, should we have market approval, for such approval to continue. Changes in our manufacturers could require new product testing and facility compliance inspections. In the United States, failure to comply with GMP or other applicable legal requirements can lead to federal seizure of violated products, injunctive actions brought by the federal government, inability to export product, and potential criminal and civil liability on the part of a company and its officers and employees.

We Depend on Patents and Other Proprietary Rights, Some of Which are Uncertain

Our success will depend in part on our ability to obtain and maintain patents for ENMD-2076 and our other products, both in the United States and abroad. The patent position of biotechnology and pharmaceutical companies in general is highly uncertain and involves complex legal and factual questions. Risks that relate to patenting our products include the following:

- our failure to obtain additional patents;
- challenge, invalidation, or circumvention of patents already issued to us;
- failure of the rights granted under our patents to provide sufficient protection;
- independent development of similar products by third parties; or
- ability of third parties to design around patents issued to our collaborators or us.

Our potential products may conflict with composition, method, and use of patents that have been or may be granted to competitors, universities or others. As the biotechnology industry expands and more patents are issued, the risk increases that our potential products may give rise to claims that may infringe the patents of others. Such other persons could bring legal actions against us claiming damages and seeking to enjoin clinical testing, manufacturing and marketing of the affected products. Any such litigation could result in substantial cost to us and diversion of effort by our management and technical personnel. If any of these actions are successful, in addition to any potential liability for damages, we could be required to obtain a license in order to continue to manufacture or market the affected products. We may not prevail in any action and any license required under any needed patent might not be made available on acceptable terms, if at all.

Under the Miikana merger agreement we are required to make certain milestone payments upon attainment of certain regulatory milestones for ENMD-2076, which we may elect to pay in stock or cash. We are also a party to a license agreement for MKC-1, a product candidate that we currently are not actively pursuing. Failure to meet such milestones for MKC-1 in the future could result in the loss of certain rights to the compound covered under such license agreement.

We also rely on trade secret protection for our confidential and proprietary information. However, trade secrets are difficult to protect and others may independently develop substantially equivalent proprietary information and techniques and gain access to our trade secrets and disclose our technology. We may be unable to meaningfully protect our rights to unpatented trade secrets. We require our employees to complete confidentiality training that specifically addresses trade secrets. All employees, consultants, and advisors are required to execute a confidentiality agreement when beginning an employment or a consulting relationship with us. The agreements generally provide that all trade secrets and inventions conceived by the individual and all confidential information developed or made known to the individual during the term of the relationship automatically become our exclusive property. Employees and consultants must keep such information confidential and may not disclose such information to third parties except in specified circumstances. However, these agreements may not provide meaningful protection for our proprietary information in the event of unauthorized use or disclosure of such information.

To the extent that consultants, key employees, or other third parties apply technological information independently developed by them or by others to our proposed projects, disputes may arise as to the proprietary rights to such information. Any such disputes may not be resolved in our favor. Certain of our consultants are employed by or have consulting agreements with other companies and any inventions discovered by them generally will not become our property.

Our Potential Products Are Subject to Government Regulatory Requirements and an Extensive Approval Process

Our research, development, preclinical and clinical trials, manufacturing, and marketing of most of our product candidates are subject to an extensive regulatory approval process by the FDA and other regulatory agencies in the United States and abroad. The process of obtaining FDA and other required regulatory approvals for drug and biologic products, including required preclinical and clinical testing, is time consuming and expensive. Even after spending time and money, we may not receive regulatory approvals for clinical testing or for the manufacturing or marketing of any products. Our collaborators or we may encounter significant delays or costs in the effort to secure necessary approvals or licenses. Even if we obtain regulatory clearance for a product, that product will be subject to continuing review. Later discovery of previously unknown defects or failure to comply with the applicable regulatory requirements may result in restrictions on a product's marketing or withdrawal of the product from the market, as well as possible civil or criminal penalties.

Potential Products May Subject Us to Product Liability for Which Insurance May Not Be Available

The use of our potential products in clinical trials and the marketing of any pharmaceutical products may expose us to product liability claims. We have obtained a level of liability insurance coverage that we believe is adequate in scope and coverage for our current stage of development. However, our present insurance coverage may not be adequate to protect us from liabilities we might incur. In addition, our existing coverage will not be adequate as we further develop products and, in the future, adequate insurance coverage and indemnification by collaborative partners may not be available in sufficient amounts or at a reasonable cost. If a product liability claim or series of claims are brought against us for uninsured liabilities, or in excess of our insurance coverage, the payment of such liabilities could have a negative effect on our business and financial condition.

We May Engage in Strategic and Other Corporate Transactions, Which Could Negatively Affect Our Business and Earnings

In 2011, we may consider strategic and other corporate transactions as opportunities present themselves. There are risks associated with such activities. These risks include, among others, incorrectly assessing the quality of a prospective strategic partner, encountering greater than anticipated costs in integration, being unable to profitably deploy assets acquired in the transaction, such as drug candidates, possible dilution to our stockholders, and the loss of key employees due to changes in management. Further, strategic transactions may place additional constraints on our resources by diverting the attention of our management from our business operations. To the extent we issue securities in connection with additional transactions, these transactions and related issuances may have a dilutive effect on earnings per share and our ownership. Our earnings, financial condition, and prospects after an acquisition depend in part on our ability to successfully integrate the operations of the acquired business or technologies. We may be unable to integrate operations successfully or to achieve expected cost savings. Any cost savings which are realized may be offset by losses in revenues or other charges to earnings.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

Not applicable.

ITEM 2. PROPERTIES.

As of December 31, 2010, we leased approximately 4,367 square feet of space in Rockville, Maryland where our headquarters are located. In addition, as of December 31, 2010, we leased office space in Durham, North Carolina where our clinical operations are based and laboratory space in Toronto, Ontario where our research facility is currently based. We believe that our existing facilities are adequate to meet our needs for the foreseeable future. We do not own any real property.

ITEM 3. LEGAL PROCEEDINGS.

EntreMed is subject in the normal course of business to various legal proceedings in which claims for monetary or other damages may be asserted. Management does not believe such legal proceedings, except as otherwise disclosed herein, are material.

ITEM 4. (REMOVED AND RESERVED).

(Removed and reserved).

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES.

Market for Common Equity

The following table sets forth the high and low closing price for our common stock by quarter, as reported by the NASDAQ Capital Market and adjusted for the retrospective application of the 1-for-11 reverse stock split effected on July 1, 2010, for the periods indicated:

Closing Prices	<u>HIGH</u>	<u>LOW</u>
2009:		
First Quarter	\$ 5.39	\$ 1.76
Second Quarter	8.91	4.29
Third Quarter	6.82	4.07
Fourth Quarter.....	15.18	5.06
2010:		
First Quarter.....	\$ 11.88	\$ 7.15
Second Quarter	8.47	4.40
Third Quarter	4.37	2.42
Fourth Quarter.....	7.37	3.26

On March 23, 2011, the closing price of our common stock, as reported by The NASDAQ Capital Market, was \$5.45 per share. As of March 23, 2011 there were approximately 792 holders of record of our common stock.

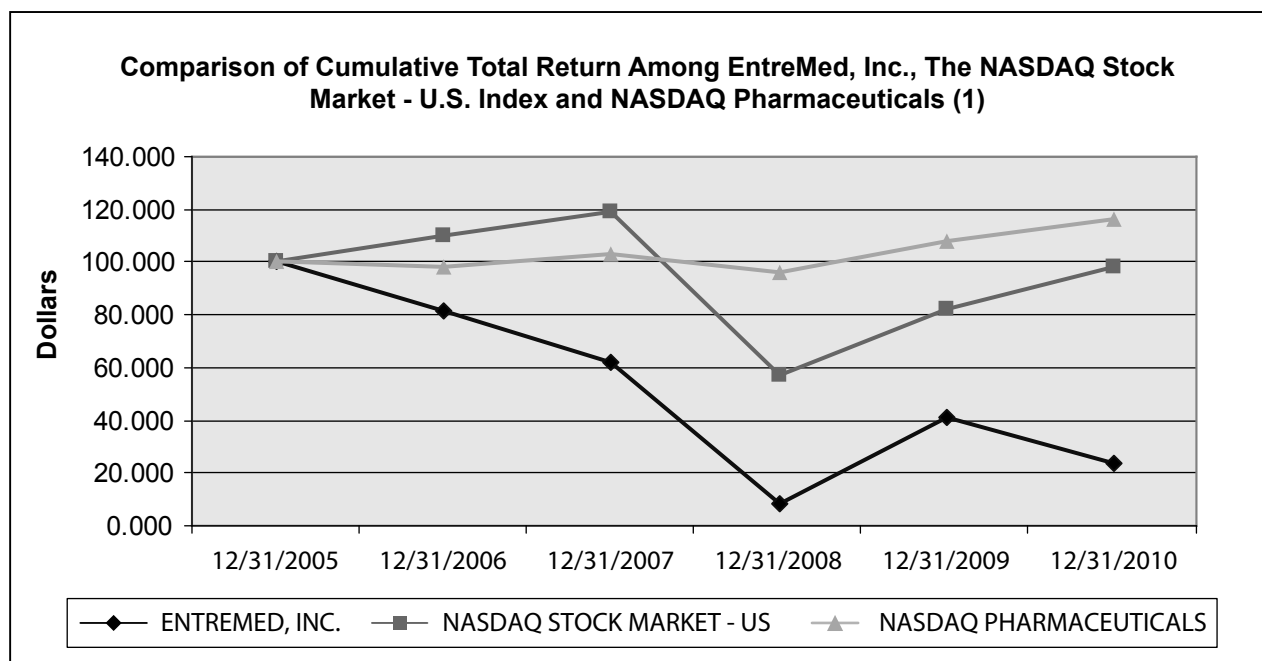
Dividend Policy

Since our initial public offering in 1996, we have not paid cash dividends on our common stock. We currently anticipate that any earnings will be retained for the continued development of our business and we do not anticipate paying any cash dividends on our common stock in the foreseeable future.

Our Series A Convertible Preferred Stock ("Series A Preferred") is held exclusively by Celgene Corporation. The Series A Preferred accrues dividends on each share of Series A Preferred at 6% per year of the original issue price of the Series A Preferred Stock, which is \$5.00 per share. In the event of any liquidation, dissolution or winding up the Company, or the bankruptcy of the Company, all accrued and unpaid dividends will be added to the liquidation preference of such shares of Series A Preferred. The amount of the liquidation preference of the Series A Preferred is \$33,500,000, and as of December 31, 2010, accrued Series A Preferred dividends totaled \$8,040,000.

STOCK PRICE PERFORMANCE PRESENTATION

The following chart compares the cumulative total stockholder return on the Company's Shares with the cumulative total stockholder return of the NASDAQ Stock Market – U. S. Index, and the NASDAQ Pharmaceuticals Index.



	12/31/2005	12/31/2006	12/31/2007	12/31/2008	12/31/2009	12/31/2010
ENTREMED, INC.	100.000	81.443	61.856	8.341	41.237	23.805
NASDAQ STOCK MARKET - US	100.000	109.838	119.141	57.414	82.526	97.946
NASDAQ PHARMACEUTICALS	100.000	97.884	102.943	95.780	107.617	116.658

- (1) Assumes \$100 invested on December 31, 2005 and assumes dividends are reinvested. Measurement points begin with the date of the assumed investment and include the last day of each of the subsequent 5 years through and including December 31, 2010. The material in this chart is not soliciting material, is not deemed filed with the SEC and is not incorporated by reference in any filing of the Company under the Securities Act of 1933, as amended, (the "1933 Act") or the 1934 Act, whether made before or after the date of this proxy statement and irrespective of any general incorporation language in such filing, except to the extent that we specifically incorporated this information by reference.

ITEM 6. SELECTED FINANCIAL DATA.

The following selected consolidated financial data set forth below has been derived from our audited consolidated financial statements. The data related to the balance sheets as of December 31, 2010 and 2009 and the statements of operations for the years ended December 31, 2010, 2009 and 2008 should be read in conjunction with the consolidated financial statements and related notes, Management's Discussion and Analysis of Financial Condition and Results of Operations in Item 7 and other financial information included elsewhere in this annual report on Form 10-K. The historical results are not necessarily indicative of results to be expected for future periods.

STATEMENTS OF OPERATIONS DATA:	Year Ended December 31,				
	2010	2009	2008	2007	2006
Revenues					
License fees	\$ -	\$ -	\$-	\$ -	\$ -
Royalty revenues	3,448,688	4,989,725	7,472,061	7,393,463	6,881,799
Other	244,479	294,333	5,158	2,188	12,559
Total revenues	<u>3,693,167</u>	<u>5,284,058</u>	<u>7,477,219</u>	<u>7,395,651</u>	<u>6,894,358</u>
Expenses:					
Research and development	4,829,943	7,901,522	20,069,229	23,739,392	21,671,117
General and administrative	3,397,866	4,104,287	7,764,532	7,386,570	7,393,722
Acquired In-Process R&D	3,000,000	-	2,000,000	-	29,481,894
Interest expense	540,218	1,493,400	2,216,163	793,393	156,787
Fixed asset impairment loss	-	-	171,576	-	-
Other expense	28,255	70,929	-	-	-
Investment income	-	(69,702)	(882,253)	(2,112,583)	(1,867,204)
Gain on sale of asset	(2,000)	-	-	-	(52,901)
Net loss	<u>\$ (8,101,115)</u>	<u>\$ (8,216,378)</u>	<u>\$ (23,862,028)</u>	<u>\$ (22,411,121)</u>	<u>\$ (49,889,057)</u>
Dividends on Series A convertible preferred stock	<u>(1,005,000)</u>	<u>(1,005,000)</u>	<u>(1,005,000)</u>	<u>(1,005,000)</u>	<u>(1,005,000)</u>
Net loss attributable to common shareholders	<u>\$ (9,106,115)</u>	<u>\$ (9,221,378)</u>	<u>\$ (24,867,028)</u>	<u>\$ (23,416,121)</u>	<u>\$ (50,894,057)</u>
Net loss per share	<u>\$ (0.94)</u>	<u>\$ (1.16)</u>	<u>\$ (3.16)</u>	<u>\$ (3.06)</u>	<u>\$ (7.79)</u>
Weighted average number of shares outstanding	9,678,924	7,977,979	7,861,797	7,651,505	6,533,976
				As of December 31,	
BALANCE SHEET DATA:	2010	2009	2008	2007	2006
Cash and cash equivalents and short-term investments	\$ 4,911,788	\$ 6,366,253	\$ 24,291,173	\$ 47,748,191	\$ 50,570,097
Working capital	5,224,102	(1,395,158)	14,782,482	42,929,602	46,268,554
Total assets	8,037,231	10,067,028	28,923,395	53,014,908	55,719,534
Accumulated deficit	(374,227,528)	(366,126,413)	(357,910,035)	(334,048,007)	(311,636,886)
Total stockholders' (deficit) equity	5,333,415	(1,925,980)	5,922,166	26,896,978	46,963,219

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

The following discussion should be read in conjunction with the Consolidated Financial Statements and Notes thereto appearing elsewhere in this report. See also "Risk Factors" in Item 1A of this Annual Report.

OVERVIEW

We are a clinical-stage pharmaceutical company focused on developing ENMD-2076, an Aurora A and angiogenic kinase inhibitor for the treatment of cancer. ENMD-2076 has completed Phase 1 studies in patients with advanced solid tumors and leukemia and is currently in a Phase 1 study in multiple myeloma patients and multi-center Phase 2 study in patients with platinum resistant ovarian cancer. ENMD-2076 is a novel orally-active, Aurora A/angiogenic kinase inhibitor with potent activity against Aurora A and multiple tyrosine kinases linked to cancer and inflammatory diseases. ENMD-2076 is relatively selective for the Aurora A isoform in comparison to Aurora B. Aurora kinases are key regulators of the process of mitosis, or cell division, and are often over-expressed in human cancers. ENMD-2076 exerts its effects through multiple mechanisms of action, including anti-proliferative activity and the inhibition of angiogenesis. ENMD-2076 has demonstrated significant, dose-dependent preclinical activity as a single agent, including tumor regression, in multiple xenograft models (e.g. breast, colon, leukemia), as well as activity towards ex vivo-treated human leukemia patient cells.

ENMD-2076 has received orphan drug designation for the treatment of ovarian cancer, multiple myeloma and acute myeloid leukemia ("AML").

ENMD-2076 is our only program currently under active clinical evaluation. This prioritization allows us to direct the majority of our resources to the clinical development of ENMD-2076. However, we also own or have exclusive rights to intellectual property for our other therapeutic candidates. So that we can continue to accelerate the development of ENMD-2076, we do not intend to initiate additional new studies for these programs unless additional significant financing becomes available to us. Our other therapeutic candidates include MKC-1, an oral cell-cycle inhibitor with activity against the mTOR pathway that has completed multiple Phase 2 clinical trials for cancer, and ENMD-1198, a novel anti-mitotic agent that has completed a Phase 1 study in advanced cancers. We also have an approved Investigational New Drug Application (IND) for the use of Panzem[®] in rheumatoid arthritis (RA) treatment. All of our candidates are multi-mechanism and affect multiple pathways necessary for tumor growth.

We have incurred substantial operating losses since our inception due in large part to expenditures for our research and development activities. At December 31, 2010, we had an accumulated deficit of \$374 million. We expect to continue to incur expenses, resulting in operating losses, for the foreseeable future due to, among other factors, our continuing clinical trials, planned future clinical trials, and other anticipated research and development activities. Based on current plans, we expect our current available cash and cash equivalents to meet our cash requirements into the fourth quarter of fiscal 2011. Therefore, there exists substantial doubt about our ability to continue as a going concern. We will require significant additional funding prior to January 1, 2012 to fund operations until such time, if ever, we become profitable. We intend to augment our cash and cash equivalent balances as of December 31, 2010 by pursuing other forms of capital infusion, including strategic alliances or collaborative development opportunities with organizations that have capabilities and/or products that are complementary to our capabilities and products in order to continue the development of our product candidate that we intend to pursue to commercialization. However, there can be no assurance that adequate additional financing under such arrangements will be available to us on terms that we deem acceptable, if at all.

We completed four private placements of our common stock in 2010. On January 11, 2010, we sold 284,090 shares of our common stock, par value \$0.01 per share, to an institutional investor for an aggregate purchase price of \$2,500,000, or \$8.80 per share. On February 3, 2010, we sold 349,650 shares of our common stock to the same institutional investor for an aggregate purchase price of \$2,500,000, or \$7.15 per share. On April 16, 2010, we sold 526,500 shares of common stock to the same institutional investor for an aggregate purchase price of \$3,000,000 or \$5.70 per share. On September 7, 2010, we sold 1,886,662 shares of common stock to a group of strategic investors for an aggregate purchase price of \$5,094,000, or \$2.70 per share. Our net proceeds from these

four offerings were approximately \$12.1 million. Additional funds raised by issuing equity securities, may result in dilution to existing shareholders. If we fail to obtain additional capital in 2011, or enter into collaboration agreements with development partners to finance our clinical trials, we may be required to delay, scale back, or eliminate our clinical program.

CRITICAL ACCOUNTING POLICIES AND THE USE OF ESTIMATES

The preparation of our financial statements in conformity with accounting principles generally accepted in the U.S. requires management to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and accompanying notes. Actual results could differ materially from those estimates. Our critical accounting policies, including the items in our financial statements requiring significant estimates and judgments, are as follows:

- Going Concern - A fundamental principle of the preparation of financial statements in accordance with GAAP is the assumption that an entity will continue in existence as a going concern, which contemplates continuity of operations and the realization of assets and settlement of liabilities occurring in the ordinary course of business. This principle is applicable to all entities except for entities in liquidation or entities for which liquidation appears imminent. In accordance with this requirement, our policy is to prepare our consolidated financial statements on a going concern basis unless we intend to liquidate or have no other alternative but to liquidate. As a result of our operational losses and the potential that we may be unable to meet our cash requirements for the next twelve months, there is substantial doubt about our ability to continue as a going concern. While we have prepared our consolidated financial statements on a going concern basis, if we do not receive additional funding, our ability to continue as a going concern may be impacted. Our consolidated financial statements included in this Annual Report on Form 10-K do not reflect any adjustments that might specifically result from the outcome of this uncertainty.
- Revenue Recognition - We recognize revenue in accordance with the provisions of authoritative guidance issued, whereby revenue is not recognized until it is realized or realizable and earned. Revenue is recognized when all of the following criteria are met: persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price to the buyer is fixed and determinable and collectibility is reasonably assured.
 - Royalty Revenue – Royalties from licenses are based on third-party sales and recorded as earned in accordance with contract terms, when third-party results are reliably measured and collectibility is reasonably assured. The majority of our 2010 revenues were from royalties on the sale of Thalomid[®], which we began to recognize in the third quarter. In 2004, certain provisions of a purchase agreement dated June 14, 2001 by and between Bioventure Investments kft (“Bioventure”) and the Company were satisfied and, as a result, beginning in 2005 we became entitled to share in the royalty payments received by Royalty Pharma Finance Trust, successor to Bioventure, on annual Thalomid[®] sales above a certain threshold. Based on the licensing agreement royalty formula, annual royalty sharing commences when net royalties received by Royalty Pharma exceeds \$15,375,000, which equates to approximately \$225 million in Thalomid[®] annual sales.
 - The Company is also eligible to receive royalties from Oxford Biomedica, PLC based on a portion of the net sales of products developed for the treatment of ophthalmic (eye) diseases based in part on Endostatin. We received our first royalty in the amount of \$368,000 under this agreement in 2009, a portion of which was paid to Children’s Medical Center Corporation under the Company’s original Endostatin license agreement with Children’s. We did not receive any additional payment from Oxford Biomedica, PLC in 2010. We do not expect to receive additional payments from Oxford Biomedica, PLC in 2011.
 - Royalty payments, if any, are recorded as revenue when received and/or when collectibility is reasonably assured.

- Research and Development - Research and development expenses consist primarily of compensation and other expenses related to research and development personnel, research collaborations, costs associated with preclinical testing and clinical trials of our product candidates, including the costs of manufacturing drug substance and drug product, regulatory maintenance costs, and facilities expenses. Research and development costs are expensed as incurred.
- Expenses for Clinical Trials – Expenses for clinical trials are incurred from planning through patient enrollment to reporting of the data. We estimate expenses incurred for clinical trials that are in process based on patient enrollment and based on clinical data collection and management. Costs that are associated with patient enrollment are recognized as each patient in the clinical trial completes the enrollment process. Estimated clinical trial costs related to enrollment can vary based on numerous factors, including expected number of patients in trials, the number of patients that do not complete participation in a trial, and when a patient drops out of a trial. Costs that are based on clinical data collection and management are recognized in the reporting period in which services are provided. In the event of early termination of a clinical trial, we would accrue an amount based on estimates of the remaining non-cancelable obligations associated with winding down the clinical trial.
- Stock-Based Compensation – All share-based payment transactions are recognized in the financial statements at their fair values. Using the straight-line expense attribution method over the requisite service period, which is generally the option vesting term of three years, share-based compensation expense recognized in the years ended December 31, 2010, 2009 and 2008 totaled \$272,000, \$320,000 and \$1,090,000, respectively.

The determination of fair value of stock-based payment awards on the date of grant using the Black-Scholes model is affected by our stock price, as well as the input of other subjective assumptions. These assumptions include, but are not limited to, the expected forfeiture rate and expected term of stock options and our expected stock price volatility over the term of the awards. Changes in the assumptions can materially affect the fair value estimates.

Any future changes to our share-based compensation strategy or programs would likely affect the amount of compensation expense recognized.

RESULTS OF OPERATIONS

Years Ended December 31, 2010, 2009 and 2008.

Revenues. Revenues decreased 30% in 2010 to \$3,693,000 from \$5,284,000 in 2009, and decreased 29% in 2009 from \$7,477,000 in 2008. Our revenues for these three years primarily reflect royalty revenues received from the sales of Thalomid[®]. The decrease in 2010 and 2009 revenues results from decreased royalty revenue earned on sales of Thalomid[®]. Beginning in 2005, we became entitled to share in the royalty payments received by Royalty Pharma Finance Trust on annual Thalomid[®] sales above approximately \$225 million. Thalomid[®] sales in 2010, 2009 and 2008 surpassed the annual revenue targets in the third quarter of each fiscal year and we recorded royalty revenues of \$3,449,000, \$4,990,000 and \$7,472,000, respectively. In the fourth quarter of 2010, the Company was awarded a Qualifying Therapeutic Discovery Project grant in the amount of \$244,479 based on its application for ENMD-2076.

Research and Development Expenses. Our 2010 research and development expenses totaled \$4,830,000, a 39% decrease from costs incurred in 2009. The 2010 amount reflects direct project costs for ENMD-2076 of \$4,025,000, \$62,000 for ENMD-1198 and \$116,000 for Panzem[®] oncology. Additionally, during 2010, we wrote off approximately \$268,000 of costs previously accrued for patients enrolled in MKC-1 clinical trials that wound down before all cycles of treatment were completed. In 2009, our research and development expenses totaled \$7,902,000, reflecting direct project costs for ENMD-2076 of \$5,036,000, \$449,000 for MKC-1, \$177,000 for ENMD-1198 and \$126,000 for Panzem[®] oncology. Research and development expenses totaled \$20,069,000 in 2008, which included direct project costs of \$3,707,000 for ENMD-2076, \$3,716,000 for MKC-1, \$3,298,000 for ENMD-1198 and \$3,343,000 for Panzem[®] oncology. The significant decreases in 2010 and 2009 research and

development spending, as compared to costs incurred in 2008, reflects our continued focus on the clinical development of ENMD-2076 as we ceased clinical and manufacturing activities in other programs. Our 2008 costs include clinical and manufacturing activities in these other programs.

At December 31, 2010, accumulated direct project expenses for Panzem[®] oncology were \$54,360,000; direct ENMD-1198 project expenses totaled \$13,204,000; and, since acquired, accumulated direct project expenses for ENMD-2076 totaled \$18,184,000 and for MKC-1, accumulated project expenses totaled \$10,139,000. Our research and development expenses also include non-cash stock-based compensation totaling \$42,000, \$116,000 and \$233,000, respectively, for 2010, 2009 and 2008. The decreases in stock-based compensation expense are related to lower fair values on fewer stock options granted in 2010 and 2009. The balance of our research and development expenditures includes facility costs and other departmental overhead, and expenditures related to the non-clinical support of our programs.

We expect our research and development expenses in 2011 to be primarily for the ENMD-2076 program. We expect our ENMD-2076 expenses in 2011 to remain consistent or increase depending on the availability of additional financial resources and our clinical development plan. Additional financial resources would enable us to accelerate and expand the breadth of our ENMD-2076 Phase 2 program. We will continue to conduct research on ENMD-2076 in order to comply with stipulations made by the FDA, as well as to increase understanding of the mechanism of action and toxicity parameters of ENMD-2076 and its metabolites. Completion of clinical development may take several years or more, but the length of time generally varies substantially according to the type, complexity, novelty and intended use of a product candidate.

We estimate that clinical trials of the type we generally conduct are typically completed over the following timelines:

CLINICAL PHASE	ESTIMATED COMPLETION PERIOD
Phase I	1-2 Years
Phase II	2-3 Years
Phase III	2-4 Years

The duration and the cost of clinical trials may vary significantly over the life of a project as a result of differences arising during the clinical trial protocol, including, among others, the following:

- the number of patients that ultimately participate in the trial;
- the duration of patient follow-up that seems appropriate in view of the results;
- the number of clinical sites included in the trials; and
- the length of time required to enroll suitable patient subjects.

We test our potential product candidates in numerous preclinical studies to identify indications for which they may be product candidates. We may conduct multiple clinical trials to cover a variety of indications for each product candidate. As we obtain results from trials, we may elect to discontinue clinical trials for certain indications in order to focus our resources on more promising indications.

Our proprietary product candidates have also not yet achieved regulatory approval, which is required before we can market them as therapeutic products. In order to proceed to subsequent clinical trial stages and to ultimately achieve regulatory approval, regulatory agencies must conclude that our clinical data establish safety and efficacy. Historically, the results from preclinical testing and early clinical trials have often not been predictive of results obtained in later clinical trials. A number of new drugs and biologics have shown promising results in clinical trials, but subsequently failed to establish sufficient safety and efficacy data to obtain necessary regulatory approvals.

Our business strategy includes being opportunistic with collaborative arrangements with third parties to complete the development and commercialization of our product candidates. In the event that third parties take over the clinical trial process for one of our product candidates, the estimated completion date would largely be under the control of that third party rather than us. We cannot forecast with any degree of certainty which proprietary products or indications, if any, will be subject to future collaborative arrangements, in whole or in part, and how such arrangements would affect our capital requirements.

As a result of the uncertainties discussed above, among others, we are unable to estimate the duration and completion costs of our research and development projects. Our inability to complete our research and development projects in a timely manner or our failure to enter into collaborative agreements, when appropriate, could significantly increase our capital requirements and could adversely impact our liquidity. These uncertainties could force us to seek additional, external sources of financing from time to time in order to continue with our business strategy. There can be no assurance that we will be able to successfully access external sources of financing in the future. Our inability to raise additional capital, or to do so on terms reasonably acceptable to us, would jeopardize the future success of our business.

Research and development expenses consist primarily of compensation and other expenses related to research and development personnel, research collaborations, costs associated with internal and contract preclinical testing and clinical trials of our product candidates, including the costs of manufacturing drug substance and drug product, regulatory maintenance costs, and facilities expenses. Overall research and development expenses decreased to \$4,830,000 in 2010 from \$7,902,000 in 2009 and from \$20,069,000 in 2008.

The fluctuations in research and development expenses were specifically impacted by the following:

- Outside Services – We utilize outsourcing to conduct our product development activities. We spent \$186,000 in 2010, \$430,000 in 2009 and \$1,170,000 in 2008 on these activities. The decrease in 2010 as compared to 2009 primarily reflects the absence of utilizing outsourced services to conduct development of product candidates from non-ENMD-2076 programs. The decrease in 2009 as compared to 2008 primarily reflects the absence in 2010 of analytical testing and preclinical support services for 2ME2 (2-methoxyestradiol) and ENMD-1198 studies.
- Clinical Trial Costs – Clinical trial costs decreased to \$1,784,000 in 2010, from \$2,518,000 in 2009, which decreased from \$5,194,000 in 2008. The 2010 decrease relates to our focus on the clinical development of ENMD-2076 and reducing patient costs for cycles of treatment that were not completed in trials for other programs. Our decrease in 2009 as compared to 2008 relates to our restructuring and the reprioritization of our clinical programs, focusing on the clinical development of ENMD-2076. Costs of such trials include the clinical site fees, monitoring costs and data management costs.
- Contract Manufacturing Costs – The costs of manufacturing the material used in clinical trials for our product candidates is reflected in contract manufacturing. These costs include bulk manufacturing, encapsulation and fill and finish services, and product release costs. Contract manufacturing costs decreased in 2010 to \$367,000, from \$965,000 in 2009, which decreased from \$3,418,000 in 2008. The 2010 decrease reflects the absence of encapsulation costs for ENMD-2076 that were incurred in 2009, plus a credit received in 2010 reflecting a reduction in the scope of previously contracted compatibility, formulation development and GMP manufacture of ENMD-2076. The most significant component of the 2009 decrease reflects the absence of contract manufacturing activities for ENMD-1198 and Panzem[®] NCD in 2009.
- Personnel Costs -- Personnel costs decreased to \$1,367,000 in 2010 from \$2,320,000 in 2009, which decreased from \$5,751,000 in 2008. The 2010 decrease is attributed to the elimination of three management positions in December 2009. The 2009 decrease in expenses resulted from our corporate restructuring at the end of 2008, at which time we eliminated certain management positions and significantly reduced our research and development staff and operations.

- Also reflected in our 2010 research and development expenses are patent costs of \$475,000, and facility and related expenses of \$207,000. In 2009, these expenses totaled \$487,000 and \$606,000, respectively, and in 2008, these expenses totaled \$767,000, \$1,483,000, respectively. The reduction in expenses in 2009 resulted from the decision to focus our resources on the development of ENMD-2076 and the elimination of costs associated with our other product candidates.

General and Administrative Expenses. General and administrative expenses include compensation and other expenses related to finance, business development and administrative personnel, professional services and facilities.

General and administrative expenses decreased to approximately \$3,398,000 in 2010 from \$4,104,000 in 2009, which decreased from \$7,765,000 in 2008. The decrease in 2010 as compared to 2009 is primarily related to the implementation of cost savings initiatives and the full year effect of 2009 reductions in headcount. The decrease in 2009 as compared to 2008 is primarily related to our corporate restructuring, which resulted in reductions in our headcount and the elimination of three executive officer positions in December 2008. Such executive officer positions have not been opened to date.

In-process R&D. In January 2006, we acquired Miikana Therapeutics, a private biotechnology company. In 2008, EntreMed initiated a Phase 1 clinical trial with its Aurora A and angiogenic kinase inhibitor, ENMD-2076, in patients with solid tumors. Dosing of the first patient with ENMD-2076 triggered a purchase price adjustment milestone of \$2 million, which we opted to pay in stock. In June 2008, 233,100 shares of common stock were issued to satisfy the milestone payment. In 2010, EntreMed initiated a Phase 2 clinical trial in patients with ovarian cancer, which triggered a purchase price adjustment milestone of \$3 million, which we opted to pay in stock. In July 2010, 403,550 shares of common stock were issued to satisfy the milestone payment. The additional stock payments of \$2 million and \$3 million were recorded to expense as in-process research and development since the research and development project related to the Aurora Kinase Program had not reached technical feasibility and has no future alternative use. Under the terms of the merger agreement, upon the satisfaction of certain milestones related to the ENMD-2076 program and a preclinical program which research activities have been discontinued, \$13 million of potential payments remaining could be earned by the former Miikana shareholders.

Interest Expense. Interest expense for the year ended December 31, 2010 decreased to approximately \$540,000 (including \$49,000 of non-cash interest) from \$1,493,000 (including \$133,000 of non-cash interest) and \$2,216,000 (including \$199,000 of non-cash interest) in 2008. The decrease in both years relates to principal payments made on our debt resulting in lower interest expense.

Investment Income. Investment income decreased in 2010 to zero from \$70,000 in 2009 and \$882,000 in 2008 as a result of lower yields on lower invested balances in interest-bearing cash accounts and investments.

Dividends on Series A Convertible Preferred Stock. The Consolidated Statements of Operations for the years ended December 31, 2010, 2009 and 2008 reflect accrued, but unpaid, dividends of \$1,005,000 relating to Series A Convertible Preferred Stock held by Celgene pursuant to a Securities Purchase Agreement dated December 31, 2002. The holders of Series A Preferred Stock will accumulate dividends at a rate of 6% and will participate in dividends declared and paid on the common stock, if any. All accumulated dividends must be paid before any dividends may be declared or paid on the Common Stock. We have no plans to pay any dividends in the foreseeable future.

LIQUIDITY AND CAPITAL RESOURCES

To date, we have been engaged primarily in research and development activities. As a result, we have incurred and expect to continue to incur operating losses in 2011 and the foreseeable future before we commercialize any products. Based on our current plans, we expect our current available cash and cash equivalents to meet our cash requirements into the fourth quarter of fiscal 2011.

Our independent registered public accounting firm, Reznick Group, P.C., has concluded that substantial doubt exists about our ability to continue as a going concern, and has included an explanatory paragraph to describe

this uncertainty in its audit report on our consolidated financial statements for the year ended December 31, 2010 included in this Annual Report on Form 10-K. We did not include any adjustments to the consolidated financial statements included in this Annual Report on Form 10-K to reflect the possible future effects that may result from the uncertainty of our ability to continue as a going concern because we believe that we will continue to be a financially sound and viable business, continuing to conduct clinical trials for, and further development of, ENMD-2076 and provide value to our shareholders.

We will require significant additional funding prior to January 1, 2012 to fund operations until such time, if ever, we become profitable. We intend to augment our cash and cash equivalent balances by pursuing other forms of capital infusion, including strategic alliances or collaborative development opportunities with organizations that have capabilities and/or products that are complementary to our capabilities and products in order to continue the development of our potential product candidates that we intend to pursue to commercialization. If we seek strategic alliances, licenses, or other alternative arrangements, such as arrangements with collaborative partners or others, to raise further financing, we may need to relinquish rights to certain of our existing product candidates, or products we would otherwise seek to develop or commercialize on our own, or to license the rights to our product candidates on terms that are not favorable to us.

We intend to explore one or more of the following alternatives to raise additional capital so that the Company can continue as a going concern through 2011:

- selling additional equity securities;
- out-licensing product candidates to one or more corporate partners;
- monetizing our Thalomid[®] royalty payment stream;
- completing an outright sale of non-priority assets; and/or
- engaging in one or more strategic transactions.

We also will consider additional actions to reduce our expenses.

There can be no assurance that adequate additional financing under such arrangements will be available to us on terms that we deem acceptable, if at all. If additional funds are raised by issuing equity securities, dilution to existing shareholders may result, or the equity securities may have rights, preferences, or privileges senior to those of the holders of our common stock. If we fail to obtain additional capital when needed, we may be required to delay or scale back our Phase 2 plans for ENMD-2076.

At December 31, 2010, we had cash and short-term investments of \$4,911,788, with working capital of \$5,224,102.

In January 2006, we acquired Miikana Therapeutics, a private biotechnology company. We acquired certain drug candidates in connection with the acquisition, including the lead molecule in the Aurora Kinase Program, ENMD-2076, which advanced into clinical development in 2008. ENMD-2076 is a kinase inhibitor with activity towards Aurora A and multiple other kinases linked to promoting cancer. Dosing of the first patient in ENMD-2076 trials triggered a milestone payment of \$2 million to the former Miikana stockholders payable in stock or cash, at the Company's discretion. In June 2008, 233,100 shares of common stock were issued to the former Miikana stockholders as consideration for the satisfaction of the milestone payment. Under the terms of the merger agreement, dosing of the first patient in a Phase 2 trial in April 2010 triggered an additional purchase price adjustment milestone payment of \$3 million, which we paid by issuing 403,550 shares of our common stock. Under the terms of the merger agreement, the former shareholders of Miikana may, upon the satisfaction of certain milestones primarily relating to ENMD-2076, receive up to \$13 million of potential payments. We do not expect and further milestones to be achieved in 2011. Through the Miikana acquisition, we also acquired rights to MKC-1, a Phase 2 clinical candidate licensed from Roche by Miikana in April 2005. Under the terms of the agreement, Roche may be entitled to receive future payments upon successful attainment of certain clinical, regulatory and

commercialization milestones; however, since ENMD-2076 is the only program currently under active clinical evaluation, we do not expect to trigger any of these milestone payments during fiscal 2011.

FINANCING ACTIVITIES

In September 2007, we entered into a \$20 million term loan agreement with General Electric Capital Corporation (“GECC”), as agent, Merrill Lynch Capital and Oxford Finance Corporation (collectively with GECC, the “Lenders”). The loan was fully repaid as of January 3, 2011. The loan had accrued interest in arrears at a fixed annual interest rate of 10.47%. In connection with the transaction, we issued warrants with an exercise price of \$22.00 per share to the Lenders providing rights to purchase their respective *pro rata* share of 22,727 shares of common stock of the Company. The unpaid balance of the loan at December 31, 2010 was approximately \$757,000. The Loan Agreement had contained customary affirmative and negative operating and financial covenants. We were in compliance with such covenants as of December 31, 2010 and when the loan was fully repaid as of January 3, 2011.

On August 6, 2009, we filed a Form S-3 registration statement with the SEC utilizing a “shelf” registration process. On October 9, 2009, the Form S-3 registration statement was declared effective by the SEC. Pursuant to this shelf registration statement, we may sell debt or equity securities in one or more offerings up to a total public offering price of \$30.0 million. We believe that this shelf registration statement currently provides us additional flexibility with regard to potential financings that we may undertake when market conditions permit or our financial condition may require. To date, we have completed four offerings in the aggregate approximate amount of \$13,100,000 under the shelf registration statement.

On January 11, 2010, we sold 284,090 shares of our common stock to an institutional investor for an aggregate purchase price of \$2,500,000 or \$8.80 per share.

On February 3, 2010, we sold 349,650 shares of our common stock to the same institutional investor for an aggregate purchase price of \$2,500,000, or \$7.15 per share.

On April 16, 2010, we sold 526,500 shares of common stock to the same institutional investor for an aggregate purchase price of \$3,000,000 or \$5.70 per share.

On September 7, 2010, we sold 1,886,662 shares of common stock to a group of strategic investors for an aggregate purchase price of \$5,100,000 or \$2.70 per share.

To accomplish our business plans, we will be required to continue to conduct substantial development activities for ENMD-2076. Under our current operating plans for 2011, we expect to continue to have ENMD-2076 under clinical investigation and we expect our 2011 results of operations to reflect a net loss of approximately \$6,900,000, including non-cash charges of approximately \$1,700,000. These projections are subject to judgment and estimation and could significantly change.

We expect that the majority of our 2011 revenues will continue to be from royalties on the sales of Thalomid[®]. Thalomid[®] is sold by a third-party and is subject to competition from other products and generic drugs, and we have no control over such party’s sales efforts or the resources devoted to Thalomid[®] sales. In 2010 and 2009, we received royalty-sharing revenue in the amount of \$3,449,000 and \$4,990,000, respectively. There can be no assurance on the future trends of Thalomid[®] sales and the amount of revenue we will receive and record in 2011. Based on the trend, we expect annual sales of Thalomid[®] in 2011 to continue to decrease, which will result in a reduction in our revenues in 2011.

In addition, under our licensing agreement with Oxford Biomedica, PLC and Oxford Biomedica (UK) Limited Oxford, we are entitled to receive payments upon the achievement of certain milestones with respect to the development of gene therapies for ophthalmic (eye) diseases. In connection with the announced collaboration between Oxford Biomedica and Sanofi Aventis which included certain compounds that are governed by our licensing agreement, we received \$368,000 in 2009, representing a share of the upfront payment received by Oxford

Biomedica, \$74,000 of which was paid to Children's Medical Center Corporation under our agreement with Children's Medical Center Corporation; however, no payments were received in 2010 from this licensing agreements. We do not control the drug development efforts of Oxford and have no information or control over when or whether any milestones will be reached that would result in additional payments to us.

INFLATION AND INTEREST RATE CHANGES

Management does not believe that our working capital needs are sensitive to inflation and changes in interest rates.

CONTRACTUAL OBLIGATIONS

The table below sets forth our contractual obligations at December 31, 2010.

CONTRACTUAL OBLIGATIONS	PAYMENTS DUE BY PERIOD				
	Total	Less than 1 year	1-3 years	3 - 5 years	More than 5 years
Operating Leases Obligations	\$ 123,000	\$ 123,000	\$ —	\$ —	\$ —
Loan Payable, including interest (2)	765,000	765,000	—	—	—
Obligations under Licensing and Miikana Merger Agreements (1)	—	—	—	—	—
Purchase Obligations					
Clinical Trial Contracts	2,018,000	1,913,000	105,000	—	—
Contract Manufacturing	313,000	279,000	34,000	—	—
Total Contractual Cash Obligations	\$ 3,219,000	\$ 3,080,000	\$ 139,000	\$ —	\$ —

(1) Under the terms of the Miikana merger agreement we could be obligated to make additional payments to Miikana's selling shareholders of an aggregate of \$13 million upon the attainment of certain clinical milestones for the two programs acquired in connection with the merger, including milestone payments for the ENMD-2076 program currently in Phase 2 development and milestone payments for a preclinical program not currently under investigation. The payment of any milestones may be made in cash or stock in the discretion of the Company. In the event that we reach certain development milestones for Panzem[®] and MKC-1, such as initiation of Phase 3 trials and multiple regulatory approvals (US, Europe and Japan), we could be obligated to make future milestone payments of up to \$31.75 million under the related license agreements. Of this amount, up to \$6.5 million could become payable while these product candidates are in clinical development. We would also be obligated to make annual-sales-based-royalty payments if we successfully commercialize either compound. In addition, under the terms of our license agreement with Celgene, we could make future development and commercialization milestone payments, including payments for approvals in the U.S. and other countries, totaling \$25.25 million. Of the milestones, \$5.25 million would be payable if a product candidate successfully moves through clinical trials. We would also be required to pay annual-sales-based-royalties under this agreement. Without significant additional financial resources or a development partner, we do not expect these programs to reach additional development milestones. We cannot forecast with any degree of certainty whether any of our product candidates will reach additional developmental milestones. We therefore have excluded the milestone amounts and any royalty payments from the above table.

(2) The Loan was fully repaid on January 3, 2011.

OFF-BALANCE-SHEET ARRANGEMENTS

We had no off-balance sheet arrangements during fiscal year 2010.

NEW ACCOUNTING PRONOUNCEMENTS

In January 2010, the Financial Accounting Standards Board (FASB) issued new authoritative guidance related to fair value disclosures. The provisions of the guidance require an entity to: (i) disclose separately the amounts of significant transfers in and out of Level 1 and Level 2 fair value measurements and describe the reasons

for the transfers and (ii) present separate information for Level 3 activity pertaining to gross purchases, sales, issuances, and settlements. The new guidance is effective for interim and annual reporting periods beginning after December 15, 2009, except for the gross basis reconciliation for the Level 3 fair value measurements, which is effective for fiscal years beginning after December 15, 2010. The adoption did not have a material impact on the Company's financial position and results of operations, as it does not have any transfers between Level 1 and Level 2 fair value measurements.

In February 2010, the FASB issued an amendment to existing authoritative guidance which requires an entity that is an SEC filer to evaluate subsequent events through the date that the financial statements are issued and removes the requirement for an SEC filer to disclose a date, in both issued and revised financial statements, through which the filer had evaluated subsequent events. The adoption did not have an impact on the Company's financial position and results of operations.

In April 2010, the FASB issued an amendment to existing authoritative guidance regarding the milestone method of revenue recognition. The amendment provides guidance on the criteria that should be met for determining whether the milestone method of revenue recognition is appropriate along with providing for expanded disclosures. This amendment is effective on a prospective basis for milestones achieved in fiscal years, and interim periods within those years, beginning on or after June 15, 2010 with early adoption permitted. The Company adopted this amendment in January 2011. The Company does not anticipate this amendment will have a material impact on its consolidated financial position and consolidated results of operations.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

The primary objective of our investment activities is to preserve our capital until it is required to fund operations while at the same time maximizing the income we receive from our investments without incurring investment market volatility risk. Our investment income is sensitive to the general level of U.S. interest rates. In this regard, changes in the U.S. interest rates affect the interest earned on our cash and cash equivalents. Due to the short-term nature of our cash and cash equivalent holdings, a 10% movement in market interest rates would not materially impact on the total fair market value of our portfolio as of December 31, 2010.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

The response to this item is submitted in a separate section of this report. See Index to Consolidated Financial Statements on Page F-1.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

ITEM 9A. CONTROLS AND PROCEDURES.

Disclosure Controls and Procedures

As of December 31, 2010, we carried out an evaluation, under the supervision and with the participation of our management, including our Executive Chairman and Principal Accounting Officer (its principal executive officer and principal financial officer), of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in the Securities Exchange Act of 1934 Rules 13a-15(e) and 15d-15(e)). Our Executive Chairman and Principal Accounting Officer have concluded that our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission and that such information is accumulated and communicated to our management (including our Executive Chairman and Principal Accounting Officer) to allow timely decisions regarding required disclosures. Based on such evaluation, our Executive Chairman and Principal Accounting Officer have concluded these disclosure controls are effective as of December 31, 2010.

Changes in Internal Control Over Financial Reporting

There have not been any changes in our internal control over financial reporting during the fiscal quarter ended December 31, 2010 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Securities Exchange Act Rules 13a-15(f) and 15d-15(f). Our internal control over financial reporting is designed to provide reasonable assurance to our management and board of directors regarding the reliability of financial reporting and the preparation and fair presentation of financial statements for external purposes in accordance with generally accepted accounting principles. Any internal control over financial reporting, no matter how well designed, has inherent limitations. As a result of these inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even those internal controls determined to be effective can provide only reasonable assurance with respect to reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Under the supervision and with the participation of our management, including our Chief Operating Officer and Principal Accounting Officer, we conducted an assessment of the effectiveness of our internal control over financial reporting using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control—Integrated Framework*. Based on our assessment, we concluded that our internal control over financial reporting was effective as of December 31, 2010.

Reznick Group, P.C., the independent registered public accounting firm that has audited our consolidated financial statements included herein, has issued an attestation report on the effectiveness of our internal control over financial reporting as of December 31, 2010, a copy of which is included in this Annual Report on Form 10-K.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
EntreMed, Inc.

We have audited EntreMed, Inc.'s internal control over financial reporting as of December 31, 2010, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO criteria). EntreMed Inc.'s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying "Management's Report on Internal Control over Financial Reporting." Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, EntreMed, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2010, based on the COSO criteria.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheet of EntreMed, Inc. as of December 31, 2010 and the related consolidated statements of operations, stockholders' equity (deficit), and cash flows of EntreMed, Inc. for the year then ended, and our report dated March 30, 2011 expressed an unqualified opinion that included an explanatory paragraph regarding EntreMed, Inc.'s ability to continue as a going concern.

/s/ Reznick Group, P.C.

Vienna, Virginia
March 30, 2011

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, which proxy statement will be filed with the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2010.

We have adopted a Code of Ethics, as defined in applicable SEC and NASD rules, that applies to directors, officers and employees, including our principal executive officer and principal accounting officer. The Code of Ethics is available on the Company's website at www.entremed.com.

ITEM 11. EXECUTIVE COMPENSATION

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, which proxy statement will be filed with the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2010.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required under this item, with the exception of information relating to compensation plans under which equity securities of the Company are authorized for issue, which appears below, is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, which proxy statement will be filed with the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2010.

Options under Employee Benefit Plans

The following table discloses certain information about the options issued and available for issuance under all outstanding Company option plans, as of December 31, 2010.

	(a)	(b)	(c)
Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans [excluding securities reflected in column (a)]
Equity compensation plans approved by security holders	590,009	\$38.94	314,120
Equity compensation plans not approved by security holders	0	\$ 0.00	0
Total	590,009	\$38.94	314,120

Warrants issued under the unauthorized plans represent compensation for consulting services rendered by the holders.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE.

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, which proxy statement will be filed with the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2010.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES.

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, which proxy statement will be filed with the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2010.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

(a) 1. FINANCIAL STATEMENTS - See index to Consolidated Financial Statements.

2. Schedules

All financial statement schedules are omitted because they are not applicable, not required under the instructions or all the information required is set forth in the financial statements or notes thereto.

3. Exhibits

- 2.1(1) Agreement and Plan of Merger, dated as of December 22, 2005 among EntreMed, Inc., E.M.K. Sub, Inc., Miikana Therapeutics, Inc., and Andrew Schwab
- 3.1(2) Amended and Restated Certificate of Incorporation of EntreMed, Inc.
- 3.2(23) Certificate of Amendment of Amended and Restated Certificate of Incorporation
- 3.2(3) By-laws of EntreMed, Inc.
- 4.1(4) Certificate of Designations of the Series A Convertible Preferred Stock
- 4.2(5) Warrant to Purchase Common Stock, dated January 13, 2003, issued by EntreMed, Inc. in favor of Celgene Corporation
- 4.3(6) Warrant to Purchase Common Stock, dated September 12, 2007, issued by EntreMed, Inc. in favor of General Electric Capital Corporation
- 4.4(6) Warrant to Purchase Common Stock, dated September 12, 2007, issued by EntreMed, Inc. in favor of Merrill Lynch Capital
- 4.5(6) Warrant to Purchase Common Stock, dated September 12, 2007, issued by EntreMed, Inc. in favor of Oxford Finance Corporation
- 4.6(24) Form of Common Stock Purchase Warrant, dated September 7, 2010
- 10.1(7) 1992 Stock Incentive Plan*

- 10.2(7) Amended and Restated 1996 Stock Option Plan*
- 10.3(7) Form of Stock Option Agreement, under Amended and Restated 1996 Stock Option Plan*
- 10.4(8) License Agreement between Children's Hospital Medical Center Corporation and EntreMed, Inc. signed December 20, 1996 regarding Estrogenic Compounds as Anti-Mitotic Agents
- 10.5(9) Amendment to the 1996 Stock Option Plan*
- 10.6(10) License Agreement between Celgene Corporation and EntreMed, Inc. signed December 9, 1998 regarding thalidomide intellectual property
- 10.7(10) Lease Agreement between EntreMed, Inc. and Red Gate III Limited Partnership, dated June 10, 1998
- 10.8(11) 1999 Long-Term Incentive Plan*
- 10.9(12) EntreMed, Inc. 2001 Long-Term Incentive Plan*
- 10.10.1(13) Purchase Agreement between Bioventure Investments kft and EntreMed, Inc., dated June 15, 2001+
- 10.10.2(13) Amendment 1 to Purchase Agreement between Bioventure Investments kft and EntreMed, Inc., date July 13, 2001
- 10.10.3(13) Amendment 2 to Purchase Agreement between Bioventure Investments kft and EntreMed, Inc., dated July 30, 2001
- 10.10.4(13) Amendment 3 to Purchase Agreement between Bioventure Investments kft and EntreMed, Inc., dated August 3, 2001
- 10.11(14) Board Service Agreement, dated February 5, 2003, between Michael M. Tarnow and EntreMed, Inc. *
- 10.12(15) Securities Purchase Agreement by and among EntreMed, Inc., and Celgene Corporation, dated as of December 31, 2002
- 10.13(15) Investor and Registration Rights Agreement by and between EntreMed, Inc. and Celgene Corporation, dated as of December 31, 2002
- 10.14(16) Employment Agreement between EntreMed and Carolyn F. Sidor, M.D. effective December 1, 2004, as amended*
- 10.15(17) EntreMed, Inc. 2001 Long Term Incentive Plan Non-Qualified Stock Option Grant Agreement (Director)*
- 10.16(17) EntreMed, Inc. 2001 Long Term Incentive Plan Non-Qualified Stock Option Grant Agreement (Non-Director Employee)*
- 10.17(17) Form of Change in Control Agreement*
- 10.18(17) Amendment to Employment Agreement by and between the Company and Carolyn F. Sidor, effective April 16, 2007*
- 10.19(17) Amendment to Employment Agreement by and between the Company and Cynthia W. Hu, effective April 16, 2007*

- 10.20(18) Form of Restricted Stock Award under EntreMed, Inc. 2001 Long Term Incentive Plan*
- 10.21(19) License Agreement between EntreMed and Celgene Corporation signed March 24, 2005 regarding the development and commercialization of Celgene's small molecule tubulin inhibitor compounds for the treatment of cancer+
- 10.22(20) Employment Agreement by and between EntreMed and Cynthia W. Hu, dated as of June 1, 2006, as amended*
- 10.23(21) License Agreement, dated January 9, 2006, by and between Elan Pharma International Limited and EntreMed, Inc. +
- 10.24(21) Research, Development and Commercialization Agreement, dated as of April 20, 2005, by and between Hoffman-La Roche Inc. and F. Hoffman La Roche Ltd. (together, "Roche"), and Miikana Therapeutics Inc.+
- 10.25 Amendment to Lease between EntreMed, Inc. and Red Gate III Limited Partnership, dated February 28, 2011^
- 10.26(22) Employment Agreement by and between the Company and Kathy Wehmeir-Davis, dated as January 1, 2009*
- 10.27(22) Employment Agreement by and between the Company and Mark R. Bray, dated as January 1, 2009*
- 10.28(25) Form of Stock Purchase Agreement, dated January 8, 2010
- 10.29(26) Form of Stock Purchase Agreement, dated February 3, 2010
- 10.30(27) Form of Stock Purchase Agreement, dated April 16, 2010
- 10.31(28) Securities Purchase Agreement, dated September 7, 2010 by and between EntreMed, Inc. and the investors party thereto
- 10.32(29) China Rights Agreement, by and between EntreMed, Inc. and Selected Value Therapeutics I, LLC, dated September 7, 2010 +
- 10.33 Employment Agreement, by and between EntreMed, Inc. and Sara Capitelli, dated January 10, 2011 * ^
- 10.34 Separation Agreement, by and between EntreMed, Inc, and Kathy Wehmeir-Davis, dated January 27, 2011 * ^
- 23.1 Consent of Independent Registered Public Accounting Firm
- 23.2 Consent of Independent Registered Public Accounting Firm
- 31.1 Rule 13a-14(a) Certification of Executive Chairman
- 31.2 Rule 13a-14(a) Certification of Principal Accounting Officer
- 32.1 Rule 13a-14(b) Certification by Executive Chairman
- 32.2 Rule 13a-14(b) Certification by Principal Accounting Officer

- * Management Contract or any compensatory plan, contract or arrangement.
- + Certain portions of this exhibit have been omitted based upon a request for confidential treatment. The omitted portions have been filed with the Commission pursuant to our application for confidential treatment.
- ^ Filed herewith.
- (1) Incorporated by reference from our Form 8-K previously filed with the Securities and Exchange Commission on December 29, 2005.
 - (2) Incorporated by reference from our Form 10-Q for the quarter ended June 30, 2006 previously filed with the Securities and Exchange Commission.
 - (3) Incorporated by reference from our Form 8-K previously filed with the Securities and Exchange Commission on December 6, 2007
 - (4) Incorporated by reference to Exhibit 99.4 of our Form 8-K dated December 31, 2002 previously filed with the Securities and Exchange Commission on January 15, 2003.
 - (5) Incorporated by reference to Exhibit 99.5 of our Form 8-K dated December 31, 2002 previously filed with the Securities and Exchange Commission on January 15, 2003.
 - (6) Incorporated by reference from our Form 10-Q for the quarter ended September 30, 2007 previously filed with the Securities and Exchange Commission.
 - (7) Incorporated by reference from our Registration Statement on Form S-1 declared effective by the Securities and Exchange Commission on June 11, 1996.
 - (8) Incorporated by reference from our Form 10-K for the year ended December 31, 1996 previously filed with the Securities and Exchange Commission.
 - (9) Incorporated by reference from our Form 10-K for the year ended December 31, 1997 previously filed with the Securities and Exchange Commission.
 - (10) Incorporated by reference from our Form 10-K for the year ended December 31, 1998 previously filed with the Securities and Exchange Commission.
 - (11) Incorporated by reference from our Form 10-Q for the quarter ended June 30, 1999 previously filed with the Securities and Exchange Commission.
 - (12) Incorporated by reference from Exhibit A to our Definitive Proxy Statement filed with the Securities and Exchange Commission on May 12, 2006.
 - (13) Incorporated by reference from our Form 10-Q for the quarter ended June 30, 2001 previously filed with the Securities and Exchange Commission.
 - (14) Incorporated by reference from our Form 10-K/A for the year ended December 31, 2002 previously filed with the Securities and Exchange Commission.
 - (15) Incorporated by reference from our Form 8-K dated December 31, 2002 previously filed with the Securities and Exchange Commission on January 15, 2003.

- (16) Incorporated by reference from our Form 8-K filed with the Securities and Exchange Commission on December 6, 2004, as amended on Form 8-K filed on April 17, 2007 with the Securities and Exchange Commission.
- (17) Incorporated by reference from our Form 8-K previously filed with the Securities and Exchange Commission on April 17, 2007.
- (18) Incorporated by reference from our Form 8-K previously filed with the Securities and Exchange Commission on March 11, 2005.
- (19) Incorporated by reference from our Form 10-Q for the quarter ended March 31, 2005 previously filed with the Securities and Exchange Commission.
- (20) Incorporated by reference from our Form 8-K previously filed with the Securities and Exchange Commission on June 6, 2006.
- (21) Incorporated by reference from our Form 10-Q for the quarter ended March 31, 2006 previously filed with the Securities and Exchange Commission.
- (22) Incorporated by reference from our Form 10-K for the fiscal year ended December 31, 2008, previously filed with the Securities and Exchange Commission.
- (23) Incorporated by reference from our Form 8-K previously filed with the Securities and Exchange Commission on July 7, 2010.
- (24) Incorporated by reference from our Form 8-K previously filed with the Securities and Exchange Commission on September 10, 2010.
- (25) Incorporated by reference from our Form 8-K previously filed with the Securities and Exchange Commission on January 12, 2010.
- (26) Incorporated by reference from our Form 8-K previously filed with the Securities and Exchange Commission on February 4, 2010.
- (27) Incorporated by reference from our Form 8-K previously filed with the Securities and Exchange Commission on April 16, 2010.
- (28) Incorporated by reference from our Form 8-K previously filed with the Securities and Exchange Commission on September 10, 2010.
- (29) Incorporated by reference from our Form 10-Q for the quarter ended September 30, 2010, previously filed with the Securities and Exchange Commission.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

March 30, 2011

ENTREMED, INC.

By: /s/Michael M. Tarnow
Michael M. Tarnow
Executive Chairman

Pursuant to the requirements of the Securities Act of 1934, this report has been signed below by the following persons in the capacities and on the dates indicated.

<u>SIGNATURE</u>	<u>TITLE</u>	<u>DATE</u>
<u>/s/Michael M. Tarnow</u> Michael M. Tarnow	Executive Chairman	March 30, 2011
<u>/s/Sara B. Capitelli</u> Sara B. Capitelli	Principal Accounting Officer	March 30, 2011
<u>/s/Donald S. Brooks</u> Donald S. Brooks	Director	March 29, 2011
<u>/s/Dwight L. Bush</u> Dwight L. Bush	Director	March 28, 2011
<u>/s/Jennie C. Hunter-Cevera</u> Jennie C. Hunter-Cevera	Director	March 28, 2011
<u>/s/Mark C. M. Randall</u> Mark C. M. Randall	Director	March 29, 2011

The following consolidated financial statements of EntreMed, Inc. are included in Item 8:

Report of Independent Registered Public Accounting Firm.....	F-2
Report of Independent Registered Public Accounting Firm	F-3
Consolidated Balance Sheets as of December 31, 2010 and 2009	F-4
Consolidated Statements of Operations for the years ended December 31, 2010, 2009 and 2008.....	F-5
Consolidated Statements of Stockholders' Equity (Deficit) for the years ended December 31, 2010, 2009 and 2008	F-6
Consolidated Statements of Cash Flows for the years ended December 31, 2010, 2009 and 2008	F-7
Notes to Consolidated Financial Statements.....	F-8

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of
EntreMed, Inc.:

We have audited the accompanying consolidated balance sheet of EntreMed, Inc. as of December 31, 2010, and the related consolidated statements of operations, stockholders' equity (deficit), and cash flows for the year then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of EntreMed, Inc. at December 31, 2010, and the consolidated results of its operations and its cash flows for the year then ended, in conformity with U.S. generally accepted accounting principles.

The accompanying consolidated financial statements have been prepared assuming that EntreMed, Inc. will continue as a going concern. As more fully described in Note 1, the Company has incurred recurring operating losses and negative cash flows from operations. These conditions raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The 2010 consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), EntreMed, Inc.'s internal control over financial reporting as of December 31, 2010, based on criteria established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 30, 2011 expressed an unqualified opinion thereon.

/s/ Reznick Group, P.C.

Vienna, Virginia
March 30, 2011

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of EntreMed, Inc.:

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

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

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

The accompanying consolidated financial statements as of December 31, 2009 have been prepared assuming that EntreMed, Inc. will continue as a going concern. As more fully described in Note 1, the Company has incurred recurring operating losses and negative cash flows from operations. These conditions raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The 2009 consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

/s/Ernst & Young LLP

McLean, Virginia
March 29, 2010,
except for paragraph six of Note 1, as to which the date is
March 30, 2011

EntreMed, Inc.
Consolidated Balance Sheets

	DECEMBER 31,	
	2010	2009
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 4,885,972	\$ 6,312,182
Short-term investments	25,816	54,071
Accounts receivable, net of allowance for doubtful accounts of \$72,145 at December 31, 2010 and 2009	2,750,447	3,286,858
Prepaid expenses and other	<u>265,683</u>	<u>220,925</u>
Total current assets	7,927,918	9,874,036
Property and equipment, net	104,729	171,498
Other assets	<u>4,584</u>	<u>21,494</u>
Total assets	<u>\$ 8,037,231</u>	<u>\$ 10,067,028</u>
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable	\$ 1,351,004	\$ 1,968,607
Accrued liabilities	595,341	745,183
Current portion of loan payable	<u>757,471</u>	<u>8,555,404</u>
Total current liabilities	2,703,816	11,269,194
Loan payable, less current portion	-	723,814
Commitments and Contingencies	-	-
Stockholders' equity (deficit):		
Convertible preferred stock, \$1.00 par value; 5,000,000 shares authorized and 3,350,000 shares issued and outstanding at December 31, 2010 and 2009 (liquidation value - \$33,500,000 at December 31, 2010 and 2009)	3,350,000	3,350,000
Common stock, \$.01 par value: 170,000,000 shares authorized at December 31, 2010 and 2009; 11,517,566 and 8,061,040 shares issued and outstanding at December 31, 2010 and 2009, respectively	115,176	80,610
Additional paid-in capital	384,130,011	368,804,067
Treasury stock, at cost: 79,545 shares held at December 31, 2010 and 2009	(8,034,244)	(8,034,244)
Accumulated deficit	<u>(374,227,528)</u>	<u>(366,126,413)</u>
Total stockholders' equity (deficit)	5,333,415	(1,925,980)
Total liabilities and stockholders' equity (deficit)	<u>\$ 8,037,231</u>	<u>\$ 10,067,028</u>

See accompanying notes.

EntreMed, Inc.
Consolidated Statements of Operations

	YEAR ENDED DECEMBER 31,		
	<u>2010</u>	<u>2009</u>	<u>2008</u>
Revenues:			
Royalties	3,448,688	4,989,725	7,472,061
Other	<u>244,479</u>	<u>294,333</u>	<u>5,158</u>
	<u>3,693,167</u>	<u>5,284,058</u>	<u>7,477,219</u>
Costs and expenses:			
Research and development	4,829,943	7,901,522	20,069,229
General and administrative	3,397,866	4,104,287	7,764,532
Acquired In-Process R&D	<u>3,000,000</u>	<u>-</u>	<u>2,000,000</u>
	<u>11,227,809</u>	<u>12,005,809</u>	<u>29,833,761</u>
Investment income	-	69,702	882,253
Interest expense	(540,218)	(1,493,400)	(2,216,163)
Fixed asset impairment loss	-	-	(171,576)
Other income (expense)	<u>(26,255)</u>	<u>(70,929)</u>	<u>-</u>
Net loss	(8,101,115)	(8,216,378)	(23,862,028)
Dividends on Series A convertible preferred stock	<u>(1,005,000)</u>	<u>(1,005,000)</u>	<u>(1,005,000)</u>
Net loss attributable to common shareholders	<u>\$ (9,106,115)</u>	<u>\$ (9,221,378)</u>	<u>\$ (24,867,028)</u>
Net loss per share (basic and diluted)	<u>\$ (0.94)</u>	<u>\$ (1.16)</u>	<u>\$ (3.16)</u>
Weighted average number of shares outstanding (basic and diluted)	<u>9,678,924</u>	<u>7,977,979</u>	<u>7,861,797</u>

See accompanying notes.

EntreMed, Inc.

Consolidated Statements of Stockholders' Equity (Deficit)
Years Ended December 31, 2010, 2009 and 2008

	Preferred Stock		Common Stock		Treasury Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total
	Shares	Amount	Shares	Amount					
Balance at December 31, 2007	3,350,000	\$ 3,350,000	7,712,545	\$ 77,920	\$ (8,034,244)	\$ 365,484,354	\$ 66,954	\$ (334,048,007)	\$ 26,896,977
Issuance of common stock for milestone payment, net of stock issuance costs	-	-	233,100	2,331	-	1,920,714	-	-	1,923,045
Restricted stock grants	-	-	19,289	193	-	192,863	-	-	193,056
Stock-based compensation expense, net of forfeitures	-	-	-	-	-	896,461	-	-	896,461
Comprehensive loss:									
Net loss	-	-	-	-	-	-	-	(23,862,028)	(23,862,028)
Unrealized loss on investments	-	-	-	-	-	-	(125,345)	-	(125,345)
Comprehensive loss	-	-	-	-	-	-	-	-	(23,987,373)
Balance at December 31, 2008	3,350,000	\$ 3,350,000	7,964,934	\$ 80,444	\$ (8,034,244)	\$ 368,494,392	\$ (58,391)	\$ (357,910,035)	\$ 5,922,166
Issuance of common stock for options exercised (less options used for payment of taxes)	-	-	6,164	62	-	(10,377)	-	-	(10,315)
Restricted stock grants	-	-	10,397	104	-	73,090	-	-	73,194
Stock-based compensation expense, net of forfeitures	-	-	-	-	-	246,962	-	-	246,962
Net loss	-	-	-	-	-	-	-	(8,216,378)	(8,216,378)
Recognition of other-than-temporary impairment on investments	-	-	-	-	-	-	58,391	-	58,391
Comprehensive loss	-	-	-	-	-	-	-	-	(8,157,987)
Balance at December 31, 2009	3,350,000	\$ 3,350,000	7,981,495	\$ 80,610	\$ (8,034,244)	\$ 368,804,067	\$ -	\$ (366,126,413)	\$ (1,925,980)
Issuance of common stock for options exercised (less options used for payment of taxes)	-	-	6,072	61	-	1,978	-	-	2,039
Issuance of common stock for milestone payment, net of stock issuance costs	-	-	403,550	4,036	-	2,911,890	-	-	2,915,926
Fair value of warrants issued pursuant to securities purchase agreement (note 8)	-	-	-	-	-	660,322	-	-	660,322
Issuance of common stock pursuant to financing agreements	-	-	3,046,904	30,469	-	11,480,138	-	-	11,510,607
Stock-based compensation expense, net of forfeitures	-	-	-	-	-	271,616	-	-	271,616
Net loss	-	-	-	-	-	-	-	(8,101,115)	(8,101,115)
Balance at December 31, 2010	3,350,000	\$ 3,350,000	11,438,021	\$ 115,176	\$ (8,034,244)	\$ 384,130,011	\$ -	\$ (374,227,528)	\$ 5,333,415

See accompanying notes.

EntreMed, Inc.
Consolidated Statements of Cash Flows

	YEAR ENDED DECEMBER 31,		
	<u>2010</u>	<u>2009</u>	<u>2008</u>
CASH FLOWS FROM OPERATING ACTIVITIES			
Net loss	\$ (8,101,115)	\$ (8,216,378)	\$ (23,862,028)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	70,364	95,106	319,230
Write-off of in-process R&D	3,000,000	-	2,000,000
Fixed asset impairment loss	-	-	171,576
Investment impairment loss	28,255	70,929	-
Stock-based compensation expense	271,616	320,156	1,089,517
Gain on sale of assets	(2,000)	-	-
Amortization of discount on short-term investments	-	(21,270)	(573,647)
Non-cash interest	48,959	133,082	198,543
Changes in operating assets and liabilities:			
Accounts receivable	536,411	593,250	21,446
Interest receivable	50	37,329	106,789
Prepaid expenses and other	(44,808)	162,688	80,944
Accounts payable	(617,603)	(1,527,591)	(1,054,694)
Accrued liabilities	(149,842)	(1,839,146)	908,512
Deferred rent	-	(20,763)	(119,595)
Net cash used in operating activities	<u>(4,959,713)</u>	<u>(10,212,608)</u>	<u>(20,713,407)</u>
CASH FLOWS FROM INVESTING ACTIVITIES			
Purchases of short term investments	-	(7,992,859)	(51,556,886)
Maturities of short term investments	-	15,500,000	62,525,000
Unrealized gain on short term investments	-	(4,436)	4,436
Proceeds from sale of assets	2,000	-	-
Purchases of furniture and equipment	(3,595)	(2,889)	(134,065)
Net cash (used in) provided by investing activities	<u>(1,595)</u>	<u>7,499,816</u>	<u>10,838,485</u>
CASH FLOWS FROM FINANCING ACTIVITIES			
Repayment of loan	(8,553,796)	(7,707,840)	(2,980,893)
Stock issuance costs	(1,005,170)	(10,315)	(76,955)
Proceeds from sale of common stock and warrants	13,094,064	-	-
Net cash provided by (used in) financing activities	<u>3,535,098</u>	<u>(7,718,155)</u>	<u>(3,057,848)</u>
Net decrease in cash and cash equivalents	(1,426,210)	(10,430,947)	(12,932,770)
Cash and cash equivalents at beginning of year	<u>6,312,182</u>	<u>16,743,129</u>	<u>29,675,899</u>
Cash and cash equivalents at end of year	<u>\$ 4,885,972</u>	<u>\$ 6,312,182</u>	<u>\$ 16,743,129</u>
Supplemental disclosure of cash flow information:			
Cash paid during the year for interest	\$ 573,479	\$ 1,360,319	\$ 2,017,619
Non-cash investing activity:			
Stock issued in connection with milestone payment related to the acquisition of Miikana	\$ 3,000,000	\$ -	\$ 2,000,000

See accompanying notes.

EntreMed, Inc.

Notes to Consolidated Financial Statements
December 31, 2010

1. DESCRIPTION OF BUSINESS AND BASIS OF PRESENTATION

EntreMed, Inc. (“EntreMed” or “the Company”) (Nasdaq: ENMD) is a clinical-stage pharmaceutical company focused on developing ENMD-2076, an Aurora A and angiogenic kinase inhibitor for the treatment of cancer. ENMD-2076 has completed Phase 1 studies in patients with advanced solid tumors and leukemia and is currently in a Phase 1 study in multiple myeloma and a multi-center Phase 2 study in patients with platinum resistant ovarian cancer.

ENMD-2076 is a novel orally-active, Aurora A/angiogenic kinase inhibitor with potent activity against Aurora A and multiple tyrosine kinases linked to cancer and inflammatory diseases. ENMD-2076 is relatively selective for the AuroraA isoform in comparison to Aurora B. Aurora kinases are key regulators of the process of mitosis, or cell division, and are often over-expressed in human cancers. ENMD-2076 exerts its effects through multiple mechanisms of action, including anti-proliferative activity and the inhibition of angiogenesis. ENMD-2076 has demonstrated significant, dose-dependent preclinical activity as a single agent, including tumor regression, in multiple xenograft models (e.g. breast, colon, leukemia), as well as activity towards ex vivo-treated human leukemia patient cells.

ENMD-2076 has received orphan drug designation for the treatment of ovarian cancer, multiple myeloma and AML.

ENMD-2076 is the only program currently under active clinical evaluation by the Company. The selection of ENMD-2076 as the lead product candidate allows the Company to direct the majority of its resources to advance its clinical development. However, the Company also owns the intellectual property or has exclusive rights to the intellectual property of its other early-stage therapeutic candidates. The Company does not intend to initiate additional new studies for programs other than ENMD-2076 unless significant resources become available beyond what the Company would commit to further the clinical development of ENMD-2076. The Company’s other therapeutic candidates include MKC-1, an oral cell-cycle inhibitor with activity against the mTOR pathway that has completed multiple Phase 2 clinical trials for cancer, and ENMD-1198, a novel anti-mitotic agent that has completed a Phase 1 study in advanced cancers. The Company also has an approved Investigational New Drug Application (“IND”) for the use of Panzem[®] in rheumatoid arthritis (“RA”) treatment. All of the Company’s candidates are multi-mechanism and affect multiple pathways for tumor growth.

The accompanying consolidated financial statements include the accounts of the Company’s wholly-owned subsidiary, Miiikana Therapeutics, Inc. (Miiikana). All inter-company balances and transactions have been eliminated in consolidation. The Company refers to EntreMed and its consolidated subsidiary.

On July 1, 2010, the Company affected a 1-for-11 reverse split of its common stock, which was authorized by its Board of Directors on June 9, 2010. The primary objective in affecting the reverse split was to better enable the Company to maintain the listing of its common stock on the NASDAQ Capital Market. As a result of the reverse stock split, each eleven shares of the common stock that was issued and outstanding or held in treasury on July 1, 2010 at 8:00 am. Eastern time were automatically combined into one share. The reverse stock split reduced the number of issued and outstanding shares of common stock as of July 1, 2010 from approximately 105.9 million shares to approximately 9.6 million shares. No fractional shares were issued in connection with the reverse stock split. Stockholders who were entitled to fractional shares instead became entitled to receive a cash payment in lieu of receiving fractional shares equal to the fractional share interest multiplied by \$0.40 (the per share closing price of the Company’s common stock as last reported on the NASDAQ Stock Market on June 30, 2010). The reverse stock split affected all of the holders of common stock uniformly. Shares of common stock underlying outstanding options

and warrants were proportionately reduced and the exercise price of outstanding options and warrants was proportionately increased in accordance with the terms of the agreements governing such securities. All common stock share and per share information in the accompanying consolidated financial statements and notes thereto included in this report have been restated to reflect retrospective application of the reverse stock split, except for par value per share and the number of authorized shares, which were not affected by the reverse stock split. In addition, corresponding amounts were reclassified from common stock to additional paid-in capital.

LIQUIDITY RISKS AND MANAGEMENT'S PLANS

The accompanying consolidated financial statements have been prepared on a going-concern basis, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. As of December 31, 2010, the Company has operating and liquidity concerns. Since inception, the Company has incurred significant losses from operations and has incurred an accumulated deficit of \$374 million. The Company expects to continue to incur expenses, resulting in operating losses, for the foreseeable future due to, among other factors, its continuing clinical activities. During the year ended December 31, 2010, the Company raised \$12.1 million from the sale of its common stock. Based on current plans, the Company expects its current available cash and cash equivalents, along with the receipt of anticipated royalty payments in fiscal 2011, will be sufficient to meet its cash requirements into the fourth quarter of fiscal 2011. To augment the Company's cash position, the Company will continue to pursue opportunities to raise additional capital to support ENMD-2076 and fund its operating needs.

The Company's ability to continue as a going concern is dependent on its success at raising additional capital sufficient to meet its obligations on a timely basis, the ongoing receipt of royalty payments and its ability to ultimately attain profitability. As the amount of the royalty payments to be received cannot be reasonably estimated, there is no assurance that the Company will not be required to raise additional capital sufficient to enable the Company to continue its operations through fiscal 2011 and the next 12 months. If additional funds are raised by issuing equity securities, dilution to existing shareholders may result. There can be no assurance that adequate additional financing will be available to the Company on terms that it deems acceptable, if at all. In the event the Company is unable to successfully raise additional capital, it is unlikely that the Company will have sufficient cash flows and liquidity to finance its business operations and ENMD-2076 development program, as currently contemplated. Accordingly, in the event new financing is not obtained, the Company will likely reduce general and administrative expenses and delay, scale back, or interrupt the clinical development of ENMD-2076 until it is able to obtain sufficient financing to do so.

These factors could significantly limit the Company's ability to continue as a going concern. The consolidated financial statements do not include any adjustments relating to recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should the Company be unable to continue in existence.

Subsequent events are defined as those events or transactions that occur after the balance sheet date, but before the financial statements are filed with the Securities and Exchange Commission. The Company completed an evaluation of the impact of any subsequent events through the date these consolidated financial statements were issued, and determined there were no subsequent events requiring disclosure in or requiring adjustment to these consolidated financial statements other than those disclosed in Note 12.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

SEGMENT INFORMATION

The Company currently operates in one business segment, which is the development of therapeutics primarily for the treatment of cancer. The Company is managed and operated as one business. EntreMed's senior management team reports to the Board of Directors and is responsible for aligning the Company's business strategy with its core scientific strengths, while maintaining prudent resource management, fiscal responsibility and accountability. The team has directed EntreMed's financial resources and R&D strategy to focus primarily on the development of its Aurora/angiogenic kinase inhibitor, ENMD-2076.

The Company does not operate separate lines of business with respect to its product candidates. Accordingly, the Company does not have separately reportable segments as defined by authoritative guidance issued by the Financial Accounting Standards Board (FASB).

RESEARCH AND DEVELOPMENT

Research and development expenses consist primarily of compensation and other expenses related to research and development personnel, research collaborations, costs associated with pre-clinical correlative testing and clinical trials of our drug candidate, including the costs of manufacturing drug substance and drug product, regulatory maintenance costs, and facilities expenses. Research and development costs are expensed as incurred, including costs incurred in filing, defending and maintaining patents.

PROPERTY AND EQUIPMENT

Furniture and equipment and leasehold improvements are stated at cost and are depreciated over their estimated useful lives of 3 to 10 years. Depreciation is determined on a straight-line basis. Depreciation expense was \$70,364, \$95,106, and \$319,230 in 2010, 2009 and 2008, respectively.

Property and equipment consists of the following:

	DECEMBER 31,	
	2010	2009
Furniture and equipment	\$ 4,974,341	\$ 4,990,578
Leasehold improvements	<u>1,325,031</u>	<u>1,325,031</u>
	6,299,372	6,315,609
Less: accumulated depreciation	<u>(6,194,643)</u>	<u>(6,144,111)</u>
	<u>\$ 104,729</u>	<u>\$ 171,498</u>

IMPAIRMENT OF LONG-LIVED ASSETS

In accordance with authoritative guidance issued by FASB, the Company periodically evaluates the value reflected in its balance sheet of long-lived assets, such as equipment, when events and circumstances indicate that the carrying amount of an asset may not be recovered. Such events and circumstances include the use of the asset in current research and development projects, any potential alternative uses of the asset in other research and development projects in the short to medium term and restructuring plans entered into by the Company. Determination of recoverability is based on an estimate of undiscounted future cash flows resulting from the use of the asset and its eventual disposition. In the event that such cash flows are not expected to be sufficient to recover the carrying amount of the assets, the assets are written down to their estimated fair values. At December 31, 2008, the Company recorded a fixed asset impairment charge of approximately \$172,000 in connection with its restructuring plan discussed later in Note 3. No impairment charges were recorded in 2010 and 2009.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents include cash and highly liquid investments with original maturities of less than 90 days. Substantially all of the Company's cash equivalents are held in short-term money market accounts of banks and brokerage houses.

SHORT-TERM INVESTMENTS

Short-term investments at December 31, 2010 and 2009 consist of equity securities. The Company has classified these investments as available for sale. Such securities are carried at fair market value. The cost of securities sold is calculated using the specific identification method. Unrealized gains and losses on these securities, if any, are reported as accumulated other comprehensive income (loss), which is a separate component of stockholders' equity. Net unrealized losses of \$12,538 and \$125,345 were recorded in 2009 and 2008, respectively. There were no unrealized gains or losses for the year ended December 31, 2010. Realized gains and losses and declines in value judged to be other than temporary on securities available for sale, if any, are included in operations. There were realized losses as a result of declines in value judged to be other than temporary of

approximately \$28,000 and \$71,000 for the years ended December 31, 2010 and 2009, respectively. There were no realized gains or losses for the year ended December 31, 2008. Short-term investments are principally uninsured and subject to normal credit risk.

The following is a summary of available-for-sale securities at December 31, 2010:

	Available-for-Sale Securities			Estimated Fair Value (Net Carrying Amount)
	Amortized Cost	Gross Unrealized Gains	Gross Realized Losses	
Equity Securities	\$ 125,000	\$ -	\$ (99,184)	\$ 25,816
Total	\$ 125,000	\$ -	\$ (99,184)	\$ 25,816

The following is a summary of available-for-sale securities at December 31, 2009:

	Available-for-Sale Securities			Estimated Fair Value (Net Carrying Amount)
	Amortized Cost	Gross Unrealized Gains	Gross Realized Losses	
Equity Securities	\$ 125,000	\$ -	\$ (70,929)	\$ 54,071
Total	\$ 125,000	\$ -	\$ (70,929)	\$ 54,071

ACCOUNTS RECEIVABLE

Accounts receivable are stated net of allowances for doubtful accounts. Allowances for doubtful accounts are determined on a specific item basis. Management reviews the credit worthiness of individual customers and past payment history to determine the allowance for doubtful accounts. There is an allowance for doubtful accounts of \$72,145 at December 31, 2010 and 2009.

As of December 31, 2010 and 2009, one customer represented 100% of the total accounts receivable.

EXPENSES FOR CLINICAL TRIALS

Expenses for clinical trials are incurred from planning through patient enrollment to reporting of the data. The Company estimates expenses incurred for clinical trials that are in process based on patient enrollment and based on clinical data collection and management. Costs that are associated with patient enrollment are recognized as each patient in the clinical trial completes the enrollment process. Estimated clinical trial costs related to enrollment can vary based on numerous factors, including expected number of patients in trials, the number of patients that do not complete participation in a trial, and the length of participation for each patient. Costs that are based on clinical data collection and management are recognized in the reporting period in which services are provided. In the event of early termination of a clinical trial, the Company would accrue an amount based on estimates of the remaining non-cancelable obligations associated with winding down the clinical trial. As of December 31, 2010 and 2009, clinical trial accruals were \$724,921 and \$1,425,725, respectively, and are included in Accounts Payable in the accompanying consolidated balance sheets.

INCOME TAXES

Income tax expense is accounted for in accordance with authoritative guidance issued by FASB. Income tax expense has been provided using the liability method. Deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities as measured by the enacted tax rates that will be in effect when these differences reverse. The Company provides a valuation allowance against net deferred tax assets if, based upon the available evidence, it is not more likely than not that the deferred tax assets will be realized.

The Company accounts for uncertain tax positions pursuant to the guidance of FASB ASC Topic 740, *Income Taxes*. The Company recognizes interest and penalties related to uncertain tax positions, if any, in income tax expense. As of December 31, 2010 and 2009, the Company did not accrue any interest related to uncertain tax positions. To date, there have been no interest or penalties charged to the Company in relation to the underpayment of income taxes.

REVENUE RECOGNITION

Revenue is not recognized until it is realized or realizable and earned. Revenue is recognized when all of the following criteria are met: persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price to the buyer is fixed and determinable and collectibility is reasonably assured. Royalties from licenses are based on third-party sales and recorded as earned in accordance with contract terms, when third-party results are reliably measured and collectibility is reasonably assured.

The majority of the Company's 2010, 2009 and 2008 revenues were from royalties based on the sale of Thalomid[®] distributed by Celgene Corp. In 2004, certain provisions of a purchase agreement dated June 14, 2001 by and between Bioventure Investments kft ("Bioventure") and the Company were satisfied, and, as a result, in 2005 the Company became entitled to share in the royalty payments received by Royalty Pharma Finance Trust, successor to Bioventure, on annual Thalomid[®] sales above a certain threshold. Based on the licensing agreement royalty formula, the Company's right to share in the annual royalty commences when net royalties received by Royalty Pharma exceeds \$15,375,000, which equates to approximately \$225 million in Thalomid[®] annual sales.

The Company is a party to a February 2004 agreement with Children's Medical Center Corporation ("CMCC") and Alchemgen Therapeutics pertaining to Endostatin and Angiostatin proteins, programs which have been discontinued by the Company, and pursuant to which Alchemgen received rights to market Endostatin and Angiostatin proteins in Asia. In April 2008, the Company was advised that Alchemgen Therapeutics ceased operations, therefore eliminating our ability to receive any royalties from Alchemgen under the agreement. However, the Company is a party to a sublicense agreement with Oxford BioMedica PLC to develop and market Endostatin and Angiostatin for ophthalmologic (eye) diseases. Pursuant to this sublicense, the Company is eligible to receive a portion of upfront payments and royalties from Oxford BioMedica based on a portion of the payments received and net sales of gene products of Endostatin and Angiostatin and certain development milestone payments. The Company received its first payment from Oxford BioMedica PLC in the amount of \$368,000 in connection with Retinostat[®] and Encorstat[®] under this agreement in 2009, and accrued a sub-royalty payment in the amount of \$74,000 at December 31, 2009 as a payable to CMCC as the original licensor. There was no royalty payment received or related sub-royalty payment accrued in 2010.

Revenue under grants is recognized when the related qualified research and development expenses are incurred up to the limit of the approval funding amounts. In 2010, the Company recorded \$244,479 of grant revenues from the U.S. government's Qualified Therapeutic Development Program which is included in other income in the accompanying consolidated statement of operations for the year ended December 31, 2010.

NET LOSS PER SHARE

Net loss per share (basic and diluted) was computed by dividing net loss attributable to common shareholders by the weighted average number of shares of common stock outstanding. Preferred Series A common stock equivalents, outstanding options and warrants totaling 3,102,459, 2,770,011 and 2,995,873 for 2010, 2009 and

2008, respectively were anti-dilutive and, therefore, were not included in the computation of weighted average shares used in computing diluted loss per share.

COMPREHENSIVE LOSS

The Company presents comprehensive loss and its components as part of the consolidated financial statements. Comprehensive loss is comprised of net loss and unrealized gain and loss on investments as follows:

	<u>Years ended December 31,</u>		
	<u>2010</u>	<u>2009</u>	<u>2008</u>
Net loss	\$(8,101,115)	\$(8,216,378)	\$ (23,862,028)
Other comprehensive income (loss)	-	58,391	(125,345)
Comprehensive loss	<u>\$(8,105,115)</u>	<u>\$(8,157,987)</u>	<u>\$(23,987,373)</u>

FAIR VALUE MEASUREMENT

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (“the exit price”) in an orderly transaction between market participants at the measurement date. The authoritative guidance outlines a valuation framework and creates a fair value hierarchy in order to increase the consistency and comparability of fair value measurements and the related disclosures. In determining fair value, EntreMed primarily uses prices and other relevant information generated by market transactions involving identical or comparable assets (“market approach”). The Company has determined that the fair value measurements are in accordance with the guidance.

The guidance established a three-level hierarchy for fair value measurements that distinguishes between market participant assumptions developed based on market data obtained from sources independent of the reporting entity (“observable inputs”) and the reporting entity’s own assumptions about market participant assumptions developed based on the best information available in the circumstances (“unobservable inputs”). EntreMed currently does not have non-financial assets and non-financial liabilities that are required to be measured at fair value on a recurring basis.

There have been no transfers of assets or liabilities between the fair value measurement classifications.

The Company’s financial assets and liabilities are measured using inputs from the three levels of the fair value hierarchy, defined as follows:

Level 1 – Inputs are unadjusted quoted prices in active markets for identical assets or liabilities that we have the ability to access at the measurement date.

Level 2 – Inputs are quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability (i.e., interest rates, yield curves, etc.), and inputs that are derived principally from or corroborated by observable market data by correlation or other means (market corroborated inputs).

Level 3 – Unobservable inputs that reflect our own assumptions, based on the best information available, including our own data.

In accordance with the fair value hierarchy described above, the following table shows the fair value of the Company’s financial assets and liabilities that are required to be measured at fair value as of December 31, 2010 and 2009:

	Total Carrying Value at December 31, 2009	Fair Value Measurements at December 31, 2010		
		Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Cash equivalents	\$ 1,105,868	\$ 1,105,868	\$ —	\$ —
Available for sale securities*	25,816	25,816	—	—

* Realized losses related to available for sale securities are included in operations, as disclosed in Footnote 2.

	Total Carrying Value at December 31, 2009	Fair Value Measurements at December 31, 2009		
		Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Cash equivalents	\$ 4,105,868	\$ 4,105,868	\$ —	\$ —
Available for sale securities*	54,071	54,071	—	—

* Realized losses related to available for sale securities are included in operations, as disclosed in Footnote 2.

The Company's Level 1 assets include money market instruments and equity securities with quoted prices in active markets.

SHARE-BASED COMPENSATION

The Company has incentive and nonqualified stock option plans for executive, scientific and administrative personnel of the Company as well as outside directors and consultants, of which 314,120 shares remain available for grant under the Company's 2001 Long-Term Incentive Plan as of December 31, 2010. There are 590,008 shares issuable under options previously granted under the plans and currently outstanding, with exercise prices ranging from \$1.76 to \$522.50. Options granted under the plans vest over periods varying from immediately to three years, are not transferable and generally expire ten years from the date of grant.

The Company records compensation expense associated with stock options and other equity-based compensation in accordance with provisions of authoritative guidance. Compensation costs are recognized based on a straight-line method over the requisite service period, which is generally the option vesting term of three years.

NEW ACCOUNTING PRONOUNCEMENTS

In January 2010, the Financial Accounting Standards Board (FASB) issued new authoritative guidance related to fair value disclosures. The provisions of the guidance require an entity to: (i) disclose separately the amounts of significant transfers in and out of Level 1 and Level 2 fair value measurements and describe the reasons for the transfers and (ii) present separate information for Level 3 activity pertaining to gross purchases, sales, issuances, and settlements. The new guidance is effective for interim and annual reporting periods beginning after December 15, 2009, except for the gross basis reconciliation for the Level 3 fair value measurements, which is effective for fiscal years beginning after December 15, 2010. The adoption did not have a material impact on the Company's consolidated financial position and consolidated results of operations.

In February 2010, the FASB issued an amendment to existing authoritative guidance which requires an entity that is an SEC filer to evaluate subsequent events through the date that the financial statements are issued and removes the requirement for an SEC filer to disclose a date, in both issued and revised financial statements, through which the filer had evaluated subsequent events. The adoption did not have an impact on the Company's financial position and results of operations.

In April 2010, the FASB issued an amendment to existing authoritative guidance regarding the milestone method of revenue recognition. The amendment provides guidance on the criteria that should be met for determining whether the milestone method of revenue recognition is appropriate along with providing for expanded disclosures. This amendment is effective on a prospective basis for milestones achieved in fiscal years, and interim periods within those years, beginning on or after June 15, 2010 with early adoption permitted. The Company adopted this amendment in January 2011. The Company does not anticipate this amendment will have a material impact on its consolidated financial position and consolidated results of operations.

EntreMed has implemented all new accounting pronouncements that are in effect and that may impact the Company's consolidated financial statements and the Company does not believe that there are any other new accounting pronouncements that have been issued that might have a material impact on its consolidated financial statements.

FAIR VALUE OF FINANCIAL INSTRUMENTS AND CONCENTRATIONS OF RISK

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents, short-term investments, accounts receivable and note receivable. The Company maintains its cash and cash equivalents in bank deposit accounts, which, at times, may exceed federally insured amounts. The Company believes it is not exposed to any significant credit risk on cash and cash equivalents or short-term investments. The carrying amount of current assets and liabilities approximates their fair values due to their short-term maturities.

USE OF ESTIMATES

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results may differ from those estimates, and such differences may be material to the consolidated financial statements. In December 2009, the Company received \$1.7 million in royalty revenue from the sales of Thalomid[®] during the third quarter of 2009, compared to estimated royalty revenue of \$3.3 million. This resulted in a change in accounting estimate which has been accounted for prospectively.

3. RESTRUCTURING

In connection with the Company's business plan to become a clinically-focused operation, accelerating the clinical development of ENMD-2076, with the objective to lower operating costs and preserve capital, the Company experienced workforce reductions in December 2008 and in December 2009 which in the aggregate resulted in the elimination of approximately seventy percent of the Company's total positions across all areas of business. The Company incurred charges for severance and related benefits totaling \$228,754 and \$1,783,773 during 2009 and 2008, respectively. At December 31, 2009, \$228,754 is included in accrued liabilities. There were no additional charges during 2010. The Company has accounted for this restructuring as prescribed by authoritative guidance.

A summary of changes in the accrued liabilities during the twelve months ended December 31, 2010, is as follows:

	R&D Expenses	G&A Expenses	
Balance at December 31, 2009			\$ 228,754
Termination benefits incurred	\$ -	\$ -	-
Cash payments	(184,359)	(44,395)	(228,754)
Balance at December 31, 2010			\$ -

Cumulative costs incurred through December 31, 2009 with respect to the restructuring are \$2,013,000, of which, approximately \$1,067,000 have been expensed as general and administrative costs and \$946,000 have been expensed as research and development costs. The Company did not incur additional costs during the year ended December 31, 2010 and does not expect to incur additional costs in connection with these terminations.

4. IN-PROCESS R&D

In January 2006, the Company acquired Miikana, a private biotechnology company. Pursuant to the merger agreement, based on the success of the acquired preclinical programs, the Company may pay up to an aggregate additional \$18 million upon the achievement of certain clinical and regulatory milestones for the programs. Such additional payments can be made in cash or shares of stock at the Company's option.

The Company achieved the first two milestones under its ENMD-2076 program with the dosing of the first patient in a Phase 1 trial in 2008 and the dosing of the first patient in a Phase 2 trial in 2010, which triggered the milestone payments of \$2 million and \$3 million, respectively. The Company paid each of the milestone payments in shares of its common stock as follows: 233,100 shares of common stock issued in June 2008 and 403,550 shares of common stock issued in June 2010. These payments were recorded to expense as in-process research and development since the research and development project related to the Aurora Kinase Program had not reached technical feasibility and has no future alternative use.

5. LOAN PAYABLE

On September 12, 2007, EntreMed, Inc. and Miikana Therapeutics, Inc., its wholly owned subsidiary, entered into a Loan and Security Agreement ("Loan Agreement") with General Electric Capital Corporation ("GECC"), as agent, Merrill Lynch Capital and Oxford Finance Corporation (collectively, "the Lenders"). The Loan Agreement provides for (i) a term loan ("Term Loan") issued by the Lenders to the Company in the aggregate amount of \$20,000,000 and (ii) the issuance and sale to the Lenders of stock purchase warrants evidencing the Lenders' right to acquire their respective *pro rata* share of 22,727 shares of common stock of the Company ("Warrants"). The Term Loan accrued interest in arrears at a fixed annual interest rate of 10.47% , was used for general corporate purposes and was secured by the personal property owned by the Company, except for any intellectual property owned by the Company. In January 2011, the Company made its final payment to the Lenders. With the Term Loan fully repaid and satisfied, the Lenders have released its security interest on the Company's assets.

The Loan Agreement contained customary affirmative and negative covenants. The Company was in compliance with such covenants as of December 31, 2010 and in January 2011 when the loan was fully repaid.

The Warrants are exercisable by the Lenders until September 12, 2012 at an exercise price of \$22.00 per share. The fair value of the Warrants issued was \$190,000, calculated using a Black-Scholes-Merton value of \$8.36 with an expected and contractual life of 5 years, an assumed volatility of 98%, and a risk-free interest rate of 4.11%. The value of the Warrants, and an upfront underwriting fee of \$100,000 paid to one of the Lenders, were recorded as a discount on the loan and amortized as interest expense over the life of the loan. The Company also incurred certain debt issuance costs that were deferred and have been fully amortized as of December 31, 2010. Amortization of these fees and the discount results in an effective interest rate of 11.40%. Non-cash interest expense related to the amortization of debt issuance costs and debt discount was \$48,959, \$133,082, and \$198,543 for the years ended December 31, 2010, 2009 and 2008, respectively.

6. LICENSE AGREEMENTS

Pursuant to a purchase agreement dated June 14, 2001 by and between Bioventure Investments kft ("Bioventure") and the Company, as amended July 13, 2001, July 30, 2001 and August 3, 2001 (the "Purchase Agreement"), Bioventure purchased all of the Company's right, title and interest to the net royalty payments payable by Celgene Corporation ("Celgene") to the Company under the agreement dated as of December 9, 1998 by and between the Company and Celgene (the "Celgene Sublicense").

A provision of the Bioventure purchase agreement provided the potential for an adjustment in the purchase price if cumulative sales of Thalomid[®] exceeded \$800 million by December 31, 2004. Based on Thalomid[®] sales reported publicly by Celgene, the Company concluded that cumulative Thalomid[®] sales had reached this milestone by December 31, 2004, thus triggering a royalty sharing provision. Beginning the year after cumulative sales reach \$800 million, EntreMed is entitled to share in the royalty payments received by Royalty Pharma Finance Trust, successor to Bioventure, on annual Thalomid[®] sales above a certain threshold. The Company is entitled to receive these sub-royalty payments until the last-to-expire relevant patent as described under the agreement. In 2010, 2009 and 2008 Thalomid[®] sales surpassed the royalty-sharing point and the Company recognized royalty revenues of \$3,448,688, \$4,990,000, and \$7,472,000, respectively. There can be no assurance that the annual Thalomid[®] minimum sales threshold will occur in the same time frame or that the Company will receive additional material royalties at all under the royalty sharing provision in the future.

In March 2005, the Company entered into an exclusive worldwide license agreement with Celgene Corporation for the development and commercialization of Celgene's small molecule tubulin inhibitor compounds for the treatment of cancer. Under the terms of the agreement, Celgene received an upfront licensing fee and may receive additional payments upon successful completion of certain clinical, regulatory and sales milestones. No such milestones have been reached through December 31, 2010. The Company's preliminary work on the program was completed in 2008 and the Company does not expect to devote any significant resources to this program in 2011.

In January 2006, the Company entered into a License Agreement with Elan Corporation, plc ("Elan") in which the Company has been granted rights to utilize Elan's proprietary NanoCrystal Technology in connection with the development of the oncology product candidate, Panzem[®]NCD. Under the terms of the License Agreement, Elan is eligible to receive payments upon the achievement of certain clinical, manufacturing, and regulatory milestones and to receive royalty payments based on sales of Panzem[®] NCD. Additionally, under the agreement and the corresponding Services Agreement, Elan has the right to manufacture EntreMed's Panzem[®] NCD. Milestones related to the initiation of Phase 2 clinical trials for Panzem[®] NCD have been paid and there are no additional milestones achieved as of December 31, 2010. The Company does not expect to achieve any milestones in 2011 as Panzem[®] NCD for oncology is a program the Company has discontinued.

On September 7, 2010, concurrent with the issuance and sale of the common stock and warrants as discussed in Note 8, the Company entered into a Rights Agreement with Selected Value Therapeutics I, LLC ("SVT") pursuant to which SVT has an option to exercise certain license, development and commercialization rights for ENMD-2076 in China. If the option is exercised, the Company will be entitled to receive future development milestone payments and royalties on future product sales within the geographic market. The option is exercisable at any time until December 31, 2011.

7. INCOME TAXES

The Company has net operating loss carryforwards for income tax purposes of approximately \$332,480,000 at December 31, 2010 (\$333,486,000 at December 31, 2009) that expire in years 2011 through 2030. The Company also has research and development tax credit carryforwards of approximately \$9,317,000 as of December 31, 2010 that expire in years 2011 through 2030. These net operating loss carryforwards include approximately \$20,000,000, related to exercises of stock options for which the income tax benefit, if realized, would increase additional paid-in capital. The utilization of the net operating loss and research and development carryforwards may be limited in future years due to changes in ownership of the Company pursuant to Internal Revenue Code Section 382. For financial reporting purposes, a valuation allowance has been recognized to reduce the net deferred tax assets to zero due to uncertainties with respect to the Company's ability to generate taxable income in the future sufficient to realize the benefit of deferred income tax assets.

Deferred income taxes reflect the net effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred income tax assets and liabilities as of December 31, 2010 and 2009 are as follows:

	DECEMBER 31,	
	<u>2010</u>	<u>2009</u>
Deferred income tax assets (liabilities):		
Net operating loss carryforwards	\$ 130,060,000	\$ 131,478,000
Research and development credit carryforward	9,317,000	8,868,000
Equity investment	71,000	72,000
Other	3,406,000	3,624,000
Depreciation	298,000	325,000
Valuation allowance for deferred income tax assets	<u>(143,152,000)</u>	<u>(144,367,000)</u>
Net deferred income tax assets	<u>\$ -</u>	<u>\$ -</u>

A reconciliation of the provision for income taxes to the federal statutory rate is as follows:

	<u>2010</u>	<u>2009</u>	<u>2008</u>
Tax benefit at statutory rate	\$ (2,754,000)	\$ (2,794,000)	\$ (8,113,000)
State taxes	(438,000)	(445,000)	(1,293,000)
Net R&D credit adjustment	(254,000)	412,000	114,000
Attribute expiration and other	1,943,000	3,062,000	(520,000)
Permanent M-1s	7,000	6,000	10,000
Change in valuation allowance	(1,215,000)	(241,000)	8,884,000
Other	2,711,000	-	-
Change in estimated effective rate	-	-	918,000
	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

The Company had \$2,959,000 of unrecognized tax benefits as of January 1, 2010 related to net R&D tax credit carryforwards. EntreMed had a full valuation allowance on the net deferred tax asset recognized in the consolidated financial statements. For the year ended December 31, 2010, there were additional unrecognized tax benefits of \$218,000 related to R&D tax credits, and a reduction in unrecognized tax benefits of \$72,000 related to R&D credit carryforwards expiring in 2010. The Company has a full valuation allowance at January 1, 2010 and at December 31, 2010 against the full amount of its net deferred tax assets and therefore, there was no impact on the Company's financial position.

A reconciliation of the beginning and ending amount of gross unrecognized tax benefits is as follows:

	<u>2010</u>	<u>2009</u>	<u>2008</u>
Unrecognized tax benefits balance at January 1	\$2,959,000	\$3,063,000	\$2,959,000
Additions for Tax Positions of Prior Periods	118,000	94,000	114,000
Reductions for Tax Positions of Prior Periods	(72,000)	(198,000)	(10,000)
Additions for Tax Positions of Current Period	100,000	-	-
Reductions for Tax Positions of Current Period	-	-	-
Settlements	-	-	-
Lapse of statute of limitations	-	-	-
Unrecognized tax benefits balance at December 31	<u>\$3,105,000</u>	<u>\$2,959,000</u>	<u>\$3,063,000</u>

The Company recognizes interest and penalties related to uncertain tax positions as a component of income tax expense. As of December 31, 2010 and 2009, the Company had no accrued interest or penalties related to uncertain tax positions, respectively.

The tax returns for all years in the Company's major tax jurisdictions are not settled as of December 31, 2010. Due to the existence of tax attribute carryforwards (which are currently offset by a full valuation allowance), the Company treats all years' tax positions as unsettled due to the taxing authorities' ability to modify these attributes.

The Company believes that the total unrecognized tax benefit, if recognized, would impact the effective rate, however, such reversal may be offset by a corresponding adjustment to the valuation allowance.

8. STOCKHOLDERS' EQUITY

In 2002, the Company issued 3,350,000 shares of Series A Preferred Stock to Celgene. The Series A Preferred Stock is convertible, at the option of Celgene, at any time, into common stock at an initial per common share conversion price of \$11.00 (1 share of preferred converts into .45 shares of common). The value of the common stock at the date the Series A Preferred Stock was issued was \$9.46. The conversion price is subject to change for certain dilutive events, as defined. The Company may cause the Series A Preferred Stock to convert automatically provided all of the following conditions are met:

- (i) As of the conversion date, the common stock is traded and was traded during the 60 trading days preceding the conversion date, on a national securities exchange;
- (ii) The average per share closing price of the common stock is greater than \$55.00 over a 60-trading day period ending on the conversion date, and
- (iii) A registration statement with respect to resale of the common stock issuable in the conversion to the holders of the Series A Preferred Stock has been filed with the SEC, such registration statement is effective and the Company has agreed to maintain the effectiveness of the registration statement for at least 180 consecutive days beginning with the conversion date.

The Series A Preferred Stock accrues and accumulates dividends at a rate of 6% and will participate in dividends declared and paid on the common stock, if any. At December 31, 2010, cumulative unpaid preferred stock dividends totaled \$8,040,000 or \$2.40 per share. All unpaid preferred stock dividends must be paid before any dividends may be declared or paid on the Common Stock, and will be added to the liquidation preference of the Series A Preferred Stock payable upon the liquidation, dissolution or winding up of the Company. The liquidation preference is equal to the greater of:

- (i) Two times the original per share purchase price plus accrued and unpaid dividends or
- (ii) The amount per share that would be payable to a holder of shares of the Series A Preferred Stock had all of the shares been converted to common stock immediately prior to a liquidation event.

The liquidation preference of the Series A Preferred Stock on a converted basis at December 31, 2010 totaled approximately \$33,500,000, excluding cumulative unpaid preferred stock dividends as discussed above. This value is calculated based on the contractual liquidation preference articulated in the Series A Preferred Stock agreement. There can be no assurance what impact the conversion of the Series A Preferred to common stock would have on the trading value of the Company's common stock.

Holders of the Series A Preferred Stock generally vote together with the holders of common stock, with each share of Series A Preferred Stock representing the number of votes equal to that number of shares of common stock into which it is then convertible.

In June 2008, the Company issued 233,100 shares of common stock as consideration for the satisfaction of a purchase price adjustment milestone payment of \$2,000,000 triggered by the dosing of the first patient in the ENMD-2076 clinical trials. ENMD-2076 is the lead molecule in the Aurora Kinase Program, which advanced into clinical development in 2008.

On January 11, 2010, the Company consummated the issuance and sale of 284,092 shares of its common stock, par value \$0.01 per share, to an institutional investor for an aggregate purchase price of \$2,500,000 or \$8.80 per share. The offering was made pursuant to a stock purchase agreement dated as of January 8, 2010 between the Company and the investor.

On February 3, 2010, the Company consummated the issuance and sale of 349,650 shares of its common stock, par value \$0.01 per share, to an institutional investor for an aggregate purchase price of \$2,500,000 or \$7.15 per share. The offering was made pursuant to a stock purchase agreement dated as of February 3, 2010 between the Company and the investor.

On April 16, 2010, the Company consummated the issuance and sale of 526,500 shares of its common stock, par value \$0.01 per share, to an institutional investor for an aggregate purchase price of \$3,000,000 or \$5.70 per share. The offering was made pursuant to a stock purchase agreement dated as of April 16, 2010 between the Company and the investor.

In July 2010, the Company issued 403,550 shares of common stock as consideration for the satisfaction of a purchase price adjustment milestone of \$3,000,000 triggered by the dosing of the first patient in the ENMD-2076 Phase 2 clinical trials in April 2010.

On September 7, 2010, the Company consummated the issuance and sale of 1,886,662 shares of its common stock, par value \$0.01 per share, and warrants to purchase up to an aggregate of 377,327 shares of common stock, to a group of investors for an aggregate purchase price of \$5,094,000 or \$2.70 per share. The offering was made pursuant to a securities purchase agreement effective as of September 7, 2010 between the Company and such investors. The warrants shall be exercisable on or after March 9, 2011 and are exercisable until September 9, 2013 at an exercise price of \$2.825 per share. The fair value of the warrants issued was \$660,322, calculated using the Black-Scholes-Merton valuation model value of \$1.75 with an expected and contractual life of 3 years, an assumed volatility of 99%, and a risk-free interest rate of 1.57%.

All common stock share and per share information discussed above have been restated to reflect retrospective application of the July 1, 2010 reverse stock split (see note 1), except for par value per share which was not affected by the reverse stock split.

9. SHARE-BASED COMPENSATION

The Company has adopted incentive and nonqualified stock option plans for executive, scientific and administrative personnel of the Company as well as outside directors and consultants, of which 314,120 shares remain available for grant under the Company's 2001 Long-term Incentive Plan as of December 31, 2010. There are 590,009 shares issuable under options previously granted under the plans and currently outstanding, with exercise prices ranging from \$1.76 to \$522.50. Options granted under the plans vest over periods varying from immediately to three years, are not transferable and generally expire ten years from the date of grant.

The Company recorded non-cash compensation charges of \$73,000 and \$193,000 in 2009 and 2008, respectively, related to the issuance of restricted stock to members of its Board of Directors. In 2008, each non-employee director received an annual retainer fee of \$25,000 that was payable in restricted stock. Additionally, one Board member elected to receive restricted stock in lieu of a cash retainer totaling \$20,000. No restricted stock was issued in 2009 or 2010.

The Company's net loss for the years ended December 31, 2010, 2009 and 2008 includes \$271,616, \$320,156 and \$1,089,517, respectively, of non-cash compensation expense related to the Company's share-based compensation awards, including the charges noted above related to restricted stock issued to members of its Board of Directors. The compensation expense related to the Company's share-based compensation arrangements is recorded as components of general and administrative expense and research and development expense, as follows:

	<u>2010</u>	<u>2009</u>	<u>2008</u>
Research and development	\$ 42,059	\$ 115,635	\$ 233,201
General and administrative	<u>229,557</u>	<u>204,521</u>	856,316
Share-based compensation expense	<u>\$ 271,616</u>	<u>\$ 320,156</u>	<u>\$ 1,089,517</u>
Net share-based compensation expense, per common share:			
Basic and diluted	<u>\$ 0.028</u>	<u>\$ 0.040</u>	<u>\$ 0.139</u>

Stock Options

The Company uses the Black-Scholes-Merton valuation model to estimate the fair value of stock options granted to employees. Option valuation models, including Black-Scholes-Merton, require the input of highly

subjective assumptions, and changes in the assumptions used can materially affect the grant date fair value of an award. These assumptions include the risk free rate of interest, expected dividend yield, expected volatility, and the expected life of the award.

Expected Volatility—Volatility is a measure of the amount by which a financial variable such as a share price has fluctuated (historical volatility) or is expected to fluctuate (expected volatility) during a period. The Company uses the historical volatility based on the weekly price observations of its common stock during the period immediately preceding the share-based award grant that is equal in length to the award's expected term (up to a maximum of five years). EntreMed believes that historical volatility within the last five years represents the best estimate of future long term volatility.

Risk-Free Interest Rate—This is the average interest rate consistent with the yield available on a U.S. Treasury note (with a term equal to the expected term of the underlying grants) at the date the option was granted.

Expected Term of Options—This is the period of time that the options granted are expected to remain outstanding. EntreMed adopted a simplified method for estimating the expected term of share-based awards granted during the year ended December 31, 2007.

Expected Dividend Yield—EntreMed has never declared or paid dividends on its common stock and does not anticipate paying any dividends in the foreseeable future. As such, the dividend yield percentage is assumed to be zero.

Forfeiture Rate—This is the estimated percentage of options granted that are expected to be forfeited or cancelled on an annual basis before becoming fully vested. The Company estimates the forfeiture rate based on historical forfeiture experience for similar levels of employees to whom options were granted.

Following are the weighted-average assumptions used in valuing the stock options granted to employees during the years ended December 31, 2010, 2009 and 2008:

	<u>Years ended December 31,</u>		
	<u>2010</u>	<u>2009</u>	<u>2008</u>
Expected Volatility	97.50%	78.02%	72.84%
Risk free interest rate	2.44%	2.08%	4.69%
Expected term of option	5 years	5 years	5 years
Forfeiture rate	*5.00%	*5.00%	**5.00%
Expected dividend yield	-	-	-

*-Throughout 2010 and 2009, forfeitures were estimated at 5%; the actual forfeiture rate was 7.84 and 8.26% for 2010 and 2009, respectively. The Company adjusted stock compensation expense for 2010 and 2009 based on the actual forfeiture rate.

** - Throughout 2008, forfeitures were estimated at 5%; the actual forfeiture rate for 2008 was 88.26% due to a 59% reduction in force effective December 31, 2008.

The weighted average fair value of stock options granted was \$5.50, \$1.10 and \$5.06 in 2010, 2009 and 2008, respectively.

Share-based compensation expense recognized in the Consolidated Statement of Operations is based on awards ultimately expected to vest, net of estimated forfeitures. The authoritative guidance requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

A summary of the Company's stock option plans and of changes in options outstanding under the plans during the years ended December 31, is as follows:

	<u>Number of Options</u>	<u>Weighted Average Exercise Price</u>	<u>Weighted Average Remaining Contractual Term In years</u>	<u>Aggregate Intrinsic Value</u>
Outstanding at December 31, 2007	788,300	\$ 74.91		
Exercised	-	\$ -		
Granted	56,969	\$ 8.14		
Expired	(36,861)	\$ 106.15		
Forfeited	(49,688)	\$ 10.78		
Outstanding at December 31, 2008	758,720	\$ 72.60		
Exercised	(7,841)	\$ 1.76		
Granted	119,409	\$ 1.76		
Expired	(225,458)	\$ 74.47		
Forfeited	(9,867)	\$ 4.84		
Outstanding at December 31, 2009	634,963	\$ 60.49		
Exercised	(7,010)	\$ 1.76		
Granted	36,816	\$ 7.37		
Expired	(72,180)	\$ 217.63		
Forfeited	(2,580)	\$ 4.38		
Outstanding at December 31, 2010	<u>590,009</u>	\$ 38.94	4.17	\$ 312,566
Vested and expected to vest at December 31, 2010	<u>588,044</u>	\$ 39.06	4.16	\$ 306,108
Exercisable at December 31, 2010	<u>550,719</u>	\$ 41.59	3.89	\$ 183,431

The aggregate intrinsic value is calculated as the difference between (i) the closing price of the common stock at December 31, 2010 and (ii) the weighted average exercise price of the underlying awards, multiplied by the number of options that had an exercise price less than the closing price on the last trading day of 2010. The aggregate intrinsic value of options exercised that had an exercise price less than the closing price on the last trading day of the year, was \$46,586 and \$55,200 for the years ended December 31, 2010 and 2009, respectively. There were no options exercised during the year ended December 31, 2008.

Cash received from option exercises under all share-based payment arrangements for the years ended December 31, 2010 and 2009 was \$12,300 and \$13,800, respectively. Due to the availability of net operating loss carryforwards and research tax credits, tax deductions for option exercises were not recognized in the years ended December 31, 2010 and 2009. There were no options exercised during the year ended December 31, 2008.

The following summarizes information about stock options granted to employees and directors outstanding at December 31, 2010:

Range of Exercise Prices	<u>Options Outstanding</u>			<u>Options Exercisable</u>		
	<u>Number Outstanding at 12/31/10</u>	<u>Weighted Average Remaining Contractual Life in Years</u>	<u>Weighted Average Exercise Price</u>	<u>Number Exercisable at 12/31/10</u>	<u>Weighted Average Exercise Price</u>	<u>Weighted Average Exercise Price</u>
\$0.00 - \$16.50	260,927	6.0	\$ 7.48	221,638	\$ 8.49	\$ 8.49
\$16.51 - \$33.00	132,954	4.5	\$ 20.92	132,954	\$ 20.92	\$ 20.92
\$33.01 - \$49.50	48,311	3.5	\$ 40.31	48,311	\$ 40.31	\$ 40.31
\$49.51 - \$66.00	19,205	1.8	\$ 55.00	19,205	\$ 55.00	\$ 55.00
\$66.01 - \$110.00	76,523	0.8	\$ 95.82	76,523	\$ 95.82	\$ 95.82
\$110.01 - \$165.00	33,667	0.6	\$ 135.32	33,667	\$ 135.32	\$ 135.32
\$165.01 - \$275.00	18,318	0.9	\$ 180.18	18,318	\$ 180.18	\$ 180.18
\$275.01 - \$385.00	39	1.5	\$ 320.38	39	\$ 320.38	\$ 320.38
\$385.01 - \$550.00	65	1.4	\$ 522.50	65	\$ 522.50	\$ 522.50
	<u>590,009</u>	4.2	<u>\$ 38.94</u>	<u>550,719</u>	<u>\$ 41.59</u>	<u>\$ 41.59</u>

As of December 31, 2010, there was approximately \$23,000 of total unrecognized compensation cost related to nonvested employee stock options. That cost is expected to be recognized over a weighted-average period of 1 year.

Warrants

Warrants granted generally expire after 5 years from the date of grant. Stock warrant activity to non-employees is as follows:

	<u>Number of Shares</u>	<u>Weighted Average Exercise Price</u>
Outstanding at December 31, 2007	890,830	\$ 32.34
Granted	-	\$ -
Exercised	-	\$ -
Expired	<u>(176,239)</u>	\$ 44.77
Outstanding at December 31, 2008	714,591	\$ 29.59
Granted	-	\$ -
Exercised	-	\$ -
Expired	<u>(102,105)</u>	\$ 43.56
Outstanding at December 31, 2009	612,486	\$ 27.33
Granted	377,327	\$ 2.83
Exercised	-	\$ -
Expired	<u>(90)</u>	\$259.88
Outstanding at December 31, 2010	<u>989,723</u>	\$ 17.97
Exercisable at December 31, 2010	<u>612,396</u>	\$ 27.30

10. COMMITMENTS AND CONTINGENCIES

Commitments

ENMD-2076. In January 2006, the Company acquired Miikana, a private biotechnology company. Pursuant to the Merger Agreement, the Company acquired all of the outstanding capital stock of Miikana Therapeutics, Inc. In 2008, Entremed initiated a Phase 1 clinical trial with its Aurora A and angiogenic kinase inhibitor, ENMD-2076, in patients with solid tumors. A dosing of the first patient with ENMD-2076 triggered a purchase price adjustment milestone of \$2 million, which the Company opted to pay in stock. As ENMD-2076 successfully completed Phase 1 clinical trials and advanced to Phase 2, the dosing of the first patient in 2010 triggered an additional purchase price adjustment milestone of \$3 million, which was paid stock in 2010. Under the terms of the merger agreement, the former Miikana stockholders may earn up to an additional \$4 million of potential payments upon the satisfaction of additional clinical and regulatory milestones for ENMD-2076 and up to the \$9 million of potential milestone payments that pertain to a preclinical program that the Company has discontinued. As of December 31, 2010, a \$4 million potential milestone payment remains, payable in cash or shares of stock at our option, related to the ENMD-2076 program and the dosing of the first patient in a phase 3 pivotal trial.

MKC-1. Through the acquisition, the Company acquired rights to MKC-1, a Phase 2 clinical candidate licensed from Hoffman-LaRoche, Inc. (“Roche”) by Miikana in April 2005. Under the terms of the agreement, Roche may be entitled to receive future payments upon successful completion of Phase 3 developmental milestones. The Company does not anticipate reaching any of these milestones in 2011. Roche is also eligible to receive royalties on sales and certain one-time payments based on attainment of annual sales milestones. The Company is also obligated to make certain “success fee” payments to ProPharma based on successful completion of developmental milestones under the Roche license agreement.

Panzem® NCD (2-methoxyestradiol, 2ME2) for Oncology. In January 2006, the Company entered into a License Agreement with Elan Corporation, plc (“Elan”) in which the Company has been granted rights to utilize Elan’s proprietary NanoCrystal Technology in connection with the development of the oncology product candidate, Panzem® NCD. Under the terms of the License Agreement, Elan is eligible to receive payments upon the achievement of certain clinical, manufacturing, and regulatory milestones and to receive royalty payments based on sales of Panzem® NCD. Additionally, under the agreement and the corresponding Services Agreement, Elan has the right to manufacture Entremed’s Panzem® NCD. Milestones related to the initiation of Phase 2 clinical trials for Panzem® NCD have been paid and there are no additional milestones achieved as of December 31, 2010. The Company has discontinued clinical development of Panzem® NCD for oncology.

Tubulin Inhibitors. In March 2005, the Company entered into an exclusive worldwide license agreement with Celgene Corporation for the development and commercialization of Celgene’s small molecule tubulin inhibitor compounds for the treatment of cancer. Under the terms of the agreement, Celgene received an upfront licensing fee of \$1,000,000 and may receive additional payments up to approximately \$25.25 million based upon the attainment of certain milestones. No such milestones have been reached through December 31, 2010. The Company’s

preliminary work on the program was completed in 2008 and the Company did not devote resources to this program in 2009 and 2010.

Endostatin and Angiostatin. The Company is a party to a February 2004 agreement with Children's Medical Center Corporation ("CMCC") and Alchemgen Therapeutics pertaining to Endostatin and Angiostatin proteins, programs which have been discontinued by the Company, and pursuant to which Alchemgen received rights to market Endostatin and Angiostatin in Asia. In April 2008, the Company was advised that Alchemgen Therapeutics ceased operations, therefore eliminating our ability to receive any royalties from Alchemgen under the agreement. However, the Company is a party to a sublicense agreement with Oxford BioMedica PLC to develop and market Endostatin and Angiostatin for ophthalmologic (eye) diseases. Pursuant to this sublicense, the Company is eligible to receive a portion of upfront payments and royalties from Oxford BioMedica based on a portion of the payments received and net sales of gene products of Endostatin and Angiostatin and certain development milestone payments. The Company received its first payment from Oxford BioMedica in the amount of \$368,000 in connection with Retinostat® and Encorstat® under this agreement in 2009, and has accrued a sub-royalty payment in the amount of \$74,000 at December 31, 2009 as a payable to CMCC as the original licensor. There was no royalty payment received or related sub-royalty payment accrued in 2010.

Panzem® (2-methoxyestradiol, 2ME2) for Oncology The Company entered into a license agreement with CMCC for the exclusive, world-wide, royalty-bearing license to 2-methoxyestradiol (2ME2), an inhibitor of angiogenesis. In consideration for retaining the 2ME2 rights, the Company must pay a royalty on any sublicensing fees, as defined in the agreement, to Children's Hospital, Boston. The agreement obligates the Company to pay up to \$1,000,000 "upon the attainment of certain milestones." As of December 31, 2010, the Company has paid \$500,000 under this agreement for the milestones that have been achieved to date. The Company has discontinued research and development of 2ME2.

ENMD-2076 is the only program currently under active clinical evaluation by the Company. Pursuant to the Company's commitments for ENMD-2076, it could potentially pay \$4 million, in stock or cash at the Company's election, when the next development milestone is reached. With respect to the Company's other product candidates, which are not actively pursued or have been discontinued pursuant to the commitments detailed above, in aggregate, the Company could potentially pay up to \$66 million if each licensed product candidate is fully developed and approved for commercial use in all of the major territories of the world. In this event, the Company would also be obligated to pay annual sales-based royalties under the license agreements. However, the Company does not expect any of the other product candidates will reach additional developmental milestones in 2011 and accordingly does not anticipate any future milestone payments for these programs.

As of December 31, 2010, the Company also has purchase obligation commitments, in the normal course of business, for clinical trial contracts totaling \$2,018,000 and for contract manufacturing totaling \$313,000.

The Company leases its primary corporate facilities under a lease agreement that continues through February 2011. Rent expense is recognized under the straight-line method. Additionally, the Company leases office equipment under operating leases.

The future minimum payments under its facilities and equipment leases as of December 31, 2010 are as follows:

2011	\$ 122,839
Thereafter	-
Total minimum payments	<u>\$ 122,839</u>

Rental expense for the years ended December 31, 2010, 2009 and 2008 was \$306,000, \$507,000, and \$980,000, respectively.

Contingencies

EntreMed is subject in the normal course of business to various legal proceedings in which claims for monetary or other damages may be asserted. Management does not believe such legal proceedings, unless otherwise disclosed herein, are material.

11. EMPLOYEE RETIREMENT PLAN

The Company sponsors the EntreMed, Inc. 401(k) and Trust. The plan covers substantially all employees and enables participants to contribute a portion of salary and wages on a tax-deferred basis. Contributions to the plan by the Company are discretionary. Contributions by the Company totaled approximately \$29,000, \$57,000, and \$117,000 in 2010, 2009 and 2008, respectively.

12. SUBSEQUENT EVENTS

Effective March 1, 2011, the Company amended its lease for its principal executive offices in Rockville, MD and extended it through February 2012 under substantially the same terms. Future minimum payments are \$80,000 and \$16,000 in 2011 and 2012, respectively.

13. QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

Summarized unaudited quarterly financial information for the years ended December 31, 2010 and 2009 is as follows:

	QUARTER ENDED			
	MARCH 31,	JUNE 30,	SEPTEMBER 30,	DECEMBER 31,
2010				
Revenues	\$ -	\$ -	\$ -	\$ 3,693,167
Research and development costs	843,953	1,011,128	1,291,721	1,683,141
General and administrative expenses	1,051,225	770,679	691,623	884,339
Acquired In-Process R&D	-	3,000,000	-	-
	<u>1,895,178</u>	<u>4,781,807</u>	<u>1,983,344</u>	<u>2,567,480</u>
Interest expense	(220,965)	(168,733)	(106,784)	(43,736)
Other expense	<u>(10,001)</u>	<u>5,954</u>	<u>(5,183)</u>	<u>(17,025)</u>
Net income (loss)	(2,126,144)	(4,944,586)	(2,095,311)	1,064,926
Dividends on Series A convertible preferred stock	<u>(251,250)</u>	<u>(251,250)</u>	<u>(251,250)</u>	<u>(251,250)</u>
Net income (loss) attributable to common Shareholders	(2,377,394)	(5,195,836)	(2,346,561)	813,676
Net income (loss) per share (basic and diluted)	\$ (0.28)	\$ (0.57)	\$ (0.24)	\$ 0.07
2009				
Revenues	\$ -	\$ -	\$ 3,668,333	\$ 1,615,725
Research and development costs	1,953,460	1,659,474	2,326,969	1,961,619
General and administrative expenses	1,159,721	1,010,733	911,816	1,022,017
	<u>3,113,181</u>	<u>2,670,207</u>	<u>3,238,785</u>	<u>2,983,636</u>
Investment income	50,187	18,744	-	771
Interest expense	(453,761)	(399,730)	(344,634)	(295,275)
Other expense	<u>-</u>	<u>-</u>	<u>-</u>	<u>(70,929)</u>
Net income (loss)	(3,516,755)	(3,051,193)	84,914	(1,733,344)
Dividends on Series A convertible preferred stock	<u>(251,250)</u>	<u>(251,250)</u>	<u>(251,250)</u>	<u>(251,250)</u>
Net loss attributable to common Shareholders	(3,768,005)	(3,302,443)	(166,336)	(1,984,594)
Net loss per share (basic and diluted)	\$ (0.47)	\$ (0.41)	\$ (0.02)	\$ (0.25)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statements:

Registration Statement Number 333-26057 on Form S-8
Registration Statement Number 333-67063 on Form S-8
Registration Statement Number 333-41218 on Form S-8
Registration Statement Number 333-68048 on Form S-8
Registration Statement Number 333-101617 on Form S-8
Registration Statement Number 333-80193 on Form S-3
Registration Statement Number 333-84907 on Form S-3
Registration Statement Number 333-76824 on Form S-3
Registration Statement Number 333-104380 on Form S-3
Registration Statement Number 333-110604 on Form S-3
Registration Statement Number 333-122309 on Form S-3
Registration Statement Number 333-133190 on Form S-3
Registration Statement Number 333-132715 on Form S-3
Registration Statement Number 333-151542 on Form S-3
Registration Statement Number 333-161100 on Form S-3
Registration Statement Number 333-167754 on Form S-3

of our reports dated March 30, 2011, with respect to the consolidated financial statements of EntreMed, Inc. and the effectiveness of internal control over financial reporting of EntreMed, Inc., included in this Annual Report (Form 10-K) for the year ended December 31, 2010.

/s/Reznick Group, P.C.

Vienna, VA
March 30, 2011

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements of EntreMed, Inc:

- (1) Registration Statement Number 333-26057 on Form S-8,
- (2) Registration Statement Number 333-67063 on Form S-8,
- (3) Registration Statement Number 333-41218 on Form S-8,
- (4) Registration Statement Number 333-68048 on Form S-8,
- (5) Registration Statement Number 333-101617 on Form S-8,
- (6) Registration Statement Number 333-80193 on Form S-3,
- (7) Registration Statement Number 333-84907 on Form S-3,
- (8) Registration Statement Number 333-76824 on Form S-3,
- (9) Registration Statement Number 333-104380 on Form S-3,
- (10) Registration Statement Number 333-110604 on Form S-3,
- (11) Registration Statement Number 333-122309 on Form S-3,
- (12) Registration Statement Number 333-133190 on Form S-3,
- (13) Registration Statement Number 333-132715 on Form S-3,
- (14) Registration Statement Number 333-151542 on Form S-3,
- (15) Registration Statement Number 333-161100 on Form S-3, and
- (16) Registration Statement Number 333-167754 on Form S-3;

of our report dated March 29, 2010 (except for paragraph six of Note 1, as to which the date is March 30, 2011), with respect to the 2009 and 2008 consolidated financial statements of EntreMed, Inc., included in this Annual Report (Form 10-K) for the year ended December 31, 2010.

/s/ Ernst & Young LLP

McLean, VA
March 30, 2011

CERTIFICATION OF EXECUTIVE CHAIRMAN

I, Michael M. Tarnow, certify that:

1. I have reviewed this annual report on Form 10-K of EntreMed, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 30, 2011

/s/ Michael M. Tarnow
Michael M. Tarnow
Executive Chairman

CERTIFICATION OF PRINCIPAL ACCOUNTING OFFICER

I, Sara B. Capitelli, certify that:

1. I have reviewed this annual report on Form 10-K of EntreMed, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 30, 2011

/s/ Sara B. Capitelli
Sara B. Capitelli
Principal Accounting Officer

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

In connection with the Annual Report of EntreMed, Inc. (the “Company”) on Form 10-K for the period ended December 31, 2010 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Michael M. Tarnow, as Executive Chairman of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to the best of my knowledge, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company

This certificate is being made for the exclusive purpose of compliance by the Executive Chairman of the Company with the requirements of Section 906 of the Sarbanes-Oxley Act of 2002, and may not be used by any person or for any reason other than as specifically required by law.

March 30, 2011

/s/ Michael M. Tarnow
Michael M. Tarnow
Executive Chairman

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

In connection with the Annual Report of EntreMed, Inc. (the “Company”) on Form 10-K for the period ended December 31, 2010 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Sara B. Capitelli, as Vice President, Finance & Principal Accounting Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to the best of my knowledge, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company

This certificate is being made for the exclusive purpose of compliance by the Principal Accounting Officer of the Company with the requirements of Section 906 of the Sarbanes-Oxley Act of 2002, and may not be used by any person or for any reason other than as specifically required by law.

March 30, 2011

/s/ Sara B. Capitelli
Sara B. Capitelli
Principal Accounting Officer

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