UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)
☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2011

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from____ to ____

Commission File Number: 001-32295

ADHEREX TECHNOLOGIES INC.
(Exact Name of Registrant as Specified in Its Charter)

Canada	**20-0442384**
(State or Other Jurisdiction of Incorporation or Organization	**(I.R.S. Employer Identification No.)**
PO Box 13628, 68 TW Alexander Drive Research Triangle Park, NC	
(Address of Principal Executive Offices)	**27709 (Zip Code)**

(919) 636-4530
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: None

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

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Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES ☐ NO ☒

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. YES ☐ NO ☒

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes ☒ No☐

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

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

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

Indicated by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES ☐ NO ☒

The aggregate market value of the voting stock held by non-affiliates of the Registrant, computed by reference to the closing sales price of the Common Shares as reported by the OTC Pink Sheets on June 30, 2011 (the last business day of the Registrant’s most recently completed second fiscal quarter) was $6,725,152 based upon a total of 9,340,489 shares (adjusted to give effect to the Company’s 1-18 reverse stock split effective August 25, 2011) held as of June 30, 2011 by persons believed to be non-affiliates of the Registrant (for purposes of this calculation, all of the Registrant’s officers, directors and 10% owners known to the Company are deemed to be affiliates of the Registrant).

As of March 16, 2012, there were 25,157,618 shares of Adherex Technologies Inc. common stock outstanding.

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NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements that involve significant risks and uncertainties. Our actual results, performance or achievements may be materially different from any results, performance or achievements expressed or implied by such forward-looking statements. Words such as “may,” “will,” “expect,” “believe,” “anticipate,” “intend,” “could,” “estimate,” “project,” “plan,” and other similar words are one way to identify such forward-looking statements. Forward-looking statements in this Annual Report include, but are not limited to, statements with respect to (1) our anticipated sources and uses of cash and cash equivalents; (2) our anticipated commencement dates, completion dates and results of clinical trials; (3) our efforts to pursue collaborations with the government, industry groups or other companies; (4) our anticipated progress and costs of our clinical and preclinical research and development programs; (5) our corporate and development strategies; (6) our expected results of operations; (7) our anticipated levels of expenditures; (8) our ability to protect our intellectual property; (9) our ability to fully comply with domestic and international governmental regulation; (10) the anticipated applications and efficacy of our drug candidates; (11) the nature and scope of potential markets for our drug candidates; (12) future legal liability; and (13) our ability to attract and retain key employees. All statements, other than statements of historical fact, included in this Annual Report that address activities, events or developments that we expect or anticipate will or may occur in the future are forward-looking statements. We include forward-looking statements because we believe that it is important to communicate our expectations to our investors. However, all forward-looking statements are based on management’s current expectations of future events and are subject to a number of risks and uncertainties, including specifically our need to raise money in the very near term and others, as discussed below in Item 1.A., “Risk Factors.” Although we believe the expectations reflected in the forward-looking statements are based upon reasonable assumptions, we can give no assurance that our expectations will be attained, and we caution you not to place undue reliance on such statements.

Our periodic and current reports are available, free of charge, after the material is electronically filed with, or furnished to, the SEC and EDGAR at http://www.sec.gov/edgar and the Canadian securities regulators on SEDAR, at www.sedar.com . The information provided on our website is not part of this annual report and is therefore not incorporated herein by reference.

Item 1. Business.
Overview

Adherex Technologies Inc. is a biopharmaceutical company focused on cancer therapeutics. We incorporated under the Canada Business Corporations Act in September 1996. Effective on August 25, 2011, the Company continued from the Canada Business Corporations Act to the Business Corporations Act (British Columbia) (the “Continuance”), which Continuance was approved by the shareholders of Adherex at the Company's June 2011 Annual and Special Meeting and by resolution of the Board of Directors on August 10, 2011. We have three wholly-owned subsidiaries: Oxiquant, Inc. and Adherex, Inc., both Delaware corporations, and Cadherin Biomedical Inc., a Canadian company. With the exception of Adherex Inc. all subsidiaries are inactive.

On April 20, 2010, we entered into agreements with our largest shareholder, Southpoint Capital Advisors LP and certain other investors for a non-brokered private placement(the “2010 Private Placement”). Participating investors purchased 240,066,664 units at a price of CAD$0.03 per unit, for gross proceeds of CAD$7,202,000. Each unit consisted of one share of our common stock and one warrant to purchase one share of our common stock at a price of CAD$0.08 per share. The additional working capital provided us with the funding necessary to move the clinical development of eniluracil forward.

We commenced a rights offering to our shareholders on March 2, 2011, the record date for the rights offering (the "Rights Offering"). Pursuant to the terms of the Rights Offering, we distributed rights to subscribe for up to 425,000,000 Units at a price of CAD$0.03 per unit, for gross proceeds of up to CAD$12,750,000, to our shareholders on the basis of one right per each share of common stock held by such shareholder on March 2, 2011, the record date for the Rights Offering. Purchasers of units in the Company's April 2010 Private Placement described above that owned common stock as of the record date for the Rights Offering agreed not to participate in the Rights Offering. Each right was exercisable for one unit which consisted of one common share and one common share purchase warrant (a “Warrant”). Each Warrant entitles the holder thereof to purchase one common share of the Company at a purchase price of CAD$0.08 per share (a “warrant share”) for a period of five years from the issue date. Adherex filed a final short-form prospectus for the Rights Offering with the securities regulatory authorities in Canada to qualify the distribution of the rights in Canada on February 11, 2011 and a Form S-1 registration statement with the Securities and Exchange Commission to register the rights and underlying securities in the United States, which registration statement was declared effective on February 11, 2011. We received subscriptions for an aggregate of 84,559,178 Units, representing estimated aggregate gross proceeds of approximately $2.5 million for the Rights Offering.

On August 10, 2011, the Board of Directors approved a 1-for-18 reverse stock split, or “share consolidation,” which became effective on August 25, 2011. The 1-for-18 reverse stock split affected all of the Company’s common shares, stock options and warrants outstanding at the effective time. The share consolidation was implemented in accordance with the authorization granted by the Company’s shareholders at its Annual and Special Meeting of Shareholders held on June 28, 2011 to consolidate the Company’s outstanding common shares in a ratio of between 1-for-15 and 1-for-20. The share consolidation reduced the number of shares of the Company's outstanding common stock from approximately 452.8 million, to approximately 25.2 million effective as of August 25, 2011, the effective date of the Share Consolidation. Consequently, the Company has retroactively adjusted its financial statements for all periods presented to show the shares, stock options and warrants as if they had always been presented on this basis.

As a result of the Share Consolidation, in accordance with the terms of the Warrants, the number of Warrant Shares issuable upon exercise of each Warrant was adjusted from one Warrant Share per each Warrant to .055 Warrant Shares per Warrant (or, from an aggregate of 324,625,842 Warrant Shares issuable upon exercise of all Warrants to 18,034,769 Warrant Shares) and the exercise price per Warrant was adjusted from CAD $.0.08 per share to CAD $1.44 per share.

On August 25, 2011, Chris A. Rallis and Steven D. Skolsky were appointed as members of the Board of Directors and Dr. Arthur T. Porter, William G. Breen and Claudio F. Bussandri resigned from the Board of Directors.

In the Annual Report, unless otherwise indicated, (i) the number of units and unit prices (including with respect to the units issued in our April 2010 Private Placement and the Rights Offering) have not been adjusted to reflect the Share Consolidation, (ii) the number of warrants outstanding have not been adjusted to reflect the Share Consolidation (in accordance with the terms of the warrants, the number of shares of common stock issuable thereunder were adjusted as a result of the Share Consolidation but not the number of warrants outstanding) and (iii) the number of shares outstanding, common stock issuable upon exercise or conversion of our warrants, options and other derivative securities (including the Warrant Shares), all exercise or conversion prices with respect thereto, and all market prices and over-the-counter quotations of our common stock have been adjusted to reflect the Share Consolidation.

Eniluracil

Eniluracil was previously under development by GlaxoSmithKline. GlaxoSmithKline advanced eniluracil into a comprehensive Phase III clinical development program that did not produce positive results and GlaxoSmithKline terminated further development. We developed a hypothesis as to why the GlaxoSmithKline Phase III trials were not successful and licensed the compound from GlaxoSmithKline in July 2005. We believe that eniluracil might enhance and expand the therapeutic spectrum of activity of 5-FU, reduce the occurrence of a disabling side effect known as hand foot syndrome and allow 5-FU to be given orally.In April of 2011, we commenced a Phase II trial comparing the anti-tumor activity and safety of completely oral eniluracil plus 5-FU and leucovorin regimen (treatment Arm 1) *versus* Xeloda® (capecitabine) (treatment Arm 2) for Metastatic Breast Cancer. We expect results from the trial to be indicative of the future viability of eniluracil and will allow us to assess whether further development and testing of enliuracil is warranted. The Phase II trial is currently open for recruitment in Russia and the United States and enrolled its first patient on April 27, 2011. As of March 16, 2012, 98 patients have been enrolled in the Phase II trial. Adherex anticipates enrollment of all 140 patients to be completed during the third quarter of 2012 and final data for progression-free survival to be available by the first quarter of 2013. The statistical comparison of Treatment Arms 1 and 2 will occur after the study has been completed.

Eniluracil is an irreversible inhibitor of DPD, the enzyme primarily responsible for the rapid breakdown of 5-FU in the body. Eniluracil is being developed by Adherex to improve the therapeutic value of 5-FU by making it more effective in cancers while reducing the debilitating side effects.

While 5-FU is a current mainstay of contemporary oncology treatment, it has some therapeutic drawbacks and limitations; including that 5-FU:

- ☐ is given by vein (intravenously) and often by prolonged, multi-day infusions;
- ☐ produces highly variable blood levels in patients. Low levels can reduce its effectiveness and high levels can increase its side effects; and
- ☐ is broken down (catabolized) to form α-fluoro-β-alanine, or F-BAL. This compound appears to cause neurotoxicity and “hand-foot syndrome” which are debilitating and dose-limiting side effects of 5-FU therapy. Importantly, F-BAL also decreases the antitumor activity of 5-FU in lab animals.

Eniluracil: Mechanism of Action

By inactivating DPD, eniluracil prevents the breakdown of 5-FU to F-BAL. Eniluracil also greatly prolongs exposure of the tumor cells to 5-FU. When eniluracil is properly used in combination with 5-FU, it resolves many of the therapeutic drawbacks and limitations of 5-FU noted above. For instance, we believe eniluracil:

- ☐ enables 5-FU to be dosed orally;
- ☐ converts highly variable blood levels of 5-FU to highly consistent and predictable levels;
- ☐ extends the elimination half-life of 5-FU from about 10 minutes to about 5 hours; and
- ☐ prevents the formation of F-BAL, which is the apparent causative agent for hand-foot syndrome and for 5-FU-induced neurotoxicity. F-BAL also decreases the antitumor efficacy of 5-FU in lab animals.

Thus, eniluracil has the potential to make 5-FU more effective and better tolerated.

Eniluracil: Clinical Development

Eniluracil plus 5-FU was previously being developed by GlaxoSmithKline. Although the therapy was successful in Phase I and Phase II clinical trials, it tended to produce less antitumor activity than the control therapy in two Phase III trials. Development was subsequently stopped.

We believe that the dose and schedule used in the previous GlaxoSmithKline Phase III trials may not have been optimal. Preclinical studies have shown that when eniluracil is present in high ratios to 5-FU, it decreases the antitumor activity. In the GlaxoSmithKline Phase III trials, the ratio of eniluracil to 5-FU was 10 to 1.

Our Chief Scientific Officer, Dr. Spector, is the principal inventor of eniluracil/5-FU treatment and has over 20 years of experience with eniluracil. Dr. Spector has created a revised protocol designed to avoid the problems of the earlier GlaxoSmithKline Phase III trials as well as those encountered in our more recent trials.

Sodium Thiosulfate (STS)

STS is currently marketed for use in humans as part of a treatment for cyanide poisoning. We have licensed from Oregon Health & Science University intellectual property rights for the use of STS as a chemoprotectant, and are developing STS as a protectant against the hearing loss often caused by platinum-based anti-cancer agents in children. Preclinical and clinical studies conducted by Oregon Health & Science University and others have indicated that STS can effectively reduce the incidence of hearing loss caused by platinum-based anti-cancer agents. We have received Orphan Drug Designation in the United States for the use of STS in the prevention of platinum-induced ototoxicity in pediatric patients.

Hearing loss among children receiving platinum-based chemotherapy is frequent, permanent and often severely disabling. The incidence of hearing loss in these children depends upon the dose and duration of chemotherapy, and many of these children require lifelong hearing aids. There is currently no established preventive agent for this hearing loss and only expensive, technically difficult and sub-optimal cochlear (inner ear) implants have been shown to provide some benefit. In addition, adults undergoing chemotherapy for several common malignancies, including ovarian cancer, testicular cancer, and particularly head and neck cancer and brain cancer, often receive intensive platinum-based therapy and may experience severe, irreversible hearing loss, particularly in the high frequencies.

Investigators at Oregon Health & Science University have conducted Phase I and Phase II studies which have shown STS reduces the hearing loss associated with platinum-based chemotherapy. In one study at Oregon Health & Science University, the need for hearing aids to correct high frequency hearing loss was reduced from about 50% to less than 5%.

In October 2007, we announced that our collaborative partner, the International Childhood Liver Tumour Strategy Group, known as SIOPEL, a multi-disciplinary group of specialists under the umbrella of the International Society of Pediatric Oncology, had launched a randomized Phase III clinical trial to investigate whether STS reduces hearing loss in children receiving cisplatin, a platinum-based chemotherapy often used in children. The study initially opened in the United Kingdom and now includes SIOPEL centers in several additional countries. The clinical trial is expected to enroll approximately 100 children with liver (hepatoblastoma) cancer. Patients will receive cisplatin alone or cisplatin plus STS. The study, which is being coordinated through the Children’s Cancer and Leukemia Group in the United Kingdom, is intended to compare the level of hearing loss associated with cisplatin alone versus the combination of cisplatin plus STS, as well as the safety, tolerability and anti-tumor activity in both arms of the study. Under the terms of our agreement, SIOPEL will conduct and fund the clinical activity and we will provide drug, drug distribution and pharmacovigilance, or safety monitoring, for the study. As of March 16, 2012, the study has enrolled 52 patients.

In March 2008, we announced the activation of a Phase III trial with STS to prevent hearing loss in children receiving cisplatin-based chemotherapy in collaboration with the Children’s Oncology Group. The goal of this Phase III study is to evaluate in a multi-centered, randomized trial whether STS is an effective and safe means of preventing hearing loss in children receiving cisplatin-based chemotherapy for newly diagnosed germ cell, liver (hepatoblastoma), brain (medulloblastoma), nerve tissue (neuroblastoma) or bone (osteosarcoma) cancers. Eligible children, one to eighteen years of age, who are to receive cisplatin according to their disease-specific regimen and, upon enrollment in this study, will be randomized to receive STS or not. Efficacy of STS will be determined through comparison of hearing sensitivity at follow-up relative to baseline measurements using standard audiometric techniques. The trial is expected to enroll up to 135 patients in up to 230 Children’s Oncology Group centers in the United States, Canada and Australia. The Children’s Oncology Group will fund the clinical activities for the study and we will be responsible for providing the drug, drug distribution and pharmacovigilance, or safety monitoring, for the study.The Company's Children Oncology Group study has enrolled 131 patients as of March 16, 2012.

Intellectual Property

Patents are important to developing and protecting our competitive position. Our general policy is to seek patent protection in the United States, major European countries, Japan, Canada and other jurisdictions as appropriate for our compounds and methods. U.S. patents, as well as most foreign patents, are generally effective for 20 years from the date the earliest (priority) application was filed; however, U.S. patents that issue on applications filed before June 8, 1995 may be effective until 17 years from the issue date, if that is later than the 20 year date. In some cases, the patent term may be extended to recapture a portion of the term lost during FDA regulatory review or because of U.S. Patent and Trademark Office, or USPTO, delays in prosecuting the application. The duration of foreign patents varies similarly, in accordance with local law.

Currently, we own or have licensed 20 issued patents world-wide. We have been issued 9 U.S. and 11 foreign patents, and we have 16 patents pending throughout the world. In regards to eniluracil, we have licensed from GlaxoSmithKline 8 U.S. patents. Not covered by the licensing agreement with GlaxoSmithKline, we have been issued 2 foreign patents and are currently prosecuting 2 U.S. and an additional 9 foreign patents. In regards to STS, we have licensed from Oregon Health and Science University one U.S. and 9 foreign patents, with an additional 5 patents pending.

In addition, periods of marketing exclusivity for STS may also be possible in the United States under orphan drug status. We obtained U.S. Orphan Drug Designation for the use of STS in the prevention of platinum-induced ototoxicity in pediatric patients in 2004.

Our success is significantly dependent on our ability to obtain and maintain 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, which often results in apparent inconsistencies regarding the breadth of claims allowed and general uncertainty as to their legal interpretation and enforceability. Further, some of our principal candidates, including STS, are based on previously known compounds, and candidates or products that we develop in the future may include or be based on the same or other compounds owned or produced by other parties, some or all of which may not be subject to effective patent protection. In addition, regimens that we may develop for the administration of pharmaceuticals, such as specifications for the frequency, timing and amount of dosages, may not be patentable. Accordingly, our patent applications may not result in patents being issued and issued patents may not afford effective protection. In addition, products or processes that we develop may turn out to be covered by third party patents, in which case we may require a license under such patents if we intend to continue the development of those products or processes.

Our patent position and proprietary rights are subject to certain risks and uncertainties. Please read the “Risk Factors” section of this Annual Report for information about certain risks and uncertainties that may affect our patent position and proprietary rights.

We also rely upon unpatented confidential information to remain competitive. We protect such information principally through confidentiality agreements with our employees, consultants, outside scientific collaborators, and other advisers. In the case of our employees, these agreements also provide, in compliance with relevant law, that inventions and other intellectual property conceived by such employees during their employment shall be our exclusive property.

Corporate Relationships

License Agreement with Oregon Health & Science University

In November 2002, we acquired an exclusive license agreement with Oregon Health & Science University through our acquisition of Oxiquant Inc., which had entered into the license agreement with Oregon Health & Science University in September 2002. Pursuant to the license agreement, Oregon Health & Science University granted us an exclusive worldwide license to intellectual property directed to thiol-based compounds including STS and their use in oncology. In consideration, Oregon Health & Science University was issued 13,902 shares of common stock of Oxiquant that were subsequently converted upon the acquisition of Oxiquant into 21,250 shares of Adherex common stock, and warrants to purchase shares of Adherex common stock that subsequently expired in 2007. In addition, we made the following milestone payments: (i) $50,000 upon completion of Phase I clinical trials, (ii) $200,000 upon completion of Phase II clinical trials, (iii) $500,000 upon completion of Phase III clinical trials. We will also be liable for an additional milestone payment of $250,000 upon the first commercial sale for any licensed product. We are also required to pay Oregon Health & Science University a 2.5% royalty on net sales of any licensed products and a 15% royalty on any consideration received from sublicensing of the licensed technology.

The term of the license agreement expires on the date of the last to expire claim(s) covered in the patents licensed to us, unless earlier terminated as provided in the agreement. STS is currently protected by methods of use patents that we exclusively licensed from Oregon Health & Science University that expire in Europe in 2021 and are currently pending in the United States. The agreement is terminable by Oregon Health & Science University in the event of a material breach of the agreement by us or our sublicensees after 60 days prior written notice from Oregon Health & Science University. We have the right to terminate the agreement at any time upon 60 days prior written notice and payment of all fees due to Oregon Health & Science University under the agreement.

Development and License Agreement with GlaxoSmithKline

On July 14, 2005, we entered into a development and license agreement with GlaxoSmithKline, or GSK. The agreement included the in-license by our Company of GSK’s oncology product, eniluracil, and an option for GSK to license ADH-1, a compound we are currently not developing. As part of the transaction, GSK invested $3.0 million in our Company's common stock. On October 11, 2006, the GSK option to license ADH-1 expired unexercised. Under the terms of the agreement relating to eniluracil, we received an exclusive license to develop eniluracil for all indications and GSK retained options to buy-back and assume development of the compound at various points in time.

On March 1, 2007, the GSK agreement was amended and we purchased all of GSK's remaining buy-back options for a fee of $1.0 million. As a result of the amendment to the GSK agreement, we now may be required to pay GSK development and sales milestones and royalties. Specifically, if we file a New Drug Application, or NDA, with the Food and Drug Administration, or FDA, we may be required to pay development milestones of $5.0 million to GSK. Additionally, depending upon whether the NDA is approved by the FDA and whether eniluracil becomes a commercial success, we may be required to pay up to an additional $70.0 million in development and sales milestones for the initially approved indication, plus royalties in the low-double digit range based on annual net sales. If we pursue other indications, we may also be required to pay up to an additional $15 million to GSK for each FDA-approved indication. The GSK agreement continues until the earliest of (i) the licensed patents expire or (ii) is terminated by either party in the event of an uncured breach by the breaching party after 60 days prior written notice.

Collaboration Agreement with McGill University

In February 2001, we entered into a general collaboration agreement with McGill University. Pursuant to the terms of the agreement, McGill granted us a 27-year exclusive worldwide license to develop, use and market certain cell adhesion technology and compounds. In particular, McGill granted us an exclusive worldwide license to U.S. Patent 6,031,072 covering specific compounds including ADH-1 (composition of matter), U.S. Patent 6,551,994 covering alpha-catenin and beta-catenin inhibiting compounds, related international filings under the Patent Cooperation Treaty, or PCT, continuations and certain other patents and patent applications.

In consideration, we issued 28,245 shares of our common stock to McGill. We also agreed to pay to McGill future royalties of 2% of any gross revenues from the use of the technology and compounds. In addition, we agreed to fund research at McGill over a period of 10 years totaling CAD$3.3 million. Annual funding commenced in 2001, the first year of the agreement, for a total of CAD$200,000, and increases annually by 10% through 2010, when the required annual funding reaches CAD$500,000.

The general collaboration agreement with McGill University was terminated on November 19, 2009. All remaining costs were forgiven, and we returned all licenses granted in the agreement to McGill. We continue to hold various ADH-1 method of use and small molecule patents that are property of Adherex.

Competition

Competition in the biotechnology and pharmaceutical industries is intense. We expect that if any of our product candidates achieve regulatory approval for sale, they will compete on the basis of drug efficacy, safety, patient convenience, reliability, ease of manufacture, price, marketing, distribution and patent protection, among other variables. Our competitors may develop technologies or drugs that are more effective, safer or more affordable than any we may develop.

There are a number of different approaches to the development of therapeutics for the treatment of cancer that are currently being used and studied. These approaches include: (i) surgery to excise the cancerous tissue; (ii) radiation therapy, which attacks cancerous cells but does not easily distinguish between healthy and diseased cells; (iii) chemotherapy, which works by preventing a cancerous cell from dividing or by killing cells that quickly divide; (iv) immunotherapy, which stimulates the body's immune system to respond to the disease; and (v) hormone therapy, which may slow the growth of cancer cells or even kill them.

We are aware of a number of companies engaged in the research, development and testing of new cancer therapies or means of increasing the effectiveness of existing therapies, including, among many others, Amgen, AstraZeneca, Bayer, Bristol-Myers Squibb, Eli Lilly, Eisai, Merck KGaA, Novartis, Johnson & Johnson, Onyx, Pfizer, Roche, Taiho and Sanofi-Aventis. Some of these companies have products that have already received, or are in the process of receiving, regulatory approval or are in later stages of clinical development than our products. Many of them have much greater financial resources than we do. Many of these companies have marketed drugs or are developing targeted cancer therapeutics which, depending upon the mechanism of action of such agents, could be viewed as competitors.

There are several potential therapies that may be competitive to eniluracil, including capecitabine (Xeloda®) which is an oral pro-drug of 5-FU marketed by Roche that is converted to 5-FU following absorption from the gastrointestinal tract. Capecitabine is approved by the FDA and many other regulatory agencies worldwide for use in breast and colorectal cancer, but eniluracil/5-FU has a potential competitive advantage in having minimal hand foot syndrome compared to the up to 60% incidence with Xeloda®. Hand foot syndrome is a major complication of the use of Xeloda® and there is currently no adequate treatment, with most physicians resorting to reducing the starting dosage of Xeloda®.

5-FU is normally rapidly metabolized and broken down by the enzyme DPD. Eniluracil is an irreversible inhibitor of DPD and its use with 5-FU leads to prolonged and elevated levels of 5-FU. Uracil is a competitive inhibitor of DPD. Although not FDA approved as a therapeutic agent, uracil has been used with 5-FU and tegafur, a reversible DPD inhibitor (5-chloro-2, 4-dihydrozypyidine, or CDHP) for the treatment of certain cancers. UFT is an orally active combination of uracil and tegafur that is available in some international markets through Merck KGaA.

S-1, which is marketed by Taiho in Japan for gastric cancer, colorectal cancer, head and neck cancer, non-small cell lung cancer, and inoperable or recurrent breast cancer, is an orally active combination of tegafur and oxonic acid, an inhibitor of phosphoribosyl pyrophosphate transferase, an enzyme that reduces the incorporation of 5-FU into RNA. Both S-1 and UFT have been shown to have very low levels of hand foot syndrome, but because they are reversible inhibitors of DPD, these products would not be expected to be as successful at targeting new product indications where DPD levels are intrinsically high, such as hepatocellular cancer, compared to an irreversible DPD inhibitor like eniluracil. Other reversible DPD inhibitors in development include a Roche molecule, Ro 09-4889, which has completed a Phase I clinical study. To our knowledge, no other irreversible DPD inhibitors are currently in development.

We are not aware of any commercially available agents that reduce the incidence of hearing loss associated with the use of platinum-based anti-cancer agents, for which purpose we are developing STS. There are several potential competitive agents with activity in preclinical or limited clinical settings. These include: D-methionine, an amino acid that has been shown to protect against hearing loss in experimental settings but was demonstrated to be inferior to STS in comparative studies; SPI-3005, an oral agent primarily being developed by Sound Pharmaceuticals for noise and age-related hearing loss but in early Phase II trials for chemotherapy related hearing loss, which mimics glutathione peroxidase and induces the intracellular induction of glutathione; N-acetylcysteine and amifostine, which have shown effectiveness (but less than STS) in experimental systems; and Vitamin E, salicylate and tiopronin, which have all demonstrated moderate activity in rat models to protect against cisplatin-induced ototoxicity, but no clinical trials have been performed. Cochlear implants, which are small electronic devices that are surgically placed in the inner ear to assist with certain types of deafness, are utilized to offer some relief but are often suboptimal.

Many chemotherapeutic agents are currently available and numerous others are being developed. Any chemotherapeutic products that we develop may not be able to compete effectively with existing or future chemotherapeutic agents. Our competitors might obtain regulatory approval for their drug candidates sooner than we do, or their drugs may prove to be more effective than ours. However, cancer as a disease is not currently controlled by any one anti-cancer agent, and there is typically a need for several agents at any one time and over time.

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 with preclinical testing and human clinical trials and in obtaining regulatory approvals. In addition, many of the smaller companies that compete with us have formed collaborative relationships with large, established companies to support the research, development, clinical trials and commercialization of any products that they may develop **.** We may rely on third parties to commercialize the products we develop, and our success will depend in large part on the efforts and competitive merit of these collaborative partners. Academic institutions, government agencies and other public and private research organizations may also conduct research, seek patent protection and establish collaborative arrangements for research, clinical development and marketing of products similar to those we seek to develop. These companies and institutions compete with us in recruiting and retaining qualified scientific and management personnel as well as in acquiring technologies complementary to our projects. 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 any products that we may develop.

Government Regulation

The production and manufacture of our product candidates and our research and development activities are subject to significant regulation for safety, efficacy and quality by various governmental authorities around the world. Before new pharmaceutical products may be sold in the U.S. and other countries, clinical trials of the products must be conducted and the results submitted to appropriate regulatory agencies for approval. Clinical trial programs must establish efficacy, determine an appropriate dose and regimen, and define the conditions for safe use. This is a high-risk process that requires stepwise clinical studies in which the candidate product must successfully meet predetermined endpoints. In the U.S., the results of the preclinical and clinical testing of a product are then submitted to the FDA in the form of a Biologics License Application or a New Drug Application. In response to these submissions, the FDA may grant marketing approval, request additional information or deny the application if it determines the application does not provide an adequate basis for approval. Similar submissions are required by authorities in other jurisdictions who independently assess the product and may reach the same or different conclusions.

The receipt of regulatory approval often takes a number of years, involves the expenditure of substantial resources and depends on a number of factors, including the severity of the disease in question, the availability of alternative treatments and the risks and benefits demonstrated in clinical trials. On occasion, regulatory authorities may require larger or additional studies, leading to unanticipated delay or expense. Even after initial approval from the FDA or other regulatory agencies has been obtained, further clinical trials may be required to provide additional data on safety and effectiveness. Additional trials are required to gain clearance for the use of a product as a treatment for indications other than those initially approved. Furthermore, the FDA and other regulatory agencies require companies to disclose clinical trial results. Failure to disclose such results within applicable time periods could result in penalties, including civil monetary penalties.

In Canada, these activities are subject to regulation by Health Canada’s Therapeutic Products Directorate, or TPD, and the rules and regulations promulgated under the Food and Drug Act. In the United States, drugs and biological products are subject to regulation by the FDA. The FDA requires licensing of manufacturing and contract research facilities, carefully controlled research and testing of products and governmental review and approval of results prior to marketing therapeutic products. Additionally, the FDA requires adherence to “Good Laboratory Practices” as well as “Good Clinical Practices” during clinical testing and “Good Manufacturing Practices” and adherence to labeling and supply controls. The systems of new drug approvals in Canada and the United States are substantially similar, and are generally considered to be among the most rigorous in the world.

Generally, the steps required for drug approval in Canada and the United States, specifically in cancer related therapies, include:

- *Preclinical Studies* : Preclinical studies, also known as non-clinical studies, primarily involve evaluations of pharmacology, toxic effects, pharmacokinetics and metabolism of a drug in animals to provide evidence of the relative safety and bioavailability of the drug prior to its administration to humans in clinical studies. A typical program of preclinical studies takes 18 to 24 months to complete. The results of the preclinical studies as well as information related to the chemistry and comprehensive descriptions of proposed human clinical studies are then submitted as part of the Investigational New Drug, application to the FDA, a Clinical Trial Application to the TPD, or similar submission to other foreign regulatory bodies. This is necessary in Canada, the United States and most other countries prior to undertaking clinical studies. Additional preclinical studies are conducted during clinical development to further characterize the toxic effects of a drug prior to submitting a marketing application.

- *Phase I Clinical Trials* : Most Phase I clinical trials take approximately one year to complete and are usually conducted on a small number of healthy human subjects to evaluate the drug's safety, tolerability and pharmacokinetics. In some cases, such as cancer indications, Phase I clinical trials are conducted in patients rather than healthy volunteers.

- *Phase II Clinical Trials* : Phase II clinical trials typically take one to two years to complete and are generally carried out on a relatively small number of patients, generally between 15 and 50, in a specific setting of targeted disease or medical condition, in order to provide an estimate of the drug's effectiveness in that specific setting. This phase also provides additional safety data and serves to identify possible common short-term side effects and risks in a somewhat larger group of patients. Phase II testing frequently relates to a specific disease, such as breast or lung cancer. Some contemporary methods of developing drugs, particularly molecularly targeted therapies, do not require broad testing in specific diseases, and instead permit testing in subsets of patients expressing the particular marker. In some cases, such as cancer indications, the company sponsoring the new drug may submit a marketing application to seek accelerated approval of the drug based on evidence of the drug's effect on a "surrogate endpoint" from Phase II clinical trials. A surrogate endpoint is a laboratory finding or physical sign that may not be a direct measurement of how a patient feels, functions or survives, but is still considered likely to predict therapeutic benefit for the patient. If accelerated approval is received, the company sponsoring the new drug must continue testing to demonstrate that the drug indeed provides therapeutic benefit to the patient.

- *Phase III Clinical Trials* : Phase III clinical trials typically take two to four years to complete and involve tests on a much larger population of patients suffering from the targeted condition or disease. These studies involve conducting controlled testing and/or uncontrolled testing in an expanded patient population, numbering several hundred to several thousand patients, at separate test sites, known as multi-center trials, to establish clinical safety and effectiveness. These trials also generate information from which the overall benefit-risk relationship relating to the drug can be determined and provide a basis for drug labeling. Phase III trials are generally the most time consuming and expensive part of a clinical trial program. In some instances, governmental authorities, such as the FDA, will allow a single Phase III clinical trial to serve as a pivotal efficacy trial to support a Marketing Application.

- *Marketing Application* : Upon completion of Phase III clinical trials, the pharmaceutical company sponsoring the new drug assembles all the chemistry, preclinical and clinical data and submits it to the TPD or the FDA as part of a New Drug Submission in Canada or a New Drug Application, in the United States. The marketing application is then reviewed by the regulatory body for approval to market the product. The review process generally takes twelve to eighteen months.

Any clinical trials that we conduct may not be successfully completed, either in a satisfactory time period or at all. The typical time periods described above may vary substantially and may be materially longer. In addition, the FDA and its counterparts in other countries have considerable discretion to discontinue trials if they become aware of any significant safety issues or convincing evidence that a therapy is not effective for the indication being tested. It is possible the FDA and its counterparts in other countries may not (i) allow clinical trials to proceed at any time after receiving an Investigational New Drug, (ii) allow further clinical development phases after authorizing a previous phase, or (iii) approve marketing of a drug after the completion of clinical trials.

While European, U.S. and Canadian regulatory systems require that medical products be safe, effective, and manufactured according to high quality standards, the drug approval process in Europe differs from that in the United States and Canada and may require us to perform additional preclinical or clinical testing regardless of whether FDA or TPD approval has been obtained. The amount of time required to obtain necessary approvals may be longer or shorter than that required for FDA or TPD approval. European Union Regulations and Directives generally classify health care products either as medicinal products, medical devices or in vitro diagnostics. For medicinal products, marketing approval may be sought using either the centralized procedure of the European Agency for the Evaluation of Medicinal Products, or EMEA, or the decentralized, mutual recognition process. The centralized procedure, which is mandatory for some biotechnology derived products, results in an approval recommendation from the EMEA to all member states, while the European Union mutual recognition process involves country by country approval.

Good Clinical Practices

The FDA and other regulatory agencies promulgate regulations and standards, commonly referred to as current Good Clinical Practices for designing, conducting, monitoring, auditing and reporting the results of clinical trials to ensure that the data and results are accurate and that the trial participants are adequately protected. The FDA and other regulatory agencies enforce Good Clinical Practices through periodic inspections of trial sponsors, principal investigators and trial sites. If our study sites fail to comply with applicable Good Clinical Practices, the clinical data generated in our clinical trials may be deemed unreliable and relevant regulatory agencies may require us to perform additional clinical trials before approving our marketing applications.

Good Manufacturing Practices

The FDA and other regulatory agencies regulate and inspect equipment, facilities and processes used in the manufacture of pharmaceutical and biologic products prior to approving a product. If, after receiving approval from regulatory agencies, a company makes a material change in manufacturing equipment, location or process, additional regulatory review and approval may be required. All facilities and manufacturing techniques that may be used for the manufacture of our products must comply with applicable regulations governing the production of pharmaceutical products known as "Good Manufacturing Practices."

Orphan Drug Act

Under the U.S. Orphan Drug Act, the FDA may grant orphan drug designation to drugs intended to treat a “rare disease or condition,” which generally is a disease or condition that affects fewer than 200,000 individuals in the U.S. If a product which has an orphan drug designation subsequently receives the first FDA approval for the indication for which it has such designation, the product is entitled to orphan exclusivity, i.e., the FDA may not approve any other applications to market the same drug for the same indication for a period of seven years following marketing approval, except in certain very limited circumstances, such as if the later product is shown to be clinically superior to the orphan product. Legislation similar to the U.S. Orphan Drug Act has been enacted in other countries, including within the European Union.

Other Laws

Our present and future business has been and will continue to be subject to various other laws and regulations. Various laws, regulations and recommendations relating to safe working conditions, laboratory practices, the experimental use of animals, and the purchase, storage, movement, import and export and use and disposal of hazardous or potentially hazardous substances, including radioactive compounds and infectious disease agents, used in connection with our research work are or may be applicable to our activities. Certain agreements entered into by us involving exclusive license rights may be subject to national or supranational antitrust regulatory control, the effect of which cannot be predicted. The extent of government regulation, which might result from future legislation or administrative action, cannot accurately be predicted.

Research and Development

Our research and development efforts have been focused on the development of cancer therapeutics and our cadherin technology platform and currently include eniluracil and STS.

We have established relationships with contract research organizations, universities and other institutions, which we utilize to perform many of the day-to-day activities associated with our drug development. Where possible, we have sought to include leading scientific investigators and advisors to enhance our internal capabilities. Research and development issues are reviewed internally by our executive management and supporting scientific staff.

Research and development expenses totaled $1.5 million and $0.7 million for the fiscal years ended December 31, 2011 and 2010, respectively.

Our product candidates are in various stages of development and still require significant, time-consuming and costly research and development, testing and regulatory clearances. In developing our product candidates, we are subject to risks of failure that are inherent in the development of products based on innovative technologies. For example, it is possible that any or all of these products will be ineffective or toxic, or will otherwise fail to receive the necessary regulatory clearances. There is a risk that our product candidates 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 product candidates or that others will market a superior or equivalent product. As a result of these factors, we are unable to accurately estimate the nature, timing and future costs necessary to complete the development of these product candidates. In addition, we are unable to reasonably estimate the period when material net cash inflows could commence from the sale, licensing or commercialization of such product candidates, if ever.

Item 1A. Risk Factors.

An investment in our common stock involves a significant risk of loss. You should carefully read this entire report and should give particular attention to the following risk factors. You should recognize that other significant risks may arise in the future, which we cannot reasonably foresee at this time. Also, the risks that we now foresee might affect us to a greater or different degree than currently expected. There are a number of important factors that could cause our actual results to differ materially from those expressed or implied by any of our forward-looking statements in this report. These factors include, without limitation, the risk factors listed below and other factors presented throughout this report and any other documents filed by us with the Securities and Exchange Commission, or the SEC, and the Canadian securities regulators on SEDAR which can be accessed at www.sedar.com.

Risks Related to Our Business

We have a history of significant losses and have had no revenues to date through the sale of our products. If we do not generate significant revenues, we will not achieve profitability.

To date, we have been engaged primarily in research and development activities. We have had no revenues through the sale of our products, and we do not expect to have significant revenues until we are able to either sell our product candidates after obtaining applicable regulatory approvals or we establish collaborations that provide us with up-front payments, licensing fees, milestone payments, royalties or other revenue. We have incurred significant operating losses every year since our inception on September 3, 1996. We generated net income of approximately $4.7 million (as a result of a non-cash gain on derivatives of $8.1 million) in the twelve months ended December 31, 2011 million, and reported a loss of approximately $7.8 million (which included a $3.2 million non-cash loss on derivatives) for the twelve months ended December 31, 2010. At December 31, 2011, we had an accumulated deficit of approximately $105.3 million. We anticipate incurring substantial additional losses due to the need to spend substantial amounts on our current clinical trials, anticipated research and development activities, and general and administrative expenses, among other factors. We have not commercially introduced any product and our product candidates are in varying stages of development and testing. Our ability to attain profitability will depend upon our ability to fund and develop products that are safe, effective and commercially viable, to obtain regulatory approval for the manufacture and sale of our product candidates and to license or otherwise market our product candidates successfully. Any revenues generated from such products, assuming they are successfully developed, marketed and sold, may not be realized for a number of years. We may never achieve or sustain profitability on an ongoing basis.

There is no assurance that we will successfully develop a commercially viable product.

Since our formation in September 1996, we have engaged in research and development programs. We have generated no revenue from product sales, do not have any products currently available for sale, and none are expected to be commercially available for sale until we have completed additional clinical trials, if at all. There can be no assurance that the research we fund and manage will lead to commercially viable products. We are currently enrolling a Phase II study for eniluracil and STS is currently in a Phase III study. Our products must still undergo substantial additional regulatory review prior to commercialization.

We do not presently have the financial or human resources to complete Phase III trials for our lead product candidates.

We do not presently have the financial or human resources to complete Phase III trials for any of our lead product candidates. We are currently enrolling patients in a Phase II trial for eniluracil and a Phase III trial for STS. If these trials are successful, and if we decide to continue to develop eniluracil, we will need additional funding, or we will need to enlist a partner to conduct future trials.

We have agreements with the International Childhood Liver Tumour Strategy Group, known as SIOPEL, and the Children's Oncology Group to further develop STS in Phase III trials. It is possible SIOPEL and the Children's Oncology Group may not conduct or complete the clinical trials with STS as currently planned. Such collaborators might not commit sufficient resources to the development of our product candidates, which may lead to significant delays. We have already experienced significant delays in the activation of the Children's Oncology Group trial and subsequent accrual of patients into the Children's Oncology Group and SIOPEL clinical trials. We do not have the resources to independently develop or conduct such trials ourselves.

We continue to seek a licensing or funding partner for the further development of one or all of our product candidates. If a partner for one or all of these technologies is not found, we may not be able to further advance these products. If a partner is found, the financial terms that they propose may not be acceptable to us.

We anticipate the need for additional capital in the future and if we cannot raise additional capital, we will not be able to fulfill our business plan.

We need to obtain additional funding in the future in order to finance our business strategy, operations and growth. We may not be able to obtain additional financing in sufficient amounts or on acceptable terms when needed. If we fail to arrange for sufficient capital on a timely basis, we may be required to curtail our business activities until we can obtain adequate financing. Debt financing must be repaid regardless of whether or not we generate profits or cash flows from our business activities. Equity financing may result in dilution to existing stockholders and may involve securities that have rights, preferences, or privileges that are senior to our common stock or other securities. If we cannot raise sufficient capital when necessary, we will likely have to curtail operations and you may lose part or all of your investment.

We have experienced significant management turnover and might not be able to recruit and retain the experienced personnel we need to compete in the drug discovery and development industry.

Our future success depends on the personal efforts and abilities of the principal members of our senior management and scientific staff to provide strategic direction, develop business, manage our operations, and maintain a cohesive and stable work environment. Our Chief Executive Officer and General Counsel both left our Company in July 2009, as did a number of our directors. Also, our Chief Financial Officer left our Company in September 2009. We retained three new executives at that time, so their integration into our Company has been and will continue to be critical to our success. Any future management departures could have a material adverse effect on our business.

If we do not maintain current or enter into new collaborations with other companies, we might not successfully develop our product candidates or generate sufficient revenues to expand our business.

We currently rely on scientific and research and development collaboration arrangements with academic institutions and other third party collaborators, including our agreement for eniluracil with GlaxoSmithKline and an exclusive worldwide license from Oregon Health & Science University for STS. We also rely on collaborators for testing STS, including SIOPEL and the Children's Oncology Group.

The agreements with GlaxoSmithKline and Oregon Health & Science University are terminable by either party in the event of an uncured breach by the other party. We may also terminate our agreement with Oregon Health & Science University at any time upon prior written notice of specified durations to the licensor. Termination of any of our collaborative arrangements could materially adversely affect our business. For example, if we are unable to make the appropriate payments under these agreements, the licensor might terminate the agreement which might have a material adverse impact. In addition, our collaborators might not perform as agreed in the future.

Since we conduct a significant portion of our research and development through collaborations, our success may depend significantly on the performance of such collaborators, as well as any future collaborators. Collaborators might not commit sufficient resources to the research and development or commercialization of our product candidates. Economic or technological advantages of products being developed by others, or other factors could lead our collaborators to pursue other product candidates or technologies in preference to those being developed in collaboration with us. The commercial potential of, development stage of and projected resources required to develop our drug candidates will affect our ability to maintain current collaborations or establish new collaborators. There is a risk of dispute with respect to ownership of technology developed under any collaboration. Our management of any collaboration will require significant time and effort as well as an effective allocation of resources. We may not be able to simultaneously manage a large number of collaborations.

Our product candidates are still in development. Due to the long, expensive and unpredictable drug development process, we might not ever successfully develop and commercialize any of our product candidates.

In order to achieve profitable operations, we, alone or in collaboration with others, must successfully fund, develop, manufacture, introduce and market our product candidates. The time necessary to achieve market success for any individual product is long and uncertain. Our product candidates and research programs are in various stages of clinical development and require significant, time-consuming and costly research, testing and regulatory clearances. In developing our product candidates, we are subject to risks of failure that are inherent in the development of therapeutic products based on innovative technologies. For example, our product candidates might be ineffective, as eniluracil was shown to be in earlier clinical trials conducted by GlaxoSmithKline, or may be overly toxic, or otherwise might fail to receive the necessary regulatory clearances. The results of preclinical and initial clinical trials are not necessarily predictive of future results. Our product candidates might not be economical to manufacture or market or might not achieve market acceptance. In addition, third parties might hold proprietary rights that preclude us from marketing our product candidates or others might market equivalent or superior products.

We must conduct human clinical trials to assess our product candidates. If these trials are delayed or are unsuccessful, our development costs will significantly increase and our business prospects may suffer.

Before obtaining regulatory approvals for the commercial sale of our product candidates, we must demonstrate, through preclinical studies with animals and clinical trials with humans, that our product candidates are safe and effective for use in each target indication. To date, we have performed only limited clinical trials, and we have only done so with some of our product candidates. Much of our testing has been conducted on animals or on human cells in the laboratory, and the benefits of treatment seen in animals may not ultimately be obtained in human clinical trials. As a result, we will need to perform significant additional research and development and extensive preclinical and clinical testing prior to any application for commercial use. We may suffer significant setbacks in clinical trials, and the trials may demonstrate our product candidates to be unsafe or ineffective. We may also encounter problems in our clinical trials that will cause us to delay, suspend or terminate those clinical trials, which would increase our development costs and harm our financial results and commercial prospects. Identifying and qualifying patients to participate in clinical trials of our potential products is critically important to our success. The timing of our clinical trials depends on the speed at which we can recruit patients to participate in testing our product candidates. We have experienced delays in some of our clinical trials and we may experience significant delays in the future. If patients are unwilling to participate in our trials because of competitive clinical trials for similar patient populations, perceived risk or any other reason, the timeline for recruiting patients, conducting trials and obtaining regulatory approval of potential products will be delayed. Other factors that may result in significant delays include obtaining regulatory or ethics review board approvals for proposed trials, reaching agreement on acceptable terms with prospective clinical trial sites, and obtaining sufficient quantities of drug for use in the clinical trials. Such delays could result in the termination of the clinical trials altogether.

Regulatory approval of our product candidates is time-consuming, expensive and uncertain, and could result in unexpectedly high expenses and delay our ability to sell our products.

Development, manufacture and marketing of our products are subject to extensive regulation by governmental authorities in the United States and other countries. This regulation could require us to incur significant unexpected expenses or delay or limit our ability to sell our product candidates. Our clinical studies might be delayed or halted, or additional studies might be required, for various reasons, including:

- lack of funding;
- the drug is not effective;

- patients experience severe side effects during treatment;
- appropriate patients do not enroll in the studies at the rate expected;
- drug supplies are not sufficient to treat the patients in the studies; or
- we decide to modify the drug during testing.

If regulatory approval of any product is granted, it will be limited to those indications for which the product has been shown to be safe and effective, as demonstrated to the FDA's satisfaction through clinical studies. Furthermore, approval might entail ongoing requirements for post-marketing studies. Even if regulatory approval is obtained, labeling and promotional activities are subject to continual scrutiny by the FDA and state regulatory agencies and, in some circumstances, the Federal Trade Commission. FDA enforcement policy prohibits the marketing of approved products for unapproved, or off-label, uses. These regulations and the FDA's interpretation of them might impair our ability to effectively market our products.

We and our third-party manufacturers are also required to comply with the applicable current FDA Good Manufacturing Practices regulations, which include requirements relating to quality control and quality assurance, as well as the corresponding maintenance of records and documentation. Further, manufacturing facilities must be approved by the FDA before they can be used to manufacture our products, and they are subject to additional FDA inspection. If we fail to comply with any of the FDA's continuing regulations, we could be subject to reputational harm and sanctions, including:

- delays, warning letters and fines;
- product recalls or seizures and injunctions on sales;
- refusal of the FDA to review pending applications;
- total or partial suspension of production;
- withdrawals of previously approved marketing applications; and
- civil penalties and criminal prosecutions.

In addition, identification of side effects after a drug is on the market or the occurrence of manufacturing problems could cause subsequent withdrawal of approval, reformulation of the drug, additional testing or changes in labeling of the product.

We may be unable to effectively deploy the proceeds from our recent financings for the development of eniluracil.

In April 2010, we announced the closing of a private placement for proceeds of CAD $7.2 million and in March 2011, we announced the closing of a rights offering for proceeds of approximately $2.5 million. Any inability on our part to manage effectively the deployment of this capital could limit our ability to successfully develop eniluracil.

If our licenses to proprietary technology owned by others are terminated or expire, we may suffer increased development costs and delays, and we may not be able to successfully develop our product candidates.

The development of our drug candidates and the manufacture and sale of any products that we develop will involve the use of processes, products and information, some of the rights to which are owned by others. Our product candidates are licensed under agreements with GlaxoSmithKline and Oregon Health & Science University. Although we have obtained licenses or rights with regard to the use of certain processes, products and information, the licenses or rights could be terminated or expire during critical periods and we may not be able to obtain, on favorable terms or at all, licenses or other rights that may be required. Some of these licenses provide for limited periods of exclusivity that may be extended only with the consent of the licensor, which may not be granted.

If we are unable to adequately protect or maintain our patents and licenses related to our product candidates, or we infringe upon the intellectual property rights of others, we may not be able to successfully develop and commercialize our product candidates.

The value of our technology will depend in part upon our ability, and those of our collaborators, to obtain patent protection or licenses to patents, maintain trade secret protection and operate without infringing on the rights of third parties. Although we have successfully pursued patent applications in the past, it is possible that:

- some of all of our pending patent applications, or those we have licensed, may not be allowed;
- proprietary products or processes that we develop in the future may not be patentable;
- any issued patents that we own or license may not provide us with any competitive advantages or may be successfully challenged by third parties; or
- the patents of others may have an adverse effect on our ability to do business.

It is not possible for us to be certain that we are the original and first creator of inventions encompassed by our pending patent applications or that we were the first to file patent applications for any such inventions. Further, any of our patents, once issued, may be declared by a court to be invalid or unenforceable.

Eniluracil is currently protected in 2 international jurisdictions under an issued method of use patent that we own and expire in 2025. We have also exclusively licensed from GlaxoSmithKline method of use patents that expire in 2014 and 2015. STS is currently protected by methods of use patents that we exclusively licensed from Oregon Health & Science University that expire in Europe in 2021 and are currently pending in the United States. None of the above expiry dates take into consideration additional and pending patent applications for eniluracil that, if issued, could provide additional patent protection nor possible patent term extensions or periods of data exclusivity that may be available upon marketing approval in the various countries worldwide. In addition, periods of marketing exclusivity for STS may also be possible in the United States under orphan drug status. We obtained Orphan Drug Designation in the United States for the use of STS in the prevention of platinum-induced ototoxicity in pediatric patients in 2004, if approved, will have seven years of exclusivity in the United States from the approval date. Refer to the “Description of Business” section of this report for a further description of the United States Orphan Drug Designation.

We may be required to obtain licenses under patents or other proprietary rights of third parties but the extent to which we may wish or need to do so is unknown. Any such licenses may not be available on terms acceptable to us or at all. If such licenses are obtained, it is likely they would be royalty bearing, which would reduce any future income. If licenses cannot be obtained on an economical basis, we could suffer delays in market introduction of planned products or their introduction could be prevented, in some cases after the expenditure of substantial funds. If we do not obtain such licenses, we would have to design around patents of third parties, potentially causing increased costs and delays in product development and introduction or precluding us from developing, manufacturing or selling our planned products, or our ability to develop, manufacture or sell products requiring such licenses could be foreclosed.

Litigation may also be necessary to enforce or defend patents issued or licensed to us or our collaborators or to determine the scope and validity of a third party’s proprietary rights. We could incur substantial costs if litigation is required to defend ourselves in patent suits brought by third parties, if we participate in patent suits brought against or initiated by our collaborators, or if we initiate such suits. We might not prevail in any such action. An adverse outcome in litigation or an interference to determine priority or other proceeding in a court or patent office could subject us to significant liabilities, require disputed rights to be licensed from other parties or require us or our collaborators to cease using certain technology or products. Any of these events would likely have a material adverse effect on our business, financial condition and results of operations.

Much of our technological know-how that is not patentable may constitute trade secrets. Our confidentiality agreements might not provide for meaningful protection of our trade secrets, know-how or other proprietary information in the event of any unauthorized use or disclosure of information. In addition, others may independently develop or obtain similar technology and may be able to market competing products and obtain regulatory approval through a showing of equivalency to our product that has obtained regulatory approvals, without being required to undertake the same lengthy and expensive clinical studies that we would have already completed.

The vulnerability to off-label use or sale of our product candidates that are covered only by “method of use” patents may cause downward pricing pressure on these product candidates if they are ever commercialized and may make it more difficult for us to enter into collaboration or partnering arrangements for the development of these product candidates.

STS, one of our product candidates, is currently only covered by “method of use” patents, which covers the use of certain compounds to treat specific conditions, and not by “composition of matter” patents, which would cover the chemical composition of the compound. Method of use patents provides less protection than composition of matter patents because of the possibility of off-label competition if other companies develop or market the compound for other uses. If another company markets a drug that we expect to market under the protection of a method of use patent, physicians may prescribe the other company’s drug for use in the indication for which we obtain approval and have a patent, even if the other company’s drug is not approved for such an indication. Off-label use and sales could limit our sales and exert pricing pressure on any products we develop covered only by method of use patents. Also, it may be more difficult to find a collaborator to license or support the development of our product candidates that are only covered by method of use patents.

If our third party manufacturers breach or terminate their agreements with us, or if we are unable to secure arrangements with third party manufacturers on acceptable terms as needed in the future, we may suffer significant delays and additional costs.

We have no experience manufacturing products and do not currently have the resources to manufacture any products that we may develop. We currently have agreements with contract manufacturers for clinical supplies of STS, eniluracil and 5-FU, including drug substance providers and drug product suppliers, but they might not perform as agreed in the future or may terminate our agreement with them before the end of the required term. Significant additional time and expense would be required to effect a transition to a new contract manufacturer.

We plan to continue to rely on contract manufacturers for the foreseeable future to produce quantities of products and substances necessary for research and development, preclinical trials, human clinical trials and product commercialization, and to perform their obligations in a timely manner and in accordance with applicable government regulations. If we develop any products with commercial potential, we will need to develop the facilities to independently manufacture such products or secure arrangements with third parties to manufacture them. We may not be able to independently develop manufacturing capabilities or obtain favorable terms for the manufacture of our products. While we intend to contract for the commercial manufacture of our product candidates, we may not be able to identify and qualify contractors or obtain favorable contracting terms. We or our contract manufacturers may also fail to meet required manufacturing standards, which could result in delays or failures in product delivery, increased costs, injury or death to patients, product recalls or withdrawals and other problems that could significantly hurt our business. We intend to maintain a second source for back-up commercial manufacturing, wherever feasible. However, if a replacement to our future internal or contract manufacturers were required, the ability to establish second-sourcing or find a replacement manufacturer may be difficult due to the lead times generally required to manufacture drugs and the need for FDA compliance inspections and approvals of any replacement manufacturer, all of which factors could result in production delays and additional commercialization costs. Such lead times would vary based on the situation, but might be twelve months or longer.

We lack the resources necessary to effectively market our product candidates, and we may need to rely on third parties over whom we have little or no control and who may not perform as expected.

We do not have the necessary resources to market our product candidates. If we develop any products with commercial potential, we will either have to develop a marketing capability, including a sales force, which is difficult and expensive to implement successfully, or attempt to enter into a collaboration, merger, joint venture, license or other arrangement with third parties to provide a substantial portion of the financial and other resources needed to market such products. We may not be able to do so on acceptable terms, if at all. If we rely extensively on third parties to market our products, the commercial success of such products may be largely outside of our control.

We conduct our business internationally and are subject to laws and regulations of several countries which may affect our ability to access regulatory agencies and may affect the enforceability and value of our licenses.

We have conducted clinical trials in the United States, Canada, Europe and the Pacific Rim and intend to, or may, conduct future clinical trials in these and other jurisdictions. There can be no assurance that any sovereign government will not establish laws or regulations that will be deleterious to our interests. There is no assurance that we, as a British Columbia corporation, will continue to have access to the regulatory agencies in any jurisdiction where we might want to conduct clinical trials or obtain regulatory approval, and we might not be able to enforce our license or patent rights in foreign jurisdictions. Foreign exchange controls may have a material adverse effect on our business and financial condition, since such controls may limit our ability to flow funds into or out of a particular country to meet obligations under licenses, clinical trial agreements or other collaborations.

Our cash invested in money market funds might be subject to loss.

Even though we believe we take a conservative approach to investing our funds, the volatility of the current financial markets exposes us to increased investment risk, including the risks that the value and liquidity of our money market investments could deteriorate significantly and the issuers of the investments we hold could be subject to credit rating downgrades. While we have not experienced any loss or write down of our money market investments in the past, we cannot guarantee that such losses will not occur in future periods.

Risks Related to Our Industry

If we are unable to obtain applicable U.S. and/or foreign regulatory approvals, we will be unable to develop and commercialize our drug candidates.

The preclinical studies and clinical trials of our product candidates, as well as the manufacturing, labeling, sale and distribution, export or import, marketing, advertising and promotion of our product candidates are subject to various regulatory frameworks in the United States, Canada and other countries. Any products that we develop must receive all relevant regulatory approvals and clearances before any marketing, sale or distribution. The regulatory process, which includes extensive preclinical studies and clinical testing to establish product safety and efficacy, can take many years and cost substantial amounts of money. As a result of the length of time, many challenges and costs associated with the drug development process, the historical rate of failures for drug candidates is extremely high. For example, prior development of our compound eniluracil by GlaxoSmithKline was not successful. Varying interpretations of the data obtained from studies and tests could delay, limit or prevent regulatory approval or clearance. Changes in regulatory policy could also cause delays or affect regulatory approval. Any regulatory delays may increase our development costs and negatively impact our competitiveness and prospects. It is possible that we may not be able to obtain regulatory approval of any of our drug candidates or approvals may take longer and cost more to obtain than expected.

Regulatory approvals, if granted, may entail limitations on the uses for which any products we develop may be marketed, limiting the potential sales for any such products. The granting of product approvals can be withdrawn at any time, and manufacturers of approved products are subject to regular reviews, including for compliance with FDA Good Manufacturing Practices regulations. Failure to comply with any applicable regulatory requirement, which may change from time to time, can result in warning letters, fines, sanctions, penalties, recalling or seizing products, suspension of production, or even criminal prosecution.

Future sales of our product candidates may suffer if they fail to achieve market acceptance.

Even if our product candidates are successfully developed and achieve appropriate regulatory approval, they may not enjoy commercial acceptance or success. Product candidates may compete with a number of new and traditional drugs and therapies developed by major pharmaceutical and biotechnology companies. Market acceptance is dependent on product candidates demonstrating clinical efficacy and safety, as well as demonstrating advantages over alternative treatment methods. In addition, market acceptance is influenced by government reimbursement policies and the ability of third parties to pay for such products. Physicians, patients, the medical community or patients may not accept or utilize any products we may develop.

We face a strong competitive environment. Other companies may develop or commercialize more effective or cheaper products, which may reduce or eliminate the demand for our product candidates.

The biotechnology and pharmaceutical industry, and in particular the field of cancer therapeutics where we are focused, is very competitive. Many companies and research organizations are engaged in the research, development and testing of new cancer therapies or means of increasing the effectiveness of existing therapies, including, among many others, Amgen, AstraZeneca, Bayer, Bristol-Myers Squibb, Eli Lilly, Eisai, Merck KGaA, Novartis, Johnson & Johnson, Onyx, Pfizer, Roche, Taiho and Sanofi-Aventis. Many of these companies have marketed drugs or are developing targeted cancer therapeutics which, depending upon the mechanism of action of such agents could thus be 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 with preclinical testing and human clinical trials and in obtaining regulatory approvals. Also, some of the smaller companies that compete with us have formed collaborative relationships with large, established companies to support the research, development, clinical trials and commercialization of any products that they may develop. Academic institutions, government agencies and other public and private research organizations may also conduct research, seek patent protection and establish collaborative arrangements for research, clinical development and marketing of products similar to those we seek to develop. These companies and institutions compete with us in recruiting and retaining qualified scientific and management personnel as well as in acquiring technologies complementary to our projects.

We are likely to face competition in the areas of product efficacy and safety, ease of use and adaptability, as well as pricing, product acceptance, regulatory approvals and intellectual property. Competitors could develop more effective, safer and more affordable products than we do, and they may obtain patent protection or product commercialization before we do or even render our product candidates obsolete. 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 any products that we develop.

We may face product liability claims that could require us to defend costly lawsuits or incur substantial liabilities that could adversely impact our financial condition, receipt of regulatory approvals for our product candidates and our results of operation.

The use of our product candidates in clinical trials and for commercial applications, if any, may expose us to liability claims in the event that such product candidates cause injury or death or result in other adverse effects. These claims could be made by health care institutions, contract laboratories, and subjects participating in our clinical studies, patients or others using our product candidates. In addition to liability claims, certain serious adverse events could require interruption, delay and/or discontinuation of a clinical trial and potentially prevent further development of the product candidate. We carry clinical trial insurance but the coverage may not be sufficient to protect us from legal expenses and liabilities we might incur. Litigation is very expensive, even if we defend successfully against possible litigation. In addition, our existing coverage may not be adequate if we further develop products, and future coverage may not be available in sufficient amounts or at reasonable cost. In addition, we might reduce the amount of this coverage due to our limited financial resources. Adverse liability claims may also harm our ability to obtain or maintain regulatory approvals.

We used hazardous material and chemicals in our research and development, and our failure to comply with laws related to hazardous materials could materially harm us.

In the past, our research and development processes involved the controlled use of hazardous materials, such as flammable organic solvents, corrosive acids and corrosive bases. Accordingly, we are subject to federal, state, local and foreign laws and regulations governing the use, manufacture, storage, handling and disposal of such materials and certain waste products. The risk of accidental contamination or injury from these materials cannot be completely eliminated. We could be held liable for any damages that result and any such liability could exceed our resources and may not be covered by our general liability insurance. We currently do not carry insurance specifically for hazardous materials claims. We may be required to incur significant costs to comply with environmental laws and regulations, which may change from time to time. Our current practice is to outsource these activities.

Efforts to reduce product pricing and health care reimbursement and changes to government policies could negatively affect the commercialization of our product candidates.

If any of our product candidates achieve regulatory approval, we may be materially adversely affected by the continuing efforts of governmental and third-party payors to contain or reduce health care costs. For example, if we succeed in bringing one or more products to market, such products may not be considered cost-effective and the availability of consumer reimbursement may not exist or be sufficient to allow the sale of such products on a competitive basis. The constraints on pricing and availability of competitive products may further limit our pricing and reimbursement policies as well as adversely impact market acceptance and commercialization for the products.

In many markets, the pricing or profitability of healthcare products is subject to government control. In recent years, federal, state, provincial and local officials and legislators have proposed or are proposing a variety of price-based reforms to the healthcare systems in the United States, Canada and elsewhere. Some proposals include measures that would limit or eliminate payments from third-party payors to the consumer for certain medical procedures and treatments or allow government control of pharmaceutical pricing. The adoption of any such proposals or reforms could adversely affect the commercial viability of our product candidates.

In the U.S., there have been numerous proposals considered at the federal and state levels for comprehensive reforms of health care and its cost, and it is likely that federal and state legislatures and health agencies will continue to focus on health care reform in the future. Some states are also considering legislation that would control the prices of drugs, and state Medicaid programs are increasingly requesting manufacturers to pay supplemental rebates and requiring prior authorization by the state program for use of any drug for which supplemental rebates are not being paid. Managed care organizations continue to seek price discounts and, in some cases, to impose restrictions on the coverage of particular drugs. Government efforts to reduce Medicaid expenses may lead to increased use of managed care organizations by Medicaid programs. This may result in managed care organizations influencing prescription decisions for a larger segment of the population and a corresponding constraint on prices and reimbursement for our products.

Any significant changes in the healthcare system in the United States, Canada or abroad would likely have a substantial impact on the manner in which we conduct business and could have a material adverse effect on our ability to raise capital and the viability of product commercialization.

Risks Related to Owning Our Common Shares

Our common stock has been delisted from NYSE Alternext US LLC (formerly the American Stock Exchange), which may make it more difficult for stockholders to dispose of their shares.

In December 2008, we received notice from the NYSE Alternext US, LLC (formerly the American Stock Exchange), or AMEX, that we were not in compliance with Section 1003(a)(ii) of its Company Guide, because our stockholders' equity was below $6 million and we had incurred losses from continued operations and net losses in the five most recent fiscal years. On January 20, 2009, we voluntarily filed to delist our common stock from the AMEX and effective January 30, 2009, our common stock no longer traded on the AMEX. As a result, any trading of our common stock in the U.S. will need to be conducted in the over-the-counter market, on the Pink Sheets. In addition, our common stock is also subject to the SEC's penny stock rules, which impose additional requirements on broker-dealers who effect trades. As a result, stockholders might have difficulty selling our common stock.

We may be unable to maintain the listing of our common stock on the TSX and that would make it more difficult for stockholders to dispose of their common stock.

Our common stock is currently listed on the TSX. The TSX has rules for continued listing, including minimum market capitalization and other requirements, that we might not meet in the future, particularly if the price of our common stock does not increase or we are unable to raise additional capital to continue operations. In January 2009, our common stock was delisted from the AMEX as we did not meet the continued listing requirements of that exchange. On April 22, 2010, the Toronto Stock Exchange issued an official delisting review of our common stock. On August 18, 2010, the Toronto Stock Exchange completed its review of the Company and determined that the Company meets TSX's continued listing requirements.

Delisting from the TSX would make it more difficult for stockholders to dispose of their common stock and more difficult to obtain accurate quotations on our common stock. This could have an adverse effect on the price of our common stock. There can be no assurances that a market maker will make a market in our common stock on the Pink Sheets or any other stock quotation system after delisting. Furthermore, securities quoted on the Pink Sheets generally have significantly less liquidity than securities traded on a national securities exchange, not only in the number of shares that can be bought and sold, but also through delays in the timing of transactions and lower market prices than might otherwise be obtained. As a result, stockholders might find it difficult to resell shares at prices quoted in the market or at all. Furthermore, because of the limited market and generally low volume of trading in our common stock, our common stock is more likely to be affected by broad market fluctuations, general market conditions, fluctuations in our operating results, changes in the market's perception of our business, and announcements made by us, our competitors or parties with whom we have business relationships. Our ability to issue additional securities for financing or other purposes, or to otherwise arrange for any financing we may need in the future, may also be materially and adversely affected by the fact that our securities are not traded on a national securities exchange.

The market price of our common stock is highly volatile and could cause the value of your investment to significantly decline.

Historically, the market price of our common stock has been highly volatile and the market for our common stock has from time to time experienced significant price and volume fluctuations, some of which are unrelated to our operating performance. From July 1, 2008 to March 16, 2012, the trading price of our stock fluctuated from a high closing price of CAD$3.60 per share to a low closing price of CAD$0.20 per share on the TSX. From July 1, 2008 until our delisting on January 30, 2009, the trading price of our stock fluctuated from a high closing price of $4.14 per share to a low closing price of $0.18 per share on the AMEX. Historically, our common stock has had a low trading volume, and may continue to have a low trading volume in the future. This low volume may contribute to the volatility of the market price of our common stock. It is likely that the market price of our common stock will continue to fluctuate significantly in the future.

The market price of our stock may be significantly affected by many factors, including without limitation:

- the need to raise additional capital and the terms of any transaction we are able to enter into;
- other external factors generally or stock market trends in the pharmaceutical or biotechnology industries specifically;
- announcements of licensing agreements, joint ventures, collaborations or other strategic alliances that involve our products or those of our competitors;
- innovations related to our or our competitors' products;
- actual or potential clinical trial results related to our or our competitors' products;
- our financial results or those of our competitors;
- reports of securities analysts regarding us or our competitors;
- developments or disputes concerning our licensed or owned patents or those of our competitors;
- developments with respect to the efficacy or safety of our products or those of our competitors; and
- health care reforms and reimbursement policy changes nationally and internationally.

Our common stock is deemed to be a "penny stock," which may make it more difficult for investors to sell their shares due to suitability requirements.

Our common stock is subject to Rule 15g-1 through 15g-9 under the Exchange Act, which imposes certain sales practice requirements on broker-dealers which sell our common stock to persons other than established customers and "accredited investors" who are generally individuals with a net worth in excess of $1,000,000 (excluding their principal residence) or annual incomes exceeding $200,000, or $300,000 together with their spouses. For transactions covered by this rule, a broker-dealer must make a special suitability determination for the purchaser and have received the purchaser's written consent to the transaction prior to the sale. This rule adversely affects the ability of broker-dealers to sell our common stock and the ability of our stockholders to sell their shares of common stock.

Additionally, our common stock is subject to the SEC regulations for "penny stock." Penny stock includes any equity security that is not listed on a national exchange and has a market price of less than $5.00 per share, subject to certain exceptions. The regulations require that prior to any non-exempt buy/sell transaction in a penny stock, a disclosure schedule set forth by the SEC relating to the penny stock market must be delivered to the purchaser of such penny stock. This disclosure must include the amount of commissions payable to both the broker-dealer and the registered representative and current price quotations for the common stock. The regulations also require that monthly statements be sent to holders of penny stock that disclose recent price information for the penny stock and information of the limited market for penny stocks. These requirements adversely affect the market liquidity of our common stock.

Our existing principal stockholders hold a substantial number of shares of our common stock and may be able to exercise influence in matters requiring approval of stockholders.

At March 16, 2012, our current stockholders separately representing more than 5% ownership in our Company collectively represented beneficial ownership of approximately 60% of our common stock. In particular, Southpoint Capital Advisors LP owns or exercises control over 11 million shares of common stock, representing approximately 45% of the issued and outstanding common stock. In addition, Mr. Robert Butts, individually owns approximately 2.3 million shares, or 9% of our common stock, and he served as Chairman of our Board of Directors until June 2011. Further, 683 Capital LLC, owns approximately 2.1 million shares, or 9% of our common stock.Southpoint Capital, our other 5% stockholders, and other insiders, acting alone or together, might be able to influence the outcomes of matters that require the approval of our stockholders, including but not limited to certain equity transactions (such as a financing), an acquisition or merger with another company, a sale of substantially all of our assets, the election and removal of directors, or amendments to our incorporating documents. These stockholders might make decisions that are adverse to your interests. The concentration of ownership could have the effect of delaying, preventing or deterring a change of control of our company, which could adversely affect the market price of our common stock or deprive our other stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company.

There are a large number of shares of our common stock underlying outstanding warrants and options, and reserved for issuance under our stock option plan, that may be sold in the market, which could depress the market price of our stock and result in substantial dilution to the holders of our common stock.

Sale or issuance of a substantial number of shares of our common stock in the future could cause the market price of our common stock to decline. It may also impair our ability to obtain additional financing. At March 16, 2012**,** we had outstanding warrants to purchase approximately 18.1 million shares of our common stock which had a weighted average exercise price of $1.44. In addition, at March 16, 2011, there were approximately 5.1 million shares issuable upon the exercise of stock options granted by us of which approximately 4.2 million were denominated in Canadian dollars and had a weighted average exercise price of CAD$0.85 per common share and approximately 1.0 million were denominated in U.S. dollars and had a weighted average exercise price of $7.49 per common share. We may also issue further warrants as part of any future financings as well as the additional 1.2 million options to acquire our common stock currently remaining available for issuance under our stock option plan.

We may need to raise substantial additional funds in the near future to continue our operations. Any equity offering could result in significant dilution to the ownership interests of shareholders and may result in dilution of the value of such interests and any debt offering will increase financial risk.

In order to satisfy our anticipated capital requirements to develop our products, we may need to raise substantial additional funds through either the sale of additional equity, the issue of securities convertible into equity, the issuance of debt, the establishment of collaborations that provide us with funding, the out-license or sale of certain aspects of our intellectual property portfolio, or from other sources. The most likely sources of financing that may be available to us in the near term are the sale of shares of common stock and/or securities convertible into common stock and the issuance of debt.

We cannot predict the size of future issues of common stock or the issue of securities convertible into common stock or the effect that any such future issues and sales of common stock will have on the market price of our common stock. However, given the current market price of our common stock, any transaction involving the issue of common stock, or securities convertible into common stock, will likely result in immediate and substantial dilution to present and prospective holders of common stock. Alternatively, we may rely on debt financing and assume debt obligations that require us to make substantial interest and capital payments and to pledge some or all of our assets as collateral to secure such debt obligations.

We have not paid any dividends since incorporation and do not anticipate declaring any dividends in the foreseeable future. As a result, you will not be able to recoup your investment through the payment of dividends on your common stock and the lack of a dividend payable on our common stock might depress the value of your investment.

We will use all available funds to finance the development of our product candidates and operation of our business. Our directors will determine if and when dividends should be declared and paid in the future based on our financial position at the relevant time, but since we have no present plans to pay dividends, you should not expect receipt of dividends either for your cash needs or to enhance the value of your common stock.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We lease approximately 350 square feet of office space in Research Triangle Park, North Carolina. The current monthly lease payments are approximately $1,100 and the lease is terminable with 30 days notice.

Item 3. Legal Proceedings

None.

Item 4. Mine Safety Disclosures

Not applicable.

Part II

Item 5. Market for the Registrant's Common Equity, Related Stockholder Matters and Issuers Purchases of Equity Securities

Our common stock traded on currently trades on the OTC Market under the trading symbol "ADHXF" and previously traded on the AMEX under the trading symbol "ADH" from November 12, 2004 until January 29, 2009, and has traded on the TSX, under the trading symbol "AHX" since June 5, 2001. In December 2008, we received notice from the AMEX that we were not in compliance with certain continued listing standards as set forth in Part 10 of the NYSE Alternext US, LLC Company Guide. On January 20, 2009, we voluntarily filed to delist our common stock from the AMEX and on January 30, 2009, we no longer traded on the AMEX. The following table sets forth the quarterly high and low market closing prices, and average daily trading volume on the OTCQB and the TSX, for the two most recent full fiscal years:

	OTC Market: OTCQB (1) (in U.S. dollars)			Toronto Stock Exchange (1) (in Canadian dollars)		
Fiscal 2011:	High $	Low $	Volume	High $	Low $	Volume
Quarter ended 12/31/11	$ 0.60	$ 0.32	5,784	$ 0.70	$ 0.35	3,789
Quarter ended 09/30/11	0.77	0.54	4,786	0.75	0.51	5,158
Quarter ended 06/30/11	0.90	0.54	6,590	0.90	0.54	12,278
Quarter ended 03/31/11	1.26	0.36	3,969	$ 1.26	$ 0.54	7,713
Fiscal 2010:						
Quarter ended 12/31/10	$ 1.26	$ 0.36	6,279	$ 1.26	$ 0.54	10,105
Quarter ended 09/30/10	0.72	0.54	1,234	0.90	0.54	454
Quarter ended 06/30/10	1.08	0.54	3,292	1.08	0.54	3,271
Quarter ended 03/31/10	1.08	0.54	2,708	$ 1.08	$ 0.72	1,171

(1) All above market quotations and trading prices for our common stock included above have been adjusted to give retroactive effect to the 1-for-18 Share Consolidation effected on August 25, 2011.

As of March 16, 2012, the last reported sale on the TSX was CAD$0.20 per share and the last reported sale on the over the counter markets in the U.S. was $0.20 per share.

Record Holders

As of March 16, 2012, there were approximately 83 shareholders of record of our common stock, one of which was Cede & Co., a nominee for Depository Trust Company, or DTC, and one of which was The Canadian Depository for Securities Limited, or CDS. All of our common shares held by brokerage firms, banks and other financial institutions in the U.S. or Canada as nominees for beneficial owners are considered to be held of record by Cede & Co. in respect of brokerage firms, banks and other financial institutions located in Canada. Cede & Co. and CDS are each considered to be one shareholder of record.

Dividend Policy

We have never declared or paid cash dividends on our common stock. We currently expect to retain future earnings, if any, for use in the operation and expansion of business and do not anticipate paying any cash dividends in the foreseeable future.

Recent Sales of Unregistered Securities

On November 18, 2011, the Company issued options to acquire an aggregate of 20,000 shares of our common stock to directors of the Company. The options were issued in a private placement exempt under Section 4(2) of the Securities Act of 1933, as amended (the "Securities Act"). The options were issued pursuant to Independent Director Agreements and were issued in Canadian dollar denominated grants at an exercise price of $0.50 per share and are exercisable for a period of 7 years from the grant date.

Material United States Federal and Canadian Income Tax Consequences

This section summarizes the material U.S. federal and Canadian federal income tax consequences of the ownership and disposition of the common stock. Nothing contained herein shall be construed as tax advice; you must rely only on the advice of your own tax advisor. We make no assurances as to the applicability of any tax laws with respect to any individual investment.

This summary relating to the common stock applies to the beneficial owners who are individuals, corporations, trusts and estates that:

- at all relevant times are: (i) U.S. persons for purposes of the U.S. Internal Revenue Code of 1986, as amended through the date hereof, or the Code, (ii) nonresidents of Canada for purposes of the Income Tax Act (Canada), or the Income Tax Act, and (iii) residents of the United States for purposes of, and entitled to all the benefits under, the Canada-United States Income and Capital Tax Convention (1980), as amended through the date hereof, or the Tax Treaty;
- hold common stock as a capital asset for purposes of the Code and capital property for the purposes of the Income Tax Act;
- deal at arm's length with, and are not affiliated with, the Company for purposes of the Income Tax Act; and
- do not and will not use or hold the common stock in carrying on a business in Canada.

Persons who satisfy the above conditions are referred to as U.S. Shareholders.

The tax consequences of an investment in common stock by persons who are not U.S. Shareholders may differ materially from the tax consequences discussed in this section. The Income Tax Act contains rules relating to securities held by some financial institutions. This Annual Report does not discuss these rules, and holders that are financial institutions should consult their own tax advisors. This discussion is based upon the following, all as currently in effect:

- the Income Tax Act and regulations under the Income Tax Act;
- the Code and Treasury regulations under the Code;
- the Tax Treaty;
- the administrative policies and practices published by the Canada Revenue Agency, formerly Revenue Canada;
- all specific proposals to amend the Income Tax Act and the regulations under the Income Tax Act that have been publicly announced by or on behalf of the Minister of Finance (Canada) prior to the date of this report;
- the administrative policies and rulings published by the U.S. Internal Revenue Service, or the IRS; and
- judicial decisions.

All of the foregoing are subject to change either prospectively or retroactively. This summary does not take into account estate or gift tax laws, the tax laws of the various provinces or territories of Canada or the tax laws of the various state and local jurisdictions of the United States or foreign jurisdictions.

This discussion summarizes the material U.S. federal and Canadian federal income tax considerations of the ownership and disposition of common stock. This discussion does not address all possible tax consequences relating to an investment in common stock. No account has been taken of your particular circumstances, and this summary does not address consequences peculiar to you if you are subject to special provisions of U.S. or Canadian income tax law (including, without limitation, dealers in securities or foreign currency, tax-exempt entities, banks, insurance companies or other financial institutions, persons that hold common stock as part of a "straddle," "hedge" or "conversion transaction," persons acquiring shares upon exercise of stock options or in other compensatory transactions, and U.S. Shareholders that have a "functional currency" other than the U.S. dollar or that own common stock through a partnership or other pass-through entity). Therefore, you should consult your own tax advisor regarding the tax consequences of purchasing and owning common stock.

Material U.S. Federal Income Tax Considerations

Subject to the discussion below regarding Passive Foreign Investment Companies and Controlled Foreign Corporations, this section summarizes U.S. federal income tax consequences of ownership and disposition of the common stock.

U.S. Shareholders are generally required to include in income dividend distributions, if any, paid by a corporation to the extent of a corporation's current or accumulated earnings and profits attributable to the distribution as computed based on U.S. income tax principles. The amount of any cash distribution paid in Canadian dollars will be equal to the U.S. dollar value of the Canadian dollars on the date of distribution based on the exchange rate on such date, regardless of whether the payment is in fact converted to U.S. dollars, and without reduction for Canadian withholding tax. For a discussion of Canadian withholding taxes applicable to dividends paid by the Company, see "Material Canadian Federal Income Tax Considerations." You will generally be entitled to a foreign tax credit or deduction for U.S. federal income tax purposes in an amount equal to the Canadian tax withheld. To the extent distributions paid by the Company on the common stock exceed the Company's current or accumulated earnings and profits, they will be treated first as a return of capital up to your adjusted tax basis in the shares and then as capital gain from the sale or exchange of the shares.

Under current law, U.S. federal income tax on qualified dividends paid to noncorporate U.S. holders are taxed at reduced rates of either 5% or 15%, depending upon the amount of such shareholder's taxable income. Distributions paid on common stock to a U.S. holder that do not constitute qualified dividends will be treated as ordinary income for U.S. federal income tax purposes. In order to qualify for the reduced tax rates on dividends, a noncorporate shareholder must satisfy certain holding period requirements and must not be under an obligation (whether pursuant to a short sale or otherwise) to make related payments with respect to positions in substantially similar or related property. In some circumstances, this holding period may be increased. If a non-corporate U.S. holder does not hold common stock for more than 60 days during the 120 day period beginning 60 days before an ex-dividend date, dividends received on common stock are not eligible for reduced rates. Additionally, the reduced tax rates do not apply to dividends that a noncorporate shareholder elects to treat as investment income for purposes of Section 163(d)(4) of the Code.

Qualified dividend income includes dividends received from a "qualified foreign corporation", which are eligible for the reduced dividends tax rates for non-corporate shareholders. In general, a Canadian corporation entitled to all the benefits of the Tax Treaty will be treated as a qualified foreign corporation. In addition, a foreign corporation will be treated as a qualified foreign corporation with respect to any dividend paid by that corporation if the stock with respect to which the dividend is paid is readily tradable on an established securities market in the United States. Regardless of the above rules, however, a foreign corporation will not be treated as a qualified foreign corporation if, for the taxable year of the corporation in which the dividend was paid, or the preceding taxable year, the corporation is classified for U.S. tax purposes as a passive foreign investment company, or PFIC. Accordingly, any dividends paid by us in a year that we are a PFIC or in the next taxable year would not qualify for the reduced tax rates on dividends paid to non-corporate U.S. holders.

Dividends paid by the Company generally will constitute foreign source dividend income and "passive income" for purposes of the foreign tax credit, which could affect the amount of foreign tax credits available to you. The Code applies various limitations on the amount of foreign tax credits that may be available to a U.S. taxpayer.

Because of the complexity of those limitations, you should consult your own tax advisor with respect to the availability of foreign tax credits.

Dividends paid by the Company on the common stock generally will not be eligible for the "dividends received" deduction available to corporate shareholders, because the Company is a foreign corporation. Note, however, that if a corporate shareholder owns at least 10 percent of our stock and we are not a PFIC (see "Tax Consequences if we are a Passive Foreign Investment Company" below) for a particular year, a dividends received deduction may be available under Section 245 of the Code for any dividends paid by the Company to that shareholder attributable to our U.S.-source earnings.

If you sell the common stock, you generally will recognize gain or loss in an amount equal to the difference between the amount realized on the sale and your adjusted tax basis in the shares. Any such gain or loss will be long-term or short-term capital gain or loss, depending on whether the shares have been held by you for more than one year, and will generally be U.S.-source gain or loss. Long-term capital gains generally are taxed at lower rates than items of ordinary income. The deductibility of capital losses is subject to limitations.

A non-corporate U.S. holder may, under certain circumstances, be subject to information reporting requirements and "backup withholding" at a 28% rate on cash payments in the United States of dividends on, and the proceeds of disposition of, common stock. Backup withholding with respect to such amounts may apply unless you furnish the paying agent or middleman with a duly completed and signed Form W-9. You will be allowed a refund or a credit equal to any amount withheld under the U.S. backup withholding rules against your U.S. federal income tax liability, provided you furnish the required information to the IRS.

Tax Consequences if We Are A Passive Foreign Investment Company

A foreign corporation generally will be treated as a "passive foreign investment company" ("PFIC") if, after applying certain "look-through" rules, either (i) 75% or more of its gross income is passive income or (ii) 50% or more of the average value of its assets is attributable to assets that produce or are held to produce passive income. Passive income for this purpose generally includes dividends, interest, rents, royalties and gains from securities and commodities transactions. The look-through rules require a foreign corporation that owns at least 25% by value, of the stock of another corporation to treat a proportionate amount of assets and income as held or received directly by the foreign corporation.

The Company has not made the analysis necessary to determine whether or not it is currently a PFIC or whether it has ever been a PFIC. There can be no assurance that the Company is not, has never been or will not in the future be a PFIC. If the Company were to be treated as a PFIC, any gain recognized by a U.S. holder upon the sale (or certain other dispositions) of common stock (or the receipt of certain distributions) generally would be treated as ordinary income, and a U.S. holder may be required, in certain circumstances, to pay an interest charge together with tax calculated at maximum rates on certain "excess distributions," including any gain on the sale or certain dispositions of common stock. In order to avoid this tax consequence, a U.S. holder (i) may be permitted to make a "qualified electing fund" election, in which case, in lieu of such treatment, such holder would be required to include in its taxable income certain undistributed amounts of the Company's income or (ii) may elect to mark-to-market the common stock and recognize ordinary income (or possible ordinary loss) each year with respect to such investment and on the sale or other disposition of the common stock. Additionally, if the Company is deemed to be a PFIC, a U.S. holder who acquires common stock in the Company from a decedent will be denied the normally available step-up in tax basis to fair market value for the common stock at the date of the death and instead will have a tax basis equal to the decedent's tax basis if lower than fair market value. Neither the Company nor its advisors have the duty to or will undertake to inform U.S. holders of changes in circumstances that would cause the Company to become a PFIC. U.S. holders should consult their own tax advisors regarding the application of the PFIC rules including eligibility for and the manner and advisability of making certain elections in the event the Company is determined to be a PFIC at any point in time after the date of this report. The Company does not currently intend to take the action necessary for a U.S. holder to make a "qualified electing fund" election in the event the Company is determined to be a PFIC.

Tax Consequences if We are a Controlled Foreign Corporation

A foreign corporation will be treated as a "controlled foreign corporation" ("CFC") for United States federal income tax purposes if, on any day during the taxable year of such foreign corporation, more than 50% of the equity interests in such corporation, measured by reference to the combined voting power or value of the equity of the corporation, is owned directly or by application of the attribution and constructive ownership rules of Sections 958(a) and 958(b) of the Code by United States Shareholders. For this purpose, a "United States Shareholder" is any United States person that possesses directly, or by application of the attribution and constructive ownership rules of Sections 958(a) and 958(b) of the Code, 10% or more of the combined voting power of all classes of equity in such corporation. If a foreign corporation is a CFC for an uninterrupted period of 30 days or more during any taxable year, each United States Shareholder of the corporation who owns, directly or indirectly, shares in the corporation on the last day of the taxable year on which it is a CFC will be required to include in its gross income for United States federal income tax purposes its pro rata share of the CFC's "Subpart F income," even if the Subpart F income is not distributed. Subpart F income generally includes passive income but also includes certain related party sales, manufacturing and services income.

United States persons who might, directly, indirectly or constructively, acquire 10% or more of the shares of the Company or any of its non-U.S. subsidiaries, and therefore might be a United States Shareholder, should consider the possible application of the CFC rules, and consult a tax advisor with respect to such matter.

Material Canadian Federal Income Tax Considerations

This section summarizes the material anticipated Canadian federal income tax considerations relevant to the ownership and disposition of the common stock.

Under the Income Tax Act, assuming you are a U.S. Shareholder, and provided the common stock is listed on a designated stock exchange, which includes the TSX, you will generally not be subject to Canadian tax on a capital gain realized on an actual or deemed disposition of the common stock unless: (A) you alone or together with persons with whom you did not deal at arm's length owned or had rights to acquire 25% or more of our issued shares of any class at any time during the sixty (60) month period before the actual or deemed disposition; and (B) more than 50% of the fair market value of the common stock is derived directly or indirectly from (i) real or immovable property situated in Canada; (ii) Canadian resource properties; (iii) timber resource properties; and (iv) options in respect of (i), (ii) or (iii) during the sixty (60) month period that precedes the disposition. Based upon our review of our financial data for the current and prior fiscal years, we have determined that the common stock does not currently derive, and has not derived during the past sixty (60) months, more than 50% of its fair market value from the property listed above, and this characterization of the common stock will likely continue.

Dividends paid, credited or deemed to have been paid or credited on the common stock to U.S. Shareholders will be subject to a Canadian withholding tax under the Income Tax Act at a rate of 25% of the gross amount of the dividends. Under the Tax Treaty, the rate of withholding tax on dividends generally applicable to U.S. Shareholders who beneficially own the dividends is reduced to 15%. In the case of U.S. Shareholders that are corporations that beneficially own at least 10% of the Company's voting shares, the rate of withholding tax on dividends generally is reduced to 5%. So-called "fiscally transparent" entities, such as United States limited liability companies, or LLCs, are not entitled to rely on the terms of the Tax Treaty, and therefore do not benefit from these reduced rates, however, reduced rates under the Tax Treaty apply to members of fiscally transparent entities who would be entitled to rely on the Tax Treaty if they held the common stock directly. Members of such entities are regarded as holding their proportionate share of the common stock held by the entity for the purposes of the Tax Treaty.

Canada does not currently impose any federal estate taxes or succession duties. However, if you die, there is a deemed disposition of the common stock held at that time for proceeds of disposition generally equal to the fair market value of the common stock immediately before your death. Capital gains realized on the deemed disposition, if any, will have the income tax consequences described above.

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

CAUTIONARY STATEMENT

The discussion below contains forward-looking statements regarding our financial condition and our results of operations that are based upon our annual consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles within the United States, or U.S. GAAP, and applicable U.S. Securities and Exchange Commission, or SEC, regulations for financial information. The preparation of these financial statements requires our management to make estimates and judgments that affect the reported amounts of assets, liabilities, income and expenses, and related disclosure of contingent assets and liabilities. We evaluate our estimates on an ongoing basis. Our estimates are based on historical experience and on various other assumptions that we believe to be reasonable.

Overview

In December 2008 we received notice from the American Stock Exchange that we were not in compliance with Section 1003(a)(ii) of its Company Guide, because our stockholders' equity was below $6 million and we incurred losses from continued operation and net losses in the five most recent fiscal years. On January 29, 2009, we voluntarily filed to delist our common stock from the American Stock Exchange and effective January 29, 2009 our common stock was no longer traded on the American Stock Exchange. As a result, any trading of our common stock in the U.S. must now be conducted in the over-the-counter markets. Our common stock continues to trade on the Toronto Stock Exchange. The Toronto Stock Exchange also has continued listing standards, including minimum market capitalization and other requirements, that we might not meet in the future, particularly if the price of our common stock does not increase or we are unable to raise capital to continue our operations. On April 22, 2010, the Toronto Stock Exchange issued an official delisting review of our common stock. On August 18, 2010, the Toronto Stock Exchange announced that it had completed its review of the common shares of the Company and had determined that the Company meets TSX's continued listing requirements.

On August 25, 2011, Adherex filed Articles of Amendment under the Canada Business Corporations Act to implement a one-for-eighteen reverse split of our common stock (defined herein as the "Share Consolidation"). As a result of the Share Consolidation, every eighteen shares of common stock outstanding on August 25, 2011 were combined into one share of common stock. Our common stock began trading on the Toronto Stock Exchange and the OTC market (on the OTCQB tier) on a post-Share Consolidation basis on August 30, 2011.The share consolidation reduced the number of shares of the Company's outstanding common stock from approximately 452.8 million, to approximately 25.2 million effective as of August 25, 2011, the effective date of the Share Consolidation. Consequently, the Company has retroactively adjusted its financial statements for all periods presented to show the shares, stock options and warrants as if they had always been presented on this basis.

Our current prioritization initiative focuses primarily on our clinical activities with eniluracil, as well as logistical and product support of ongoing clinical programs. Eniluracil was previously under development by GlaxoSmithKline. GlaxoSmithKline advanced eniluracil into a comprehensive Phase III clinical development program that did not produce positive results and GlaxoSmithKline terminated further development. We developed a hypothesis as to why the GlaxoSmithKline Phase III trials were not successful and licensed the compound from GlaxoSmithKline in July 2005. We believe that eniluracil might enhance and expand the therapeutic spectrum of activity of 5-FU, reduce the occurrence of a disabling side effect known as hand foot syndrome and allow 5-FU to be given orally. We expect the proceeds we received from the April 2010 Private Placement and the Rights Offering completed in March 2011 will be sufficient to fund a Phase II trial involving approximately 140 patients. We expect results from those trials to be indicative of the future viability of eniluracil and will allow us to assess whether further development and testing of eniluracil is warranted. The Phase II trial is currently open for recruitment in Russia and the United States and enrolled its first patient on April 27, 2011. The Company has enrolled 98 patients as of March 16, 2012 and anticipates that it will achieve full enrollment during the Company's third calendar quarter of 2012.

Patient enrollment is continuing in the Phase III trials of STS conducted by the International Childhood LiverTumour Strategy Group, known as SIOPEL and the Children's Oncology Group. Each of these trials is managed by SIOPEL and the Children's Oncology Group, respectively, and each group is responsible for the costs of the trial. We continue to hold STS patents and our responsibility in the testing is limited to providing the drug, drug distribution and pharmacovigilance, or safety monitoring, for the study. The SIOPEL trial is expected to enroll approximately 100 pediatric patients with liver (hepatoblastoma) cancer at participating SIOPEL centers worldwide and the Children's Oncology Group study is expected to enroll up to 135 pediatric patients worldwide in five different disease indications. The Company's Children Oncology Group study has enrolled 131 patients as of March 16, 2012.

In addition to our current development efforts with eniluracil, we continue to pursue collaborations with other pharmaceutical and biotechnology companies, governmental agencies, academic or other corporate collaborators with respect to these molecules. Some of these preclinical molecules are currently being tested under agreements with third parties that may help to advance these products into future clinical development, either by us or under investigator-initiated studies.

We have not received and do not expect to have significant revenues from our product candidates until we are either able to sell our product candidates after obtaining applicable regulatory approvals or we establish collaborations that provide us with up-front payments, licensing fees, milestone payments, royalties or other revenue. We generated net income of approximately $4.7 million (as a result of a non-cash gain on derivatives of $8.1 million) for the twelve months ended December 31, 2011 and experienced net losses of $7.8 million for the twelve months ended December 31, 2010. As of December 31, 2011, our deficit accumulated during development stage was approximately $105.4 million.

As a result of our limited financial resources we have postponed or terminated many of our previously planned or ongoing clinical development programs. We continue to pursue various strategic alternatives, including collaborations with other pharmaceutical and biotechnology companies. As a result, there is uncertainty of our ability to continue as a going concern. Our projections of our capital requirements are subject to substantial uncertainty. More capital than we anticipated may be thereafter required. To finance our continuing operations we will need to raise substantial additional funds through either the sale of additional equity, the issuance of debt, the establishment of collaborations that provide us with funding, the out-license or sale of certain aspects of our intellectual property portfolio or from other sources. Given current economic conditions, we might not be able to raise the necessary capital or such funding may not be available on acceptable terms. If we cannot obtain adequate funding in the future, we might be required to further delay, scale back or eliminate certain research and development studies, consider business combinations or even shut down some, or all, of our operations.

Our operating expenses will depend on many factors, including the progress of our drug development efforts and the implementation of further cost reduction measures. Our research and development expenses, which include expenses associated with our clinical trials, drug manufacturing to support clinical programs, salaries for research and development personnel, stock-based compensation, consulting fees, sponsored research costs, toxicology studies, license fees, milestone payments, and other fees and costs related to the development of product candidates, will depend on the availability of financial resources, the results of our clinical trials and any directives from regulatory agencies, which are difficult to predict. Our general and administration expenses include expenses associated with the compensation of employees, stock-based compensation, professional fees, consulting fees, insurance and other administrative matters associated in support of our drug development programs.

Results of Operations

Fiscal 2011 versus Fiscal 2010

In thousands of U.S. Dollars	Fiscal 2011	%	Fiscal 2010	%	Increase (Decrease)
Revenue	$ -		$ -		$ -
Operating expenses:					
Research and development	1,494	43%	708	15%	787
General and administration	1,944	57%	3,896	85%	(1,952)
Total operating expense	3,438	100%	4,604	100%	(1,165)
Other Income (Loss)	8,071		(3,251)		11,322
Interest income	52		32		20
Net income (loss)	$ 4,685		$ (7,823)		$ 12,508

- Research and development expenses were higher in fiscal 2011, as compared to fiscal 2010 primarily due to the commencement of enrollment of the Phase 2 study with eniluracil and related costs.

— General and administrative expenses decreased primarily as a result non-cash stock-based compensation expense of $0.3 million in fiscal 2011 as compared to $2.5 million in fiscal 2010.

- Other income increased $11.3 million as a result of a non-cash gain on derivative.

— Interest income increased in fiscal 2011, as compared to 2010 due to a higher average cash balance for the comparable periods.

Quarterly Information

The following table presents selected consolidated financial data for each of the last eight quarters through December 31, 2011, as prepared under U.S. GAAP (dollars in thousands, except per share information). Share information has been restated to reflect the share consolidation in 2011:

Period	Net (Loss)/Income for the Period	Basic and Diluted Net (Loss)/Income per Common Share
March 31, 2010	$ (366)	$ (0.05)
June 30, 2010	$ (2,569)	$ (0.13)
September 30, 2010	$ 1,694	$ 0.08
December 31, 2010	$ (8,895)	$ (0.32)
March 31, 2011	$ 4,669	$ 0.23
June 30, 2011	$ (348)	$ (0.01)
September 30, 2011	$ (3,144)	$ (0.17)
December 31, 2011	$ 3,508	$ 0.14

Dollars in thousands	12 Months Ended December 31, 2011	12 Months Ended December 31, 2010
Selected Asset and Liability Data:		
Cash and cash equivalents	$ 5,297	$ 5,947
Other current assets	54	46
Capital assets	—	—
Current liabilities excluding derivative warrant liability	394	467
Derivative warrant liability	5,077	10,450
Long term liabilities	-	-
Working capital[Current Assets – Current Liabilities excluding derivative liability]	4,957	5,526
Selected Equity:		
Common stock	$ 65,952	$ 64,929
Accumulated deficit	(105,380)	(108,813)
Shareholders' (deficit)	(120)	(4,924)

Liquidity and Capital Resources

- — The decrease in cash and cash equivalents between December 31, 2010 and December 31, 2011 is due to clinical trial expenses related to our Phase II study of eniluracil, offset by the approximate $2.5 million proceeds received by the Company from its Rights Offering in March 2011.
- — The increase in other current assets between December 31, 2010 and December 31, 2011 was attributed to an increase in Canadian tax credits.
- — Our liabilities decreased $5.3 million between December 31, 2010 and December 31, 2011. The decrease was as a result of the valuation of the derivative liability in the comparable periods.
- — Current liabilities excluding derivative warrant liability decreased between December 31, 2010 and December 31, 2011. The decrease was due to a reduction in payables over the period.
- — At December 31, 2011, our working capital decreased by approximately $0.6 million from December 31, 2010 due primarily to research and development activities for the year, offset by proceeds from the Rights Offering.

Dollarsand sharesin thousands	12 Months Ended December 31, 2011	12 Months Ended December 31, 2010
Selected Cash Flow Data:		
Net cash used in operating activities	$ (3,226)	$ (1,928)
Net cash provided from financing activities	2,566	7,190
Net cash provided from investing activities	0	0
Number of shares of common stock outstanding	25,158	20,461

The net cash flow used in operating activities for the year ended December 31, 2011 was approximately $3.2 million as compared to $1.9 million during the same period in 2010. This increase is due to an increase in our overall clinical activities during the fiscal year ended December 31, 2011, as compared to the same period in 2010. During fiscal 2011 our average monthly cash burn was $0.3 million, as compared to $0.2 million for fiscal 2010.

On July 7, 2009, we announced that we intended to primarily focus our remaining financial resources on the development of eniluracil. We have terminated our eniluracil study using our topical formulation and will focus our resources on the development of a redesigned study combining eniluracil and 5-fluorouracil, or 5-FU, targeting anti-cancer indications. We continue to pursue various strategic alternatives, including collaborations with other pharmaceutical and biotechnology companies and we believe that our current cash and cash equivalents will be sufficient to satisfy our currently anticipated capital requirements through 2012. Our projections of further capital requirements are subject to substantial uncertainty. Our working capital requirements may fluctuate in future periods depending upon numerous factors, including: our ability to obtain additional financial resources; our ability to enter into collaborations that provide us with up-front payments, milestones or other payments; results of our research and development activities; progress or lack of progress in our preclinical studies or clinical trials; unfavorable toxicology in our clinical programs, our drug substance requirements to support clinical programs; change in the focus, direction, or costs of our research and development programs; headcount expense; the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing our patent claims; competitive and technological advances; the potential need to develop, acquire or license new technologies and products; our business development activities; new regulatory requirements implemented by regulatory authorities; the timing and outcome of any regulatory review process; and commercialization activities, if any.

We had cash and cash equivalents of approximately $5.3 million as of December 31, 2011. On April 30, 2010, we announced that we had completed a first closing of a non-brokered private placement of 240,066,664 Units, at a price of CAD$0.03 per Unit for gross proceeds of CAD$7.2 million. On March 29, 2011 we completed a Rights Offering to our shareholders for an aggregate of 84,559,178 Units, representing total proceeds of approximately $2.5 million. These fundings allowed for the development of our currently ongoing Phase II trial of eniluracil and Phase III trial of STS.

Financial Instruments

We invest excess cash and cash equivalents in high credit quality investments held by financial institutions in accordance with our investment policy designed to protect the principal investment. At December 31, 2011, we had approximately $0.2 million in our cash accounts and $5.1 million in our money market accounts. We have not experienced any loss or write down of our money market investments for the year ended December 31, 2011 or for any other year since inception.

Our investment policy is to manage investments to achieve, in the order of importance, the financial objectives of preservation of principal, liquidity and return on investment. Investments may be made in U.S. or Canadian obligations and bank securities, commercial paper of U.S. or Canadian industrial companies, utilities, financial institutions and consumer loan companies, and securities of foreign banks provided the obligations are guaranteed or carry ratings appropriate to the policy. Securities must have a minimum Dun & Bradstreet rating of A for bonds or R1 low for commercial paper. The policy also provides for investment limits on concentrations of securities by issuer and maximum-weighted average time to maturity of twelve months. This policy applies to all of our financial resources. The policy risks are primarily the opportunity cost of the conservative nature of the allowable investments. As our main purpose is research and development, we have chosen to avoid investments of a trading or speculative nature.

We classify investments with original maturities at the date of purchase greater than three months which mature at or less than twelve months as current. We carry investments at their fair value with unrealized gains and losses included in other comprehensive income (loss); however we have not held any instruments that were classified as short term investments during the periods presented in this Annual Report.

Off-Balance Sheet Arrangements

Since our inception, we have not had any material off-balance sheet arrangements.

Contractual Obligations and Commitments

Since our inception, inflation has not had a material impact on our operations. We had no material commitments for capital expenses or contractual obligations beyond 3 years as of December 31, 2011. The following table represents our contractual obligations and commitments at December 31, 2011 (in thousands of U.S. dollars):

	Less than 1 year	1-3 years	Total
OCT Clinical Service Agreement (1)	288	144	432
Database Integration Service Agreement (2)	117	21	138
Drug purchase commitments (3)	125	-	125
Total	$ 530	$ 165	$ 695

(1) Under the service agreement with OCT Group LLC entered in August 2010, we are required to make several payments over the course of our Phase II clinical trial in Russia. The payments will be made upon the fulfillment of several milestones during the planned clinical trial including: enrollment of patients and the completion of therapy of patients. The Company amended the agreement in April 2011 and August 2011 for the addition of additional sites for OCT to service during the Phase II clinical trial. The Company's amended agreement with OCT in August 2011 for the monitoring of additional sites for OCT to service increased the contractual obligations by $0.09 million.

(2) Under the service agreement with Database Integrations entered in December 2010, we are required to make several payments over the course of our Phase II clinical trial in Russia. The payments will be made upon the fulfillment of several milestones during the planned clinical trial including: EDC live, time and completion of enrollment.

(3) Commitments to our third party manufacturing vendors that supply drug substance primarily for our clinical studies.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as at the date of the financial statements and the reported amounts of revenue and expense during the reporting period. These estimates are based on assumptions and judgments that may be affected by commercial, economic and other factors. Actual results could differ from these estimates.

An accounting policy is considered to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, and if different estimates reasonably could have been used, or changes in the accounting estimates that are reasonably likely to occur periodically, could materially impact the financial statements. The following description of critical accounting policies, judgments and estimates should be read in conjunction with our December 31, 2011 consolidated financial statements.

Stock-based Compensation

The calculation of the fair values of our stock-based compensation plans requires estimates that require management‘s judgments. Under ASC 718, the fair value of each stock option is estimated on the grant date using the Black-Scholes option-pricing model. The valuation models require assumptions and estimates to determine expected volatility, expected life, expected dividends and expected risk-free interest rates. The expected volatility was determined using historical volatility of our stock based on the contractual life of the award. The risk-free interest rate assumption was based on the yield on zero-coupon U.S. Treasury strips at the award grant date. We also used historical data to estimate forfeiture experience. In valuing options granted in the year ended December 31, 2011 and fiscal year ended December 31, 2010 we used the following weighted average assumptions:

	Year Ended December 31, 2011	Year Ended December 31, 2010
Expected dividend	0%	0%
Risk-free interest rate	1.85-2.5 %	2.06-2.2%
Expected volatility	121-132 %	99-103%
Expected life	7 years	7 years

Common stock and warrants

Common stock is recorded as the net proceeds received on issuance after deducting all share issuance costs and the value of investor warrants. Warrants are recorded at fair value and are deducted from the proceeds of common stock and recorded on the consolidated statements of stockholders’ equity as additional paid-in capital.

Derivative Instruments

Effective January 1, 2009, the Company adopted ASC Topic 815-40, "Derivatives and Hedging" (ASC 815-40). One of the conclusions reached under ASC 815-40 was that an equity-linked financial instrument would not be considered indexed to the entity's own stock if the strike price is denominated in a currency other than the issuer's functional currency. The conclusion reached under ASC 815-40 clarified the accounting treatment for these and certain other financial instruments. ASC 815-40 specifies that a contract would not be treated as a derivative if it met the following conditions: (a) indexed to the Company's own stock; and (b) classified in shareholders' equity in the Company's statement of financial position. The Company's outstanding warrants denominated in Canadian dollars are not considered to be indexed to its own stock because the exercise price is denominated in Canadian dollars and the Company's functional currency is United States dollars. Therefore, these warrants have been treated as derivative financial instruments and recorded at their fair value as a liability. All other outstanding convertible instruments are considered to be indexed to the Company's stock, because their exercise price is denominated in the same currency as the Company's functional currency, and are included in stockholders' deficiency.

The Company's derivative instruments include warrants to purchase 18,035 shares, the exercise prices for which are denominated in a currency other than the Company's functional currency, as follows:

- Warrants to purchase 13,337 shares at CAD$1.44 per whole share that expire on April 30, 2015; and
- Warrants to purchase 4,698 shares exercisable at CAD$1.44 per whole share that expire on March 29, 2016.

These warrants have been recorded at their fair value as a liability at issuance and will continue to be re-measured at fair value as a liability at each subsequent balance sheet date. Any change in value between reporting periods will be recorded as unrealized gain/(loss). These warrants will continue to be reported as a liability until such time as they are exercised or expire. The fair value of these warrants is estimated using the Black-Scholes option-pricing model.

As of December 31, 2011, the fair value of the warrants expiring April 30, 2015 and March 29, 2016 was determined to be $3,672 and $1,340, respectively (December 31, 2010 – warrants expiring April 30, 2015, fair value of $10,450, March 29, 2016, fair value of NIL), and the gain on these warrants for the twelve months ended December 31, 2011 was $6,778 and $643, respectively (December 31, 2010 - warrants expiring April 30, 2015, gain of $3,606; March 29,2016, gain of NIL). There is no cash flow impact for these derivatives until the warrants are exercised. If these warrants are exercised, the Company will receive the proceeds from the exercise at the current exchange rate at the time of exercise.

Gain/(Loss) on Derivative Instruments	Twelve months ended December 31, 2011	Twelve months ended December 31, 2010
Warrant expiring April 15, 2015	6,778	(3,251)
Warrant expiring March 29, 2016	643	-
Rights offering derivative	613	-
Options to contractors	37	-
Total	**8,071**	**(3,251)**

Outstanding Share Information

Our outstanding share data at December 31, 2011 follows (in thousands):

	December 31, 2011(1)
Common shares	25,158
Warrants	18,035
Stock options	5,134
Total	48,327

New Accounting Pronouncements Adopted

In May 2009, the Financial Accounting Standards Board, or FASB, issued authoritative guidance relating to subsequent events, which is effective June 15, 2009. It provides guidance for disclosing events that occur after the balance sheet date, but prior to the issuance of the financial statements. We adopted this authoritative guidance on June 30, 2009. The adoption of this authoritative guidance did not have any impact upon our financial position or operating results.

In December 2007, the Emerging Issue Task Force, or EITF, issued EITF No. 07-01, “Accounting for Collaborative Arrangement Related to the Development and Commercialization of Intellectual Property”, or EITF 07-01, codified as ASC 808-10. EITF 07-01 defines the accounting for collaborations between participants. EITF 07-01 requires certain transactions between collaborators to be recorded in the statement of operations on either a gross or net basis within expense when certain characteristics exist in the collaborative agreement. EITF 07-01 did not have a material impact on our financial statements.

In December 2007, the FASB issued ASC No. 805, “Business Combination,” or ASC 805, which, requires an acquiring company to measure all assets acquired and liabilities assumed, including contingent considerations and all contractual contingencies, at the fair value at the acquisition date. ASC 805 establishes principles and requirements for how the acquirer: i) recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquiree; ii) recognizes and measures the goodwill acquired in the business combination or a gain from a bargain purchase; and iii) determines what information to disclose to enable users of the financial statements to evaluate the nature and financial effects of the business combination. The adoption of ASC 805 did not have a material impact on our financial statements.

In November 2007, the Emerging Issues Task Force of the FASB issued EITF No. 07-05, Issue Summary No. 1 “Determining Whether an Instrument (or an Embedded Feature) is Indexed to an Entity's Own Stock,” or EITF 07-05, codified as ASC 815-40. In June 2008, one of the conclusions reached under EITF 07-05 was a consensus that an equity-linked financial instrument would not be considered indexed to the entity's own stock if the strike price is denominated in a currency other than the issuer's functional currency. The issues brought to the EITF for discussion related to how an entity should determine whether certain instruments or embedded features are indexed to its own stock. This discussion included equity-linked financial instruments where the exercise price is denominated in a currency other than the issuer's functional currency; such as our outstanding warrants to purchase common stock that are denominated in Canadian dollars. This conclusion reached under EITF 07-05 clarified the accounting treatment for these and certain other financial instruments as it related to FASB Statement No. 133, “Accounting for Derivative Instruments and Hedging Activities,” or SFAS 133, codified as ASC 815-10.

In April 2009, an update was made to the Financial Instruments topic of the FASB codification Fair Value Measurements and Disclosures that requires disclosures about the fair value of financial instruments in interim financial statements as well as in annual financial statements. The new guidance also amends the existing requirements on the fair value disclosures in all interim financial statements. This guidance is effective for interim periods ending after June 15, 2009, but early adoption was permitted for interim periods ending after March 15, 2009. The adoption of this standard did not have a material impact on our consolidated financial position and results of operations.

In April 2009, an update was made to the Fair Value Measurements and Disclosures topic of the FASB codification that provides additional guidance in determining fair value when there is no active market or where price inputs being used represent distressed sales. This guidance is effective for interim periods ending after June 15, 2009, but early adoption was permitted for interim periods ending after March 15, 2009. The adoption of this standard did not have an impact on our consolidated financial position and results of operations.

In April 2009, an update was made to the Debt and Equity topic of the FASB codification that provides guidance in determining whether impairments of debt securities are other than temporary, and modifies the presentation and disclosures surrounding such instruments. This guidance is effective for interim periods ending after June 15, 2009, but early adoption was permitted for interim periods ending after March 15, 2009. The adoption of this standard did not have an impact on our consolidated financial position and results of operations.

In June 2009, the FASB issued SFAS No. 168, “The FASB Accounting Standards Codification and the Hierarchy of Generally Accepted Accounting Principles, a replacement of FASB Statement No. 162” (“SFAS 168”), which establishes the FASB Accounting Standards Codification (the “Codification”) as the source of authoritative accounting principles recognized by the FASB to be applied in the preparation of financial statements in conformity with U.S. GAAP. SFAS 168 explicitly recognizes rules and interpretative release of the SEC under federal securities laws as authoritative U.S. GAAP. SFAS 168 is effective for interim and annual periods ending after September 15, 2009. Accordingly, we were required to adopt SFAS 168 on October 1, 2009. As the issuance of SFAS 168 and the Codification does not change U.S. GAAP, the adoption of this standard did not have any impact on our financial statements.

In June 2009, the FASB issued changes to the consolidation guidance applicable to a variable interest entity, or VIE. FASB ASC Topic 810, "Consolidation," amends the guidance governing the determination of whether an enterprise is the primary beneficiary of a VIE, and is, therefore, required to consolidate an entity, by requiring a qualitative analysis rather than a quantitative analysis. The qualitative analysis will include, among other things, consideration of who has the power to direct the activities of the entity that most significantly impact the entity's economic performance and who has the obligation to absorb losses or the right to receive benefits of the VIE that could potentially be significant to the VIE. This standard also requires continuous reassessments of whether an enterprise is the primary beneficiary of a VIE. FASB ASC Topic 810 also requires enhanced disclosures about an enterprise's involvement with a VIE. FASB ASC Topic 810 became effective as of the beginning of interim and annual reporting periods that begin after November 15, 2009 and did not have an impact on our financial position, results of operations or cash flows.

In January 2010, an update was made to the Fair Value Measurements and Disclosures topic of the FASB codification that requires new disclosures for fair value measurements and provides clarification for existing disclosure requirements. More specifically, this update will require (a) an entity to disclose separately the amounts of significant transfers into and out of Level 1 and 2 fair value measurements and to describe the reasons for the transfers; and (b) information about purchases, sales, issuances, and settlements to be presented separately on a gross basis in the reconciliation of Level 3 fair value measurements. This update is effective for fiscal years beginning after December 15, 2009 except for Level 3 reconciliation disclosures which are effective for fiscal years beginning after December 15, 2010. The adoption of this guidance did not have an impact on our consolidated financial position and results of operations.

In June 2011, the FASB released ASU 2011-05, Presentation of Comprehensive Income. The objective of this update is to improve the comparability, consistency and transparency of financial reporting and to increase the prominence of items reported in other comprehensive income. The FASB eliminated the option to present components of other comprehensive income as part of the statement of changes in stockholders’ equity, among other updates. The amendments require that all non-owner changes in stockholders’ equity be presented either in a single continuous statement of comprehensive income or in two separate but consecutive statements. The amendments in this update are to be applied retrospectively and are effective for annual and interim periods beginning after December 31, 2011. The company does not expect the adoption of this standard to have an impact on the Company’s consolidated position and results of operations.

Item7A. Quantitative and Qualitative Disclosures About Market Risk

Money Market Investments

We maintain an investment portfolio consisting of U.S. or Canadian obligations and bank securities and money market investments in compliance with our investment policy. We do not hold any mortgaged-backed investments in our investment portfolio. Securities must have a minimum Dun & Bradstreet rating of A for bonds or R1 low for commercial paper. The policy also provides for investment limits on concentrations of securities by issuer and maximum-weighted average time to maturity of twelve months. This policy applies to all of our financial resources.

At December 31, 2011, we had $5.1 million in money market investments as compared to $5.3 million at December 31, 2010; these investments typically have minimal risk. The financial markets had been volatile resulting in concerns regarding the recoverability of money market investments, but those conditions have stabilized. We have not experienced any loss or write down of our money market investments for the years ended December 31, 2011 and 2010.

Our investment policy is to manage investments to achieve, in the order of importance, the financial objectives of preservation of principal, liquidity and return on investment. Our risk associated with fluctuating interest rates on our investments is minimal and not significant to the results of operations. We currently do not use interest rate derivative instruments to manage exposure to interest rate changes. As the main purpose is research and development, we have chosen to avoid investments of a trade or speculative nature.

Foreign Currency Exposure

We are subject to foreign currency risks as we conduct certain clinical development activities in Canada, the United Kingdom, Europe and the Pacific Rim. To date, we have not employed the use of derivative instruments; however, we do hold Canadian dollars which we use to pay certain clinical development activities conducted in Canada and research, and other corporate obligations. At December 31, 2011 we held approximately $0.2 million in Canadian dollars.

Item 8. Financial Statements and Supplementary Data

The financial statements required to be filed pursuant to this Item 8 are appended to this Annual Report on Form 10-K. A list of the financial statements filed herewith is found at "Index to 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

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

In connection with the preparation of this report , an evaluation was carried out by the Company's management, with the participation of the Chief Executive Officer and the Chief Financial Officer, of the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 ("Exchange Act")) as of December 31, 2011. Disclosure controls and procedures are designed to ensure that information required to be disclosed in reports filed or submitted under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in Securities and Exchange Commission rules and forms and that such information is accumulated and communicated to management, including the Chief Executive Officer and the Chief Financial Officer, to allow timely decisions regarding required disclosures. In designing and evaluating our disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. Based on that evaluation, the Company's management concluded, as of the end of the period covered by this report, that the Company's disclosure controls and procedures were not effective as a result of having identified two material weaknesses in our internal control over financial reporting, as described in further detail below under "Management's Annual Report on Internal Control over Financial Reporting."

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended. The Company's internal control over financial reporting is a process, under the supervision of the Chief Executive Officer and the Chief Financial Officer, designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the Company's financial statements for external purposes in accordance with United States generally accepted accounting principles (GAAP). The Company's management conducted an assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2011, based on the criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission, or COSO. Based on the aforementioned criteria, our management concluded in its assessment of internal control over financial reporting that our internal control procedures, as of December 31, 2011, were not effective, as a result of having identified two material weaknesses in our internal control over financial reporting, as described in further detail below.

Our management has identified a control deficiency because we lack sufficient staff to segregate accounting duties. We believe the control deficiency results primarily because we have one full time employee performing all accounting and financial reporting duties. As a result, we do not maintain adequate segregation of duties within our critical financial reporting applications, the related modules and financial reporting processes. This control deficiency could result in a misstatement of balance sheet and income statement accounts in our interim or annual financial statements that would not be detected. Accordingly, management has determined that this control deficiency constitutes a material weakness.

Our management has also identified another control deficiency that it believes constitutes a material weakness in our control over financial reporting. We did not maintain sufficient personnel with an appropriate level of technical accounting knowledge, experience, and training in the application of U.S. GAAP commensurate with our complexity and our financial accounting and reporting requirements. This control deficiency could result in a misstatement of the financial statements including disclosure that would not be prevented or detected on a timely basis. We have not, therefore, timely prepared all of our consolidated financial statements and filed all of our periodic reports with the SEC. While we strive to ensure we have appropriate accounting personnel as well as an appropriate segregation of duties as much as practicable, we currently have insufficient financial resources to justify additional staff. The Company continues to seek solutions to improve internal control over financial reporting. As a result, these significant internal control deficiencies are not expected to be remediated until we secure additional financial resources.

After the Company filed its Current Report on Form 8-K under Item 4.02 on November 2, 2010, the Company took remedial actions for our internal control weaknesses by contracting additional personnel with experience in the application of U.S. GAAP financial accounting and reporting requirements in order to assist management in its financial accounting and reporting functions. We believe that this has helped remedy, but has not eliminated, the control deficiency described above regarding lack of sufficient staff to segregate accounting duties. To finance our continuing operations, we will need to raise additional funds beyond those from our April 2010 private placement and the Rights Offering and, as disclosed elsewhere in this report, there remains substantial uncertainty of our ability to continue as a going concern and the failure to obtain such funds might require us to further delay, scale back or eliminate certain research and development studies, consider business combinations, or even shut down some, or all, of our operations. Once we are able to secure such additional financing, we anticipate hiring additional personnel with appropriate technical accounting knowledge, experience, and training in the application of U.S. GAAP to supplement our current accounting staff.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) identified in connection with the evaluation of our internal control over financial reporting that occurred during the last fiscal quarter covered by this Annual Report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The following table sets forth the name of each of our executive officers and directors, such person's principal occupation or employment, all other positions with Adherex and any significant affiliate thereof now held by such person, if any, the year in which such person became a director of Adherex and such person's age.

The Corporation has an Audit Committee, a Compensation Committee, and a Governance Committee. The current members of such committees are noted below:

Name and Province/State and Country of Residence, Position	Current Principal Occupation and Principal Occupation For Previous Five Years	Director Since	Age
Robert Andrade Texas, USA Chief Financial Officer, Director	Co-Founder and Manager, DCML LLC; previously Portfolio Manager Millennium Partners; previously analyst Caxton Associates	July 2009	36
David Lieberman (1)(2)(3) New York, USA Director, Chairman of Board	Analyst Southpoint Capital Advisors LP; previously analyst Tiedemann Investment Group.	June 2010	35
Chris A. Rallis (1)(2)(3) North Carolina, USA Director	Executive in-residence at Pappas Ventures; previously, CEO of ImmunoBiosciences	August 2011	58
Rostislav Raykov New Jersey, USA Chief Executive Officer, Director	Co-Founder and Manager, DCML LLC; previously Portfolio Manager Alchem Partners; previously Portfolio Manager John Levin & Associates	July 2009	36
Steven D. Skolsky (1)(2)(3) North Carolina, USA Director	Global Head of Clinical and Data Operations at Quintiles Transnational; previously CEO of Sequoia Pharmaceuticals	August 2011	56
Dr. Thomas Spector Chief Scientific Officer	President of Spector Consulting Services,	N/A	67

(1) Member of the Audit Committee
(2) Member of the Compensation Committee
(3) Member of the Governance Committee

Robert C. Andrade

Mr. Andrade has served as a director of Adherex since July 2009 and Chief Financial Officer since September 2009. Mr. Andrade is a General Partner at DCML, a private investment partnership. Prior to DCML, Mr. Andrade was a portfolio manager for Millennium Partners from November 2005 until December 2007 and a securities analyst for Caxton Associates from March 2003 until November 2005. Prior to Caxton Associates LLC, Mr. Andrade was a private equity associate at Trimaran Capital Partners (2000-2003) and an investment banking analyst at Bear Stearns (1997-1999). Mr. Andrade graduated from University of Southern California, where he earned a Masters of Arts degree and Bachelor of Arts degree in economics. As a result of these and other professional experiences, Mr. Andrade possesses particular knowledge and experience in financial analysis and capital markets that strengthen the Board's collective qualifications, skills, and experience.

David Lieberman

Since February, 2002, Mr. Lieberman has been an analyst at Southpoint Capital Advisors LP, a private investment partnership with more than $1 billion in assets under management. Prior to Southpoint, Mr. Lieberman was an analyst for Tiedemann Investment Group. Mr. Lieberman graduated from University of Pennsylvania, The Wharton School, where he earned a Bachelor of Science degree in economics. In addition to his financial and investment background, as a designee of one of the Company's largest investors, he brings to the Board the perspective of a major stakeholder.

Chris A. Rallis

Mr. Chris A. Rallis has served as a director of Adherex since August 2011. Mr. Rallis has been an executive-in-residence at Pappas Ventures, a life science venture capital firm since January 2008. Previously, Mr. Rallis was the President and Chief Executive Officer of ImmunoBiosciences, Inc. ("IBI"), a vaccine technology company formerly located in Raleigh, North Carolina from April 2006 through June 2007. Prior to joining IBI, Mr. Rallis served as an executive in residence (part time) for Pappas Ventures, and as a consultant for Duke University and Panacos Pharmaceuticals, Inc. Mr. Rallis is the former President and Chief Operating Officer and director of Triangle Pharmaceuticals, Inc., which was acquired by Gilead Sciences in January 2003 for approximately $465 million. Prior to assuming the role of President and COO in March 2000, he was Executive Vice President, Business Development and General Counsel. While at Triangle, Mr. Rallis participated in 11 equity financings generating gross proceeds of approximately $500 million. He was also primarily responsible for all business development activities which included a worldwide alliance with Abbott Laboratories and the in-licensing of ten compounds. Before joining Triangle in 1995, Mr. Rallis served in various business development and legal management roles with Burroughs Wellcome Co. over a 13-year period, including Vice President of Strategic Planning and Business Development. Mr. Rallis also serves on the boards of Aeolus Pharmaceuticals, a biopharmaceutical company located in Mission Viejo, California and Oxygene Biotherapeutics, a biopharmaceutical company located in Morrisville, North Carolina. Mr. Rallis received his A.B. degree in economics from Harvard College and a J.D. from Duke University. As a result of these and other professional experiences, Mr. Rallis possesses particular healthcare industry knowledge and experience which strengthens the Board's collective qualifications, skills, and experience.

Rostislav Raykov

Mr. Raykov has served as a director of Adherex since July 2009 and as Chief Executive Officer since July 2009. Since May 2007, Mr. Raykov has been a General Partner at DCML, a private investment partnership. Prior to DCML, from January 2006 to December 2007, Mr. Raykov was a portfolio manager for Alchem Investment Partners and John Levin & Co Prior to founding Alchem, Mr. Raykov was a portfolio manager and securities analyst for John A. Levin & Co. Event Driven Fund (2002-2005). Prior to joining John A. Levin & Co., Mr. Raykov was a securities analyst for the Merger Fund at Tiedemann Investment Group (1999-2002) and an investment banking analyst at Bear Stearns (1998-1999). Mr. Raykov earned a B.S. in Business Administration from the University of North Carolina at Chapel Hill. As a result of these and other professional experiences, Mr. Raykov has financial expertise and experience with the Company as it has developed within the drug development industry and, as such, is able to provide the Company with unique insight and guidance.

Steven D. Skolsky

Mr. Steven D. Skolsky has served as a director since August 2011. With a distinguished career spanning 30 years in the life sciences, Mr. Skolsky is a recognized industry leader who has held numerous international general management and executive leadership roles in the pharmaceutical and biotech sectors with a principal emphasis on commercialization, product strategy, and new product development. He was recently appointed to the position of Global Head of Clinical and Data Operations at Quintiles Transnational after serving as Principal of EXPIS Partners, a strategic life science consultancy. Mr. Skolsky also currently serves on the Board of BasileaPharmaceutica, a Swiss based biopharmaceutical company where he previously served as Vice Chairman of the Board. Mr. Skolsky is the former President and Chief Executive Officer of Sequoia Pharmaceuticals, a privately held company specializing in novel antiviral therapeutics. Prior to his appointment at Sequoia, he held the position of Chief Executive Officer at Trimeris, Inc., a publicly held company that discovered and commercialized Fuzeon®, a first- in-class HIV therapeutic in collaboration with partner F. Hoffmann-La Roche. Previously, Mr. Skolsky served over 20 years at GlaxoSmithKline in a range of senior leadership roles, including Senior Vice President of Global Product Strategy and Clinical Development, Managing Director of GSK's operations in Australia and New Zealand and Head of GlaxoWellcome's Division of HIV/Oncology. Mr. Skolsky received his Bachelor's Degree in Biology from the University of North Carolina at Chapel Hill. As a result of these and other professional experiences, Mr. Skolsky possesses particular healthcare industry knowledge and experience which strengthens the Board's collective qualifications, skills, and experience.

Dr. Thomas Spector, PhD.

Dr. Spector was appointed Chief Scientific Officer at Adherex in July 2009. He is President of Spector Consulting Services. Dr. Spector is the principal inventor of the eniluracil / 5-fluorouracil treatment. In 2004, he discovered why the dosing regimen in Glaxo's Phase III clinical trial was not optimal. Dr. Spector has authored and co-authored over 100 scientific articles, including 25 manuscripts on eniluracil / 5-fluorouracil. He has over 35 years experience in drug discovery and development and was the Assoc. Division Director of Experimental Therapy at Burroughs Wellcome and The International Vice President of Cancer Research at GlaxoWellcome (now GSK). Dr. Spector received a Ph.D. in Pharmacology from Yale University.

Audit Committee

On behalf of the Board, the Audit Committee of the Board retains, oversees and evaluates Adherex's independent auditors, reviews the financial reports and other financial information provided by Adherex, including audited financial statements, and discusses the adequacy of disclosure with management and the auditors. The Audit Committee also reviews the performance of the independent auditors in the annual audit and in assignments unrelated to the audit, assesses the independence of the auditors, and reviews their fees. The Audit Committee is also responsible for reviewing Adherex's internal controls over financial reporting and disclosure. The Audit Committee operates under a written charter adopted by the Board and as provided in Exhibit 99.1 – Other Exhibits.

The directors have appointed an Audit Committee consisting of three directors; Chris A. Rallis, David Lieberman and Steven Skolsky., all of whom are independent and financially literate within the meaning of National Instrument 52-110 – Audit Committees. In addition, the Board has determined that Mr. Rallis qualifies as an "audit committee financial expert," as defined in Item 407(d)(5) of Regulation S-K promulgated by the SEC.Mr. Rallis has been an executive-in-residence at Pappas Ventures, a life science venture capital firm since January 2008. Previously, Mr. Rallis was the President and Chief Executive Officer of ImmunoBiosciences, Inc. ("IBI"), a vaccine technology company formerly located in Raleigh, North Carolina from April 2006 through June 2007. Mr. Lieberman has been an analyst at Southpoint Capital Advisors LP, a private investment partnership with more than $1 billion in assets under management. Prior to Southpoint, Mr. Lieberman was an analyst for Tiedemann Investment Group. Mr. Skolsky was recently appointed to the position of Global Head of Clinical and Data Operations at Quintiles Transnational after serving as Principal of EXPIS Partners, a strategic life science consultancy. Mr. Skolsky also currently serves on the Board of BasileaPharmaceutica, a Swiss based biopharmaceutical company where he previously served as Vice Chairman of the Board. Several of these directors has held various director and/or executive officer positions with private and public companies and/or community organizations and has had responsibility for the supervision of the preparation of financial materials and disclosure documents for public and private corporations.

Code of Ethics

In February 2004, Adherex's Board adopted a Mandate of the Board of Directors, Corporate Governance Guidelines and a Code of Business Conduct and Ethics (the "Code") applicable to all officers, directors and employees of Adherex. Adherex is committed to adhering to applicable legal requirements and maintaining the highest standards of conduct and integrity. The Code sets out the legal and ethical standards of conduct for personnel of Adherex and addresses topics such as: reporting obligations and procedures; honest and ethical conduct and conflicts of interest; compliance with applicable laws and Corporation policies and procedures; confidentiality of corporate information; use of corporate assets and opportunities; public disclosure and books and records; and non-retaliation. Adherex undertakes to provide to any person without charge, upon request, a copy of such Code by writing to Attn: Code of Ethics Request, Adherex Technologies Inc., 68 TW Alexander Drive, PO Box 13628, Research Triangle Park, North Carolina 27709.

Item 11. Executive Compensation

Summary Compensation Table

The following table sets out certain information respecting the compensation paid to our Chief Executive Officer, as well as Chief Financial Officer and any executive officer of the Company whose total compensation for the fiscal years ended December 31, 2011 and December 31, 2010 exceeded $100,000.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Option Awards ($)(1)	Non-Equity Incentive Plan Compensation ($)(2)	All Other Compensation ($)(3)	Total ($)
Rostislav Raykov, Chief	2011	140,000	-	32,226	-	-	172,226
Executive Officer	2010	101,220	-	787,227	-	-	888,447
Robert Andrade, Chief	2011	140,000	-	32,226	-	-	172,226
Financial Officer	2010	101,220	-	787,227	-	-	888,447
Dr. Thomas Spector	2011	150,000	-	32,226	-	-	182,226
Chief Scientific Officer	2010	130,224	-	787,227	-	-	917,451

(1) Represents the aggregate grant date fair value computed in accordance with FASB ASC Topic 718. Dollar value amounts are based on individual grants to each of Mr. Andrade, Mr. Raykov and Dr. Spector of 971,885 options on August 18, 2010 at an exercise price of CAD $0.81, which options expire on August 18, 2017 and 51,152 options on August 19, 2011 at an exercise price of $0.63, which options expire on August 19, 2018. All options vested in full on the date of grant.

(2) The term "incentive plan" means any plan providing compensation intended to serve as incentive for performance to occur over a specified period, whether such performance is measured by reference to financial performance of the Corporation, the Corporation's stock price, or any other performance measure. An "equity incentive plan" is an incentive plan or portion of an incentive plan under which awards are granted that fall within the scope of SFAS 123(R). A "non-equity incentive plan" is an incentive plan or portion of an incentive plan that is not an equity incentive plan.

(3) Consists of the taxable benefit for premiums paid for group term life insurance, long term disability and long term care insurance.

Rostislav Raykov
Mr. Raykov has been employed by Adherex since July 2009, when he initially agreed to be compensated at the minimum wage. Pursuant to an employment agreement dated May 3, 2010 between Rostislav Raykov and Adherex, Mr. Raykov is employed as Adherex's Chief Executive Officer. Pursuant to this agreement, Mr. Raykov (a) receives an initial annual salary in the amount of $140,000, (b) upon approval by shareholders of the amended Stock Option Plan was granted options to purchase up to 5.0% of our common stock outstanding estimated by us to be outstanding upon completion of the Rights Offering, and (c) may receive annual bonuses at the sole discretion of the Board. If Mr. Raykov'semployment terminates due to a change of control of Adherex, any then remaining unvested shares under his options shall immediately vest and be fully exercisable. On August 18, 2010, Mr. Raykov was granted 971,885 options and on August 19, 2011 Mr. Raykov was granted 51,152 options pursuant to his employment agreement. If Mr. Raykov is dismissed from employment by us for any reason other than "cause," we are obligated to pay Mr. Raykov severance compensation equal to twelve months of salary.

Robert Andrade
Mr. Andrade has been employed by Adherex since July 2009, when he initially agreed to be compensated at the minimum wage. Pursuant to an employment agreement dated May 3, 2010 between Robert Andrade and Adherex, Mr. Andrade is employed as Adherex's Chief Financial Officer. Pursuant to this agreement, Mr. Andrade (a) receives an initial annual salary in the amount of $140,000, (b) upon approval by shareholders of the amended Stock Option Plan was granted options to purchase up to 5.0% of our common stock outstanding estimated by us to be outstanding upon completion of the Rights Offering, and (c) may receive annual bonuses at the sole discretion of the Board. If Mr. Andrade's employment terminates due to a change of control of Adherex, any then remaining unvested shares under his options shall immediately vest and be fully exercisable. On August 18, 2010, Mr. Andrade was granted 971,885 options and on August 19, 2011 Mr. Andrade was granted 51,152 options pursuant to his employment agreement. If Mr. Andrade is dismissed from employment by us for any reason other than "cause," we are obligated to pay Mr. Andrade severance compensation equal to twelve months of salary.

Dr. Thomas Spector
Dr. Spector has been employed by Adherex since July 2009, when he was initially paid a salary of $80,000 per year. Pursuant to an employment agreement dated May 3, 2010 between Dr. Thomas Spector and Adherex, Dr. Spector is employed as Adherex's Chief Scientific Officer. Pursuant to this agreement, Dr. Spector (a) receives an annual salary in the amount of $150,000, (b) upon approval by shareholders of the amended Stock Option Plan was granted options to purchase up to 5.0% of our common stock outstanding estimated by us to be outstanding upon completion of the Rights Offering, and (c) may receive annual bonuses at the sole discretion of the Board. If Dr. Spector's employment terminates due to a change of control of Adherex, any then remaining unvested shares under his options shall immediately vest and be fully exercisable. On August 18, 2010, Dr. Spector was granted 971,885 options and on August 19, 2011 was granted 51,152 options pursuant to his employment agreement. If Dr. Spector is dismissed from employment by us for any reason other than "cause," we are obligated to pay Dr. Spector's severance compensation equal to twelve months of salary.

In addition to such employment agreements, Dr. Spector and Messrs. Andrade and Raykov, are each a party to a confidentiality and intellectual property agreement with us.

In the employment agreements for each of Dr. Spector and Messrs. Andrade and Raykov "cause" is generally defined as (1) material breach of the terms of the employment or intellectual property agreements; (2) failure to perform the duties inherent in Employee's position in good faith and in a reasonable and appropriate manner; or (3) acts of fraud or embezzlement or other intentional misconduct which adversely affects the Company's business.

Equity Grants, Exercises and Holdings

The following table sets forth information concerning the number and value of unexercised options held by each Named Executive Officer as of December 31, 2011.

Outstanding Equity Awards at December 31, 2011

Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)[(1)]		Option Expiration Date
Rostislav Raykov	971,885[(2)]	—	CAD$	0.81	08/18/2017
	51,152[(3)]	—	CAD$	0.63	08/19/2018
Robert Andrade	971,885[(2)]	—	CAD$	0.81	08/18/2017
	51,152[(3)]	—	CAD$	0.63	08/19/2018
Dr. Thomas Spector	3,333[(4)]	1,111	CAD$	24.30	07/1/2012
	971,885[(2)]	—	CAD$	0.81	08/18/2017
	51,152[(3)]	—	CAD$	0.63	08/19/2018

(1) The current Stock Option Plan provides for grants denominated in US and CAD dollars.
(2) 971,885 options were granted on 08/18/2010 with all 971,885 immediately exercisable.
(3) 51,152 options were granted on 08/19/2011 with all 51,152 immediately exercisable.
(4) 4,444 options were granted on 07/01/2005 with 1,111 exercisable on July 1, 2012.

Termination Benefits

In the event of his termination with us other than for cause, we will pay Rostislav Raykov $140,000 severance. In the event of his termination with us other than for cause, we will pay Robert Andrade $140,000 severance. In the event of his termination with us other than for cause, we will pay Dr. Thomas Spector $150,000 severance.

Compensation of Directors

Director Compensation Table

The following table summarizes the compensation earned by or paid to the Company's non-executive directors for the year ended December 31, 2011.

Name	Fees Earned or Paid in Cash ($)	Stock Awards ($)	Option Awards ($)(1)	Non-equity incentive plan compensation ($)	Nonqualified deferred compensation earnings ($)	All other compensation ($)	Total ($)
Mr. Breen	—	—	207,165(2)	—	—	—	207,165
Mr. Bussandri	—	—	207,165(2)	—	—	—	207,165
Mr. Butts	—	—	—	—	—	—	—
Mr. Lieberman	—	—	—	—	—	—	—
Dr. Porter	—	—	207,165(2)	—	—	—	207,165
Mr. Rallis	1,500		5,000(3)	—	—	—	6,500
Mr. Skolsky	1,500		5,000(3)	—	—	—	6,500

(1) Represents the aggregate grant date fair value computed in accordance with FASB ASC Topic 718.
(2) Dollar value amounts are based on individual grants of 16,369 options on August 19, 2011 at an exercise price of CAD $0.63, which options expire on August 19, 2018 and vested in full on the date of grant.
(3)Dollar value amounts are based on individual grants of 10,000 options on November 18, 2011 at an exercise price of CAD $0.50, which options expire on November 18, 2018 and vested in full on the date of grant.

The annual compensation considerations for non-executive directors also include the awarding of stock options. The granting of options to the non-executive directors under the Stock Option Plan serves three primary purposes: (1) to recognize the significant time and effort commitments during the past year; (2) to provide long-term incentives for future efforts since the value of the options is directly dependent on the market valuation of the Corporation; and (3) to retain quality individuals as the options typically vest over time. When determining whether and how many new option grants will be made, the Compensation Committee takes into account the amount and terms of any outstanding options. Adherex does not require its non-executive directors to own a specific amount of common stock.

Pursuant to an Independent Director Agreement dated as of May 3, 2010 between the Company and each of Dr. Porter and Messrs. Breen and Bussandri, the Board approved as of the same date: (a) the grant to each of Dr. Porter and Messrs. Breen and Bussandri fully vested options to purchase 1.33% of Adherex's common stock outstanding upon completion of our April 30, 2010 rights offering and conditioned upon the shareholders' approval of the amended Stock Option Plan, and (b) reimbursement for reasonable travel and related expenses incurred for Dr. Porter and Messrs Breen and Bussandri. On August 19, 2011, following shareholder approval ,each of Dr. Porter and Messrs. Breen and Bussandri were granted 16,369 options.

Effective upon the Continuance, Chris A. Rallis and Steven D. Skolsky were appointed as members of the Board of Directors and Dr. Arthur T. Porter, William G. Breen and Claudio F. Bussandri resigned from the Board of Directors. In addition, each of the new directors has entered into an Independent Director Agreement with the Company, dated as of August 25, 2011, which provides for (i) cash compensation in the form of USD$ 1,500 per board meeting attended, and (ii) non-cash compensation in the form of a grant of options to purchase shares of the Company's common stock having an aggregate value equal to USD $5,000 (with price per share and exercise price based on the value of the Company's common stock as of the date of grant) per board meeting attended. The options immediately vest when granted and are otherwise subject to the terms and conditions of the Company's stock option plan, as amended. The Independent Director Agreement also provides for the reimbursement of such director's reasonable travel and related expenses incurred in the course of attending board meetings.

Mr. Lieberman currently does not accept cash fees or stock for his participation on the Board. In fiscal year 2011, Mr. Butts did not accept cash fees or stock for his participation on the Board and Messrs. Breen, Bussandri and Dr. Porter did not accept cash fees for their participation on the Board.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholders Matters

The following table sets forth information regarding shares of our common stock beneficially owned as of March 16, 2012 by: (i) each of our officers and directors; (ii) all officers and directors as a group; and (iii) each person known by us to beneficially own five percent or more of the outstanding shares of our common stock. Except as indicated below, the security holders listed possess sole voting and investment power with respect to the shares beneficially owned by that person. Except as otherwise indicated below, the address for each listed shareholder is c/o Adherex Technologies Inc., 68 TW Alexander Drive, PO Box 13628, Research Triangle Park, North Carolina 27709.

Name	Common Stock	Common Stock Options Exercisable Within 60 Days	Common Stock Purchase Warrant Exercisable Within 60 Days	Total Stock and Stock Based Holdings (1)	% Ownership (1)
Robert Andrade	82,228	1,023,037	38,889	1,144,154	4.4%
David Lieberman (2)	11,111,111		8,805,333	19,916,444	58.6%
Chris A. Rallis	-	10,000	-	10,000	*%
Rostislav Raykov	122,222	1,023,037	66,667	1,211,926	4.6%
Steven D. Skolsky	-	10,000	-	10,000	*%
Thomas Spector	33,333	1,026,370	33,333	1,093,036	4.2%
All officers and directors as a group (6 persons)	11,348,894	3,092,444	8,944,222	23,385,560	62.8%
Southpoint Capital Advisors LP (2)	11,111,111	-	8,805,333	19,916,444	58.6%
683 Capital Management LLC(3)	2,162,457	-	1,997,902	4,160,359	15.3%
Robert Butts	2,305,778		2,305,778	4,611,556	16.8%

* Percentage of shares beneficially owned does not exceed one percent.

(1) For purposes of this table “beneficial ownership” is determined in accordance with Rule 13d-3 under the Securities Exchange Act of 1934, pursuant to which a person or group of persons is deemed to have “beneficial ownership” of any shares of common stock that such person or group has the right to acquire within 60 days after March 16, 2012. For purposes of computing the percentage of outstanding shares of common stock held by each person or group of persons named above, any shares that such person or group has the right to acquire within 60 days after March 16, 2012 are deemed outstanding but are not deemed to be outstanding for purposes of computing the percentage ownership of any other person or group. As of March 16, 2012, there were 25,157,618 shares of our common stock issued and outstanding.

(2) David Lieberman an employee of Southpoint Capital Advisors, LP, 623 Fifth Avenue, Suite 2503, New York, New York 10022. John S. Clark, II holds dispositive power over the shares owned by Southpoint Capital Advisors, LP.

(3) 683 Capital Management, LLC, 595 Madison Avenue, 17th Floor, New York, New York 10025. Ari Zweiman holds dispositive power over the shares owned by 683 Capital Management LLC.

Equity Compensation Plan Information

The following table provides certain information with respect to securities authorized for issuance under equity incentive plans as of December 31, 2011:

Plan Category	(a) Number of securities to be issued upon exercise of outstanding options warrants and rights (*)	(b) Weighted-average exercise price of outstanding options, warrants and rights	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in Column (a))
Equity compensation plans	963	$ 8.51	1,153
approved by security holders	4,171	CAD$ 0.78	
Equity compensation plans not approved by security holders	-	-	-
Total	5,134	-	1,153

* The Company's current stock option plans allows for the issuance of stock options denominated in both United States, or U.S., dollars and Canadian, or CAD, dollars. This table presents the number and weighted-average exercise price of outstanding options by the currency associated with the original grants At December 31, 2011 we had 963 stock options denominated in U.S. dollars with a weighted-average exercise price of $8.51 and 4,171 stock options denominated in CAD dollars with a weighted-average exercise price of CAD$0.78. At December 31, 2011, we had 1,153 stock options available for future issuance.

Item 13. Certain Relationships and Related Transactions, and Director Independence

D. Scott Murray, a former executive officer, and Adherex entered into a Separation and Mutual Release Agreement, dated as of March 8, 2011, pursuant to which (a) each party thereto agreed to a mutual release of claims by such party and (b) we made a separation payment of $50,000 to Mr. Murray and granted Mr. Murray a three year period commencing July 10, 2009 to exercise any vested but unexpired stock options previously granted to him.

Except for the foregoing, there were no related party transactions in the last two years that were required to be reported under Item 404(d) of Regulation S-K.

Director Independence

The Board of Directors is composed of a majority of independent directors. The Board applies the definition of independence found in the rules of the SEC and in Canadian National Instrument 58-101 and National Policy 58-201. The Board has determined that three of the current five directors are "independent", including the Chair of the Board, being Messrs. Lieberman, Rallis, and Skolsky. In addition, the Board determined that following members of the Board that served in fiscal year 2010 were "independent": Messrs. Butts, Breen, Lieberman, Bussandri, and Porter. Only two current directors have material relationships with the Corporation and are therefore not independent. Mr. Raykov, Chief Executive Officer of the Corporation, and Mr. Andrade, Chief Financial Officer of the Corporation, are considered to have a material relationship with the Corporation by virtue of their executive officer positions. Adherex is of the view that the composition of its Board reflects a diversity of background and experience that are important for effective corporate governance. Other directorships held by Board members are described in this Annual Report under the heading "Directors and Executive Officers."

Item 14. Principal Accounting Fees and Services

The following table presents the aggregate fees for professional services and other services rendered by our independent auditors, Deloitte &Touche LLP in fiscal year 2011 and 2010 (in US dollars):

	Fiscal Year 2011	Fiscal Year 2010
Audit Fees (1)	95,201	$ 83,200
Audit-Related Fees (2)	81,446	81,238
Tax Fees (3)	19,688	9,250
All Other Fees (4)	-	-
Total	$ 196,335	$ 173,688

(1) *Audit Fees* include fees for the standard audit work that needs to be performed each year in order to issue an opinion on the consolidated financial statements of the Corporation and to issue reports on the local statutory and regulatory financial statements. It also includes fees for services that can only be provided by the Corporation's auditor such as auditing of non-recurring transactions and application of new accounting policies.

(2) *Audit-Related Fees* include fees for those other assurance services provided by auditors but not restricted to those that can only be provided by the auditor signing the audit report, which includes consents and comfort letters and any other audit services required for U.S. Securities and Exchange Commission or other regulatory filings.

(3) *Tax Fees* include fees for periodic tax consultations and compliance services in various local, regional and national tax jurisdictions.

(4) *All Other Fees* include fees for products and services other than Audit Fees, Audit Related Fees and Tax Fees.

The Audit Committee does not have formal pre-approval policies and procedures, however, prior to the engagement by the registrant, the Audit Committee approved all of the services performed by Deloitte &Touche LLP as required by SEC regulation.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) The following documents are included as part of this Annual Report filed on Form 10-K:

1. Financial Statements – See Index to Financial Statements on page F-1.

2. All schedules are omitted as the information required is inapplicable or the information is presented in the financial statements.

3. Exhibits:

Exhibit No.	Description	Location
3.1	Notice of Articles dated August 25, 2011	Exhibit 1.7 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
3.2	Articles dated August 25, 2011	Exhibit 1.9 to the Form 20-F/A Registration Statement (No. 001-32295) of Adherex, filed November 5, 2004
10.1	Exclusive License Agreement, dated as of September 26, 2002, by and between Oregon Health & Science University and Oxiquant, Inc.	Exhibit 4.5 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
10.2	Development and License Agreement dated July 14, 2005 between Adherex Technologies Inc. and Glaxo Group Limited**	Exhibit 4.30 to Form 6-K of Adherex, filed July 22, 2005
10.3	Amendment No. 1 to Development and License Agreement dated December 20, 2005 between Glaxo Group Limited and Adherex Technologies Inc.**	Exhibit 4.36 to the Form 20-F Annual Report (No. 001-32295) of Adherex for the fiscal year ended December 31, 2005, filed on March 31, 2006
10.4	Amendment No. 2 to Development and License Agreement dated June 23, 2006 between Glaxo Group Limited and Adherex Technologies Inc.**	Exhibit 4.41 to Form 6-K of Adherex, filed August 9, 2006
10.5	Amendment No. 3 to Development and License Agreement dated January 17, 2007 between Adherex Technologies Inc. and Glaxo Group Limited	Exhibit 4.42 to Form 6-K of Adherex, filed January 19, 2007
10.6	Amendment No. 4 to Development and License Agreement dated May 23, 2007 between Adherex Technologies Inc. and Glaxo Group Limited	Exhibit 10.1 to Form 8-K of Adherex, filed June 19, 2007
10.7	Amended and Restated Stock Option Plan	Exhibit 10.19 to Form 10-K of Adherex, filed March 28, 2008
10.8	Lease Termination and Release	Exhibit 10.24 to Form 10-Q of Adherex, filed November 16, 2009
10.9	Amended and Restated Employment Agreement - Robin J. Norris*	Exhibit 10.23 to Form 10-Qof Adherex, filed November 16, 2009
10.10	Lease agreement dated January 1, 2010, between Adherex and Valfern Holdings, Inc.	Exhibit 10.27 to the Form 10-Q of Adherex, filed on May 14, 2010
10.11	Executive Employment Agreement dated May 3, 2010 by and between Adherex and Rostislav Raykov*	Exhibit 10.28 to the Form 10-Q of Adherex, filed on May 14, 2010

10.12	Executive Employment Agreement dated May 3, 2010 by and between Adherex and Robert Andrade*	Exhibit 10.29 to the Form 10-Q of Adherex, filed on May 14, 2010
10.13	Executive Employment Agreement dated May 3, 2010 by and between Adherex and Dr. Thomas Spector*	Exhibit 10.30 to the Form 10-Q of Adherex, filed on May 14, 2010
10.14	Form of Independent Director Agreement, dated May 3, 2010	Exhibit 10.31 to the Form 10-Q of Adherex, filed on May 14, 2010
10.15	Master Service Agreement with OCT Group LLC	Exhibit 10.1 to the Form 10-Q of Adherex filed on November 15, 2010
10.16	Amendment No. 1 to Master Service Agreement with OCT Group LLC, dated April 2, 2011	Exhibit 10.1 to the Form 10-Q of Adherex filed on May 14, 2011
10.17	Amendment No. 2 to Master Service Agreement with OCT Group LLC, dated August 16, 2011	Exhibit 10.1 to the Form 10-Q of Adherex filed on November 14, 2011
21	Subsidiaries	Exhibit 8 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
31.1	Certification of Chief Executive Officer of the Company in accordance with Section 302 of the Sarbanes-Oxley Act of 2002	Filed herewith
31.2	Certification of Chief Financial Officer of the Company in accordance with Section 302 of the Sarbanes-Oxley Act of 2002	Filed herewith
32.1	Certification of Chief Executive Officer and Chief Financial Officer of the Company in accordance with Section 906 of the Sarbanes-Oxley Act of 2002	Filed herewith
101.1	Interactive Data File	Filed herewith

* Indicates a management contract or compensatory plan.

** The Company has received confidential treatment with respect to certain portions of this exhibit. Those portions have been omitted from this exhibit and are filed separately with the U.S. Securities and Exchange Commission.

SIGNATURES

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

Adherex Technologies Inc.

By: /s/ Rostislav Raykov

Rostislav Raykov

Chief Executive Officer and Director

Date: March 26, 2012

Pursuant to the requirement of the Securities and Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Rostislav Raykov **Rostislav Raykov**	Chief Executive Officer (principal executive officer) and Director	March 26, 2012
/s/ Robert Andrade **Robert Andrade**	Chief Financial Officer, Director (principal financial officer and principal accounting officer)	March 26, 2012
/s/ Chris A. Rallis **Chris A. Rallis**	Director	March 26, 2012
/s/ Steven D. Skolsky **Steven D. Skolsky**	Director	March 26, 2012
/s/ David Lieberman David Lieberman	Director	March 26, 2012

Supplemental Information to be Furnished With Reports Filed Pursuant to Section 15(d) of the Act by Registrants Which Have Not Registered Securities Pursuant to Section 12 of the Act

The registrant intends to furnish proxy materials to its security holders subsequent to the filing of this annual report on Form 10-K and shall furnish copies of such proxy materials to the Commission when such materials are sent to security holders.

ADHEREX TECHNOLOGIES INC.

INDEX TO FINANCIAL STATEMENTS

Report of Independent Registered Chartered Accountants

To the Board of Directors and Shareholders of Adherex Technologies Inc.

We have audited the accompanying consolidated balance sheets of Adherex Technologies Inc. and subsidiaries (a development stage company) (the "Company") as of December 31, 2011 and 2010, and the related consolidated statements of operations, stockholders' equity, and cash flows for the years then ended, and cumulatively for the period from September 3, 1996 (date of inception) to December 31, 2011. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the financial statements based on our audits. The Company's financial statements for the period September 3, 1996 (date of inception) to December 31, 2008 were audited by other auditors whose report, dated March 30, 2009, expressed an unqualified opinion on those statements. The financial statements for the period September 3, 1996 (date of inception) to December 31, 2008 reflect a net loss of $97,979,000. The other auditors' report has been furnished to us, and our opinion, insofar as it relates to the amounts included for such prior period, is based solely on the report of such other auditors.

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. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, 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 and the report of other auditors provide a reasonable basis for our opinion.

In our opinion, based on our audits and the report of other auditors, such financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2011 and 2010, and the results of its operations and its cash flows for the years then ended, and for the period from September 3, 1996 (date of inception) to December 31, 2011, in conformity with accounting principles generally accepted in the United States of America.

The Company is in the development stage as of December 31, 2011. As discussed in Note 1 to the financial statements, successful completion of the Company's development program and, ultimately, the attainment of profitable operations is dependent upon future events, including obtaining adequate financing to fulfill its development activities, obtaining regulatory approval, and achieving a level of sales adequate to support the Company's cost structure.

/s/ Deloitte & Touche LLP
Independent Registered Chartered Accountants
Licensed Public Accountants
Ottawa, Canada
March 26, 2012

Independent Auditors' Report

To the Shareholders of Adherex Technologies Inc.

In our opinion, the consolidated statements of operations and cash flows, not separately presented herein, and statement of stockholders' equity, present fairly, in all material respects the results of operations and cash flows for the period from September 3, 1996 (date of inception) to December 31, 2008, before the adjustments to retrospectively give effect of the stock split as described in Notes 2 and 7, of Adherex Technologies Inc. (a development stage company) (the "Company") in conformity with accounting principles generally accepted in the United States of America. 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 of these statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits 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, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

We were not engaged to audit, review, or apply any procedures to the adjustments to retrospectively give effect of the stock split as described in Notes 2 and 7 and accordingly, we do not express an opinion or any other form of assurance about whether such adjustments are appropriate and have been properly applied. Those adjustments were audited by other auditors.

/s/ PricewaterhouseCoopers LLP
Chartered Accountants, Licensed Public Accountants
Ottawa, Canada
March 30, 2009

Adherex Technologies Inc.
(a development stage company)
Consolidated Balance Sheets
(U.S. Dollars and shares in thousands, except per share amounts)

	December 31, 2011	December 31, 2010
Assets		
Current assets		
Cash and cash equivalents	$ 5,297	$ 5,947
Prepaid expense	35	38
Other current assets	19	8
Total assets	**$ 5,351**	**$ 5,993**
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable	$ 342	$ 272
Accrued liabilities	52	195
Derivative liabilities	5,077	10, 450
Total current liabilities	5,471	10,917
Total liabilities	**5,471**	**10,917**
Commitments and contingencies (Note 10 and 11)		
Stockholders' (deficit) equity		
Common stock, no par value; unlimited shares authorized; (2011 - 25,158, 2010 – 20,461 shares issued and outstanding)	65,952	64,929
Additional paid-in capital	38,065	37,717
Deficit accumulated during development stage	(105,380)	(108,813)
Accumulated other comprehensive income	1,243	1,243
Total stockholders' (deficit) equity	**(120)**	**(4,924)**
Total liabilities and stockholders' (deficit) equity	**$ 5,351**	**$ 5,993**

(The accompanying notes are an integral part of these consolidated financial statements)

Adherex Technologies Inc.
(a development stage company)
Consolidated Statements of Operations
(U.S. dollars and shares in thousands, except per share information)

	Year Ended December 31, 2011	Year Ended December 31, 2010	Cumulative From September 3, 1996 to December 31, 2011
Revenue	$ -	$ -	$ -
Operating expenses:			
Research and development	1,494	708	67,093
Impairment of capital assets	-	-	386
Gain on deferred lease inducements	-	-	(497)
Acquired in-process research and development	-	-	13,094
General and administration	1,944	3,896	30,549
Loss from operations	(3,438)	(4,604)	(110,625)
Other income (expense):			
Gain/(Loss) on derivative warrants	8,071	(3,251)	4,820
Settlement of Cadherin Biomedical Inc. litigation	-	-	(1,283)
Interest expense	-	-	(19)
Other income	9	-	264
Interest income	43	32	2,872
Total other income/(expense)	8,123	(3,219)	6,654
Net income/(loss) and total comprehensive loss	$ 4,685	$ (7,823)	$ (103,971)
Earnings/(loss) per share of common stock, basic	**$ 0.20**	**$ (0.49)**	
Earnings/(loss) per share of common stock, diluted	**$ 0.19**	**$ (0.49)**	
Weighted-average number of shares of common stock outstanding, basic	**23,983**	**16,015**	
Weighted-average number of shares of common stock outstanding, diluted	**24,050**	**16,015**	

(The accompanying notes are an integral part of these consolidated financial statements)

Adherex Technologies Inc.
(a development stage company)
Consolidated Statements of Cash Flows
(U.S. Dollars and shares in thousands, except per share amounts)

	Year Ended December 31, 2011	Year Ended December 31, 2010	Cumulative From September 3, 1996 to December 31,2011
Cash flows from (used in):			
Operating activities:			
Net income/(loss)	$ 4,685	$ (7,823)	$ (103,971)
Adjustments for non-cash items:			
(Gain)/loss on derivative warrant	(8,071)	3,251	(4,820)
Depreciation and amortization	-	-	1,404
Non-cash Cadherin Biomedical Inc. litigation expense	-	-	1,187
Unrealized foreign exchange loss	(9)	36	36
Loss on impairment of capital assets	-	-	386
Amortization of and gain on lease inducements	-	-	(412)
Non-cash severance expense	-	-	168
Stock options issued to consultants	121	53	896
Stock options issued to employees	129	2,439	10,095
Acquired in-process research and development			13,094
Changes in working capital	(81)	116	(104)
Net cash used in operating activities	(3,226)	(1,928)	(82,043)
Investing activities:			
Purchase of capital assets	-	-	(1,440)
Disposal of capital assets	-	-	115
Proceeds from sale of assets	-	-	24
Release of restricted cash	-	-	190
Restricted cash	-	-	(209)
Purchase of short-term investments	-	-	(22,148)
Redemption of short-term investments	-	-	22,791
Investment in Cadherin Biomedical Inc.	-	-	(166)
Acquired intellectual property rights	-	-	(640)
Net cash provided (used) in investing activities	-	-	(1,483)
Financing activities:			
Conversion of long-term debt to equity	-	-	68
Long-term debt repayments	-	-	(65)
Capital lease repayments	-	-	(8)
Issuance of common stock	2,566	7,190	86,443
Registration expense	-	-	(465)
Financing expenses	-	-	(544)
Proceeds from convertible note	-	-	3,017
Other liability repayments	-	-	(87)
Security deposits received	-	-	35
Proceeds from exercise of stock options	-	-	51
Net cash provided from financing activities	2,566	7,190	88,445
Effect of exchange rate changes on cash and cash equivalents	10	-	378
Net change in cash and cash equivalents	(650)	5,262	5,297
Cash and cash equivalents - Beginning of period	5,947	685	-
Cash and cash equivalents - End of period	$ 5,297	$ 5,947	5,297

(The accompanying notes are an integral part of these consolidated financial statements)

Adherex Technologies Inc.
(a development stage company)
Consolidated Statements of Stockholders' Equity
(U.S. dollars and shares in thousands, except per share information)

	Common Stock		Non-redeemable Preferred Stock of Subsidiary	Additional Paid-in Capital	Accumulated Other Comprehensive Income	Deficit Accumulated During Development Stage	Total Shareholders' (Deficit)/Equity
	Number	Amount					
Balance as at Sept. 3 1996	-	$ -	$ -	$ -	$ -	$ -	$ -
Issuance of common stock	89	-	-	-	-	-	-
Net loss	-	-	-	-	-	(37)	(37)
Balance at June 30, 1997	89	-	-	-	-	(37)	(37)
Net loss	-	-	-	-	-	(398)	(398)
Balance at June 30, 1998	89	-	-	-	-	(435)	(435)
Exchange of Adherex Inc. shares for Adherex Technologies Inc. shares	(89)	-	-	-	-	-	-
Issuance of common stock	239	1,615	-	-	-	-	1,615
Cumulative translation adjustment	-	-	-	-	20	-	20
Net loss	-	-	-	-	-	(958)	(958)
Balance at June 30, 1999	239	1,615	-	-	20	(1,393)	242
Issuance of common stock	16	793	-	-	-	-	793
Issuance of equity rights	-	-	-	171	-	-	171
Issuance of special warrants	-	-	-	255	-	-	255
Settlement of advances:							
Issuance of common stock	16	175	-	-	-	-	175
Cancellation of common stock	(7)	-	-	-	-	-	-
Cumulative translation adjustment	-	-	-	-	16	-	16
Net loss	-	-	-	-	-	(1,605)	(1,605)
Balance at June 30, 2000	264	2,583	-	426	36	(2,998)	47
Issuance of common stock:							
Initial Public Offering ("IPO")	74	5,727	-	-	-	(38)	5,689
Other	5	341	-	-	-	-	341
Issuance of special warrants	-	-	-	1,722	-	-	1,722
Conversion of special warrants	30	1,977	-	(1,977)	-	-	-
Issuance of Series A special warrants	-	-	-	4,335	-	-	4,335
Conversion of Series A special warrants	69	4,335	-	(4,335)	-	-	-
Conversion of equity rights	4	171	-	(171)	-	-	-
Cumulative translation adjustment	-	-	-	-	182	-	182
Net loss	-	-	-	-	-	(2,524)	(2,524)
Balance at June 30, 2001	446	15,134	-	-	218	(5,560)	9,792
Cumulative translation adjustment	-	-	-	-	11	-	11
Net loss	-	-	-	-		(3,732)	(3,732)
Balance at June 30, 2002	446	15,134	-	-	229	(9,292)	6,071

(The accompanying notes are an integral part of these consolidated financial statements)

(continued on next page)

Adherex Technologies Inc.
(a development stage company)
Consolidated Statements of Stockholders' Equity (continued)
(U.S. dollars and shares in thousands, except per share information)

	Common Stock		Non-redeemable Preferred Stock of Subsidiary	Additional Paid-in Capital	Accumulated Other Comprehensive Income	Deficit Accumulated During Development Stage	Total Shareholders' (Deficit)/Equity
	Number	Amount					
Balance at June 30, 2002	446	15,134	-	-	229	(9,292)	6,071
Common stock issued for Oxiquant acquisition	446	11,077	-	543	-	-	11,620
Exercise of stock options	1	4	-	-	-	-	4
Distribution to shareholders	-	-	-	-	-	(158)	(158)
Stated capital reduction	-	(9,489)	-	9,489	-	-	-
Stock options issued to consultants	-	-	-	4	-	-	4
Equity component of June convertible notes	-	-	-	1,058	-	-	1,058
Financing warrants	-	-	-	53	-	-	53
Cumulative translation adjustment	-	-	-	-	(159)	-	(159)
Net loss	-	-	-	-	-	(17,795)	(17,795)
Balance at June 30, 2003	893	16,726	-	11,147	70	(27,245)	698
Stock options issued to consultants	-	-	-	148	-	-	148
Repricing of warrants related to financing	-	-	-	18	-	-	18
Equity component of December convertible notes	-	-	-	1,983	-	-	1,983
Financing warrants	-	-	-	54	-	-	54
Conversion of June convertible notes	96	1,216	-	(93)	-	-	1,123
Conversion of December convertible notes	60	569	-	(398)	-	-	171
Non-redeemable preferred stock	-	-	1,045	-	-	-	1,045
December private placement	640	8,053	-	5,777	-	-	13,830
May private placement	259	6,356	-	2,118	-	-	8,474
Exercise of stock options	1	23	-	-	-	-	23
Amalgamation of 2037357 Ontario Inc.	44	660	(1,045)	363	-	-	(22)
Cumulative translation adjustment	-	-	-	-	(219)	-	(219)
Net loss	-	-	-	-	-	(6,872)	(6,872)
Balance at June 30, 2004	1,993	33,603	-	21,117	(149)	(34,117)	20,454
Stock options issued to consultants	-	-	-	39	-	-	39
Stock options issued to employees	-	-	-	604	-	-	604
Cost related to SEC registration	-	(493)	-	-	-	-	(493)
Acquisition of Cadherin Biomedical Inc.	37	1,252	-	-	-	-	1,252
Cumulative translation adjustment	-	-	-	-	1,392	-	1,392
Net loss – six months ended December 31, 2004	-	-	-	-	-	(6,594)	(6,594)
Balance at December 31, 2004	2,030	34,362	-	21,760	1,243	(40,711)	16,654

(The accompanying notes are an integral part of these consolidated financial statements)

(continued on next page)

Adherex Technologies Inc.
(a development stage company)
Consolidated Statements of Stockholders' Equity (continued)
(U.S. dollars and shares in thousands, except per share information)

	Common Stock		Non-redeemable Preferred Stock of Subsidiary	Additional Paid-in Capital	Accumulated Other Comprehensive Income	Deficit Accumulated During Development Stage	Total Shareholders' (Deficit)/ Equity
	Number	Amount					
Balance at December 31, 2004	2,030	34,362	-	21,760	1,243	(40,711)	16,654
Financing costs	-	(141)	-	-	-	-	(141)
Exercise of stock options	1	25	-	-	-	-	25
Stock options issued to consultants	-	-	-	276	-	-	276
July private placement	337	7,060	-	1,074	-	-	8,134
Net loss	-	-	-	-	-	(13,871)	(13,871)
Balance at December 31, 2005	2,368	41,306	-	23,110	1,243	(54,582)	11,077
Stock options issued to consultants	-	-	-	100	-	-	100
Stock options issued to employees	-	-	-	491	-	-	491
May private placement	431	5,218	-	822	-	-	6,040
Net loss	-	-	-	-	-	(16,440)	(16,440)
Balance at December 31, 2006	2,799	46,524	-	24,523	1,243	(71,022)	1,268
Stock options issued to consultants	-	-	-	59	-	-	59
Stock options issued to employees	-	-	-	2,263	-	-	2,263
February financing	4,209	17,842	-	5,379	-	-	23,221
Exercise of warrants	116	563	-	131	-	-	694
Net loss	-	-	-	-	-	(13,357)	(13,357)
Balance at December 31, 2007	7,124	64,929	-	32,355	1,243	(84,379)	14,148
Stock options issued to consultants	-	-	-	88	-	-	88
Stock options issued to employees	-	-	-	2,417	-	-	2,417
Net loss	-	-	-	-	-	(13,600)	(13,600)
Balance at December 31, 2008	7,124	$ 64,929	$ -	$ 34,860	$ 1,243	$ (97,979)	$ 3,053
Stock options issued to consultants	-	-	-	10	-	-	10
Stock options issued to employees	-	-	-	355	-	-	355
Net loss	-	-	-	-	-	(3,012)	(3,012)
Balance at December 31, 2009	7,124	$ 64,929	$ -	$ 35,225	$ 1,243	$ (100,991)	$ 406
Stock options issued to consultants	-	-	-	53	-	-	53
Stock options issued to employees	-	-	-	2,439	-	-	2,439
April Financing	13,337	-	-	-	-	-	-
Net loss	-	-	-	-	-	(7,823)	(7,823)
Balance at December 31, 2010	20,461	$ 64,929	$ -	$ 37,717	$ 1,243	$ (108,815)	$ (4,924)
Stock options issued to consultants	-	-	-	20	-	-	20
Stock options issued to employees	-	-	-	129	-	-	129
Rights Offering	4,697	1,023	-	199	-	(1,250)	(28)
Net income	-	-	-	-	-	4,685	4,685
Balance at December 31, 2011	25,158	$ 65,952	$ -	$ 38,065	$ 1,243	$ (105,380)	$ (120)

(The accompanying notes are an integral part of these consolidated financial statements)

1. Going Concern

Adherex Technologies Inc. ("Adherex"), a British Columbia corporation together with its wholly owned subsidiaries Oxiquant, Inc. ("Oxiquant") and Adherex, Inc., both Delaware corporations, and Cadherin Biomedical Inc. ("CBI"), a Canadian corporation, collectively referred to herein as the "Company," is a development stage biopharmaceutical company with a portfolio of product candidates under development for use in the treatment of cancer. With the exception of Adherex Inc. all subsidiaries are inactive.

These consolidated financial statements have been prepared in accordance with generally accepted accounting principles ("GAAP") in the United States ("U.S.") of America that are applicable to a going concern which contemplates that the Company will continue in operation for the foreseeable future and will be able to realize its assets and discharge its liabilities in the normal course of business.

The Company is a development stage company and during the year ended December 31, 2011, incurred a loss from operations of $3,386 excluding the $8,071 non-cash gain on derivative warrants. At December 31, 2011, it had an accumulated deficit of $105,380, and had experienced negative cash flows from operating activities since inception in the amount of $82,043.

These circumstances raise substantial doubt as to the ability of the Company to meet its obligations as they come due and, accordingly, the use of accounting principles applicable to a going concern may not be appropriate. The Company will need to obtain additional funding in the future in order to finance our business strategy, operations and growth through the issuance of equity, debt or collaboration. If we fail to arrange for sufficient capital on a timely basis, we may be required to curtail our business activities until we can obtain adequate financing.

These financial statements do not reflect the potentially material adjustments in the carrying values of assets and liabilities, the reported expenses, and the balance sheet classifications used, that would be necessary if the going concern assumption were not appropriate.

2. Significant Accounting Policies

Basis of presentation

Effective January 1, 2007, the Company changed its primary basis of accounting to United States ("U.S.") generally accepted accounting principles ("GAAP"). It made this change to comply with U.S. securities law as a result of the loss of the Company's foreign private issuer status with the Securities and Exchange Commission ("SEC"). The consolidated financial statements have been prepared in U.S. dollars. The consolidated financial statements include the accounts of Adherex and of all its wholly-owned subsidiaries and all inter-company transactions and balances have been eliminated upon consolidation.

On August 10, 2011, the Board of Directors approved a 1-for-18 reverse stock split, or "Share Consolidation", which became effective on August 25, 2011. The 1-for-18 reverse stock split affected all of the Company's common shares, stock options and warrants outstanding at the effective date. Consequently, the Company has retroactively adjusted its financial statements for all periods presented to show the shares, stock options and warrants as if they had always been presented on this basis. The number of units and unit prices (including with respect to the units issued in our April 2010 Private Placement and the Rights Offering) have not been adjusted to reflect the Share Consolidation, and the number of warrants outstanding have not been adjusted to reflect the Share Consolidation (in accordance with the terms of the warrants, the number of shares of common stock issuable thereunder were adjusted as a result of the Share Consolidation but not the number of warrants outstanding).

Use of estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that impact the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as at the date of the consolidated financial statements and the reported amounts of revenue and expense during the reporting period. Significant estimates include certain accruals, valuation of derivative warrant liability and the value of stock based compensation. Actual results could differ from those estimates.

Cash and Cash Equivalents

Cash equivalents consist of highly liquid investments with original maturities at the date of purchase of three months or less.

The Company places its cash and cash equivalents in investments held by financial institutions in accordance with its investment policy designed to protect the principal investment. At December 31, 2011, the Company had $5,297 in cash accounts (2010 - $5,947). Money market investments typically have minimal risk; however, in recent years the financial markets have been volatile resulting in concerns regarding money market investments. The Company has not experienced any loss or write-down of its money market investments.

Financial instruments

Financial instruments recognized on the balance sheets at December 31, 2011 and December 31, 2010 consist of cash and cash equivalents, accounts receivable, accounts payable and derivative warrant liability, the carrying value of which, with the exception of the derivative warrant liability, approximates fair value due to their relatively short time to maturity. The Company does not hold or issue financial instruments for trading.

The Company's investment policy is to manage investments to achieve, in the order of importance, the financial objectives of preservation of principal, liquidity and return on investment. Investments, when made, are made in U.S. or Canadian bank securities, commercial paper of U.S. or Canadian industrial companies, utilities, financial institutions and consumer loan companies, and securities of foreign banks provided the obligations are guaranteed or carry ratings appropriate to the policy. Securities must have a minimum Dun & Bradstreet rating of A for bonds or R1 low for commercial paper.

The policy risks are primarily the opportunity cost of the conservative nature of the allowable investments. As the main purpose of the Company is research and development, the Company has chosen to avoid investments of a trade or speculative nature.

Common stock and warrants

At December 31, 2007, the Company had warrants outstanding to purchase common stock that were denominated in both U.S. and Canadian dollars, which resulted in the Company having warrants outstanding that were denominated outside the Company's U.S. dollar functional currency.

In November 2007, the Emerging Issues Task Force ("EITF") of the FASB issued EITF No. 07-5, Issue Summary No.1 "Determining Whether an Instrument (or an Embedded Feature) is Indexed to an Entity's Own Stock" ("EITF 07-5"), codified as ASC 815-40. In June 2008, one of the conclusions reached under EITF 07-05 was a consensus that an equity-linked financial instrument would not be considered indexed to the entity's own stock if the strike price is denominated in a currency other than the issuer's functional currency. The issues brought to the EITF for discussion related to how an entity should determine whether certain instruments or embedded features are indexed to its own stock. This discussion included equity-linked financial instruments where the exercise price is denominated in a currency other than the issuer's functional currency; such as the Company's outstanding warrants to purchase common stock that were denominated in Canadian dollars. This conclusion reached under EITF 07-05 clarified the accounting treatment for these and certain other financial instruments as it related to FASB Statement No. 133, "Accounting for Derivative Instruments and Hedging Activities" ("SFAS 133"), codified as ASC 815-10. SFAS 133 specifies that a contract that would otherwise meet the definition of a derivative under SFAS 133, issued or held by the reporting entity that is both (a) indexed to its own stock and (b) classified in stockholders' equity in its statement of financial position should not be considered a derivative financial instrument for purposes of applying SFAS 133. As a result, the Company's outstanding warrants denominated in Canadian dollars were not considered to be indexed to its own stock and should therefore be treated as derivative financial instruments and recorded at their fair value as a liability. EITF 07-05 is effective for financial statements for fiscal years beginning after December 15, 2008 and earlier adoption is not permitted. Since the warrants to purchase common stock that are denominated in Canadian dollars expired on December 19, 2008, EITF 07-5 did not have a material impact on the Company's financial statements through 2008. However, the Company issued further Canadian dollar denominated warrants on April 30, 2010 and March 29, 2011 and this results in warrants shown as a liability which is marked to market as at December 31, 2011 and December 31, 2010. At December 31, 2011, the derivative liabilitieswere valued at $5,077 (2010: $10,450) and the unrealized gain on the value of the underlying securities was $8,071 (2010: loss $3,251) for the year ended December 31, 2011.

Revenue recognition

Non-refundable up-front payments received in conjunction with the development and license agreement, including license fees and milestones, are deferred and recognized on a straight-line basis over the relevant periods.

The Company records royalty revenue in accordance with the contract terms once it can be reliably measured and the collection is reasonably assured.

At this time, the Company does not have any revenue.

R**esearch and development costs and investment tax credits**

Research costs, including employee compensation, laboratory fees, lab supplies, and research and testing performed under contract by third parties, are expensed as incurred. Development costs, including drug substance costs, clinical study expenses and regulatory expenses are expensed as incurred.

Investment tax credits, which are earned as a result of qualifying research and development expenditures, are recognized when the expenditures are made and their realization is reasonably assured. They are applied to reduce related capital costs and research and development expenses in the year recognized.

Income taxes

The Company accounts for income taxes under the asset and liability method that requires the recognition of deferred tax assets or liabilities for the expected future tax consequences of temporary differences between the financial statement carrying amounts and tax basis of assets and liabilities. The Company provides a valuation allowance to reduce its deferred tax assets when it is more likely than not that such assets will not be realized.

The Company accounts for uncertainty in income taxes by following the Financial Accounting Standards Board issued Interpretation No. 48 (''FIN 48''), codified as ASC 740-10-25, ''Accounting for Uncertainty in Income Taxes – an Interpretation of SFAS No. 109.'' FIN 48 clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements in accordance with Statement of Financial Accounting Standards No. 109, ''Accounting for Income Taxes.', codified as ASC 740-10. FIN 48 provides guidance for how uncertain tax positions should be recognized, measured, presented and disclosed in the financial statements. FIN 48 requires the evaluation of tax positions taken or expected to be taken in the course of preparing tax returns to determine whether the tax positions have met a "more-likely-than-not" threshold of being sustained by the applicable tax authority. Tax benefits related to tax positions not deemed to meet the "more-likely-than-not" threshold are not permitted to be recognized in the financial statements. Upon adoption of FIN 48, the Company has elected an accounting policy that continues to classify accrued interest and penalties related to liabilities for income taxes in income tax expense.

Foreign currency translation

The U.S. dollar is the functional currency for substantially all of the Company's consolidated operations. For those entities, all gains and losses from currency translations are included in results of operations. For CBI which was using a functional currency other than the U.S. dollar, the historical cumulative translation effects are included in accumulated other comprehensive income in the consolidated balance sheets.

Earnings/(Loss) per share

Basic net earnings/(loss) per share is computed by dividing net earnings/(loss) by the weighted average number of shares of common stock outstanding during the year. Diluted net earnings per share is computed using the same method, except the weighted average number shares of common stock outstanding includes convertible debentures, stock options and warrants, if dilutive as determined using the treasury method.

New accounting pronouncements

On April 16, 2010, the FASB issued ASU 2010-13, which amends ASC 718 to clarify that a share-based payment award with an exercise price denominated in the currency of a market in which a substantial portion of the entity's equity securities trades must not be considered to contain a market, performance, or service condition. Therefore, an entity should not classify such an award as a liability if it otherwise qualifies for classification in equity. This ASU is effective for interim and annual periods beginning on or after December 15, 2010, and has been applied prospectively. Affected entities were required to record a cumulative catch-up adjustment to the opening balance of retained earnings for all awards outstanding as of the beginning of the annual period in which the ASU is adopted. The adoption of the guidance did not have an impact on the Company's opening consolidated financial position and results of operations.

On December 16, 2010, the FASB issued ASU 2010-27, which requires that (1) annual fees be classified as an operating expense and (2) when the annual fee is recognized as a liability (i.e., when it becomes payable to the government once the entity has a gross receipt from a branded prescription drug sale to a specified government program in the applicable year), a corresponding asset be recognized and amortized to expense over the calendar year. The ASU was effective for an entity's calendar years beginning after December 31, 2010. The adoption of the guidance did not have an impact on the Company's consolidated financial position and results of operations.

On April 29, 2010, the FASB issued ASU 2010-17, which establishes a revenue recognition model for contingent consideration that is payable upon the achievement of an uncertain future event, referred to as a milestone. The scope of the ASU is limited to research or development arrangements and requires an entity to record the milestone payment in its entirety in the period received if the milestone meets all the necessary criteria to be considered substantive. However, entities would not be precluded from making an accounting policy election to apply another appropriate accounting policy that results in the deferral of some portion of the arrangement consideration. The ASU was effective for the Company's year ending December 31, 2011. The adoption of the guidance did not have an impact on the Company's consolidated financial position and results of operations.

Recent accounting pronouncements

In May 2011, an update was made to the Fair Value Measurements and Disclosures topic of the FASB codification that requires new disclosures for fair value measurements and provides clarification for existing disclosure requirements. More specifically, this update will require (a) an entity to disclose separately the amounts of significant transfers into and out of Level 1 and 2 fair value measurements and to describe the reasons for the transfers; and (b) information about purchases, sales, issuances, and settlements to be presented separately on a gross basis in the reconciliation of Level 3 fair value measurements. Level 3 reconciliation disclosures are effective for annual and interim periods beginning after December 15, 2011. The Company does not expect the adoption of the guidance to have an impact on the Company's consolidated financial position and results of operations.

In June 2011, the FASB released ASU 2011-05, Presentation of Comprehensive Income. The objective of this update is to improve the comparability, consistency and transparency of financial reporting and to increase the prominence of items reported in other comprehensive income. The FASB eliminated the option to present components of other comprehensive income as part of the statement of changes in stockholders' equity, among other updates. The amendments require that all non-owner changes in stockholders' equity be presented either in a single continuous statement of comprehensive income or in two separate but consecutive statements. The amendments in this update are to be applied retrospectively and are effective for annual and interim periods beginning after December 31, 2011. The Company does not expect the adoption of this standard to have an impact on the Company's consolidated financial position and results of operations.

3. Capital Assets

At December 31, 2011 and December 31, 2010, the Company determined the carrying values of its capital assets to be nil.

4. Stock options

The Compensation Committee of the Board of Directors administers the Company's stock option plan. The Compensation Committee designates eligible participants to be included under the plan and approves the number of options to be granted from time to time under the plan. On June 24, 2010, at the Company's annual meeting, shareholders approved an amendment to the Company's Stock Option Plan (the "Plan Maximum Amendment"). The Plan Maximum Amendment relates to changing the maximum number of shares of common stock issuable under the Stock Option Plan from a fixed number of 20,000 to the number of shares that represent twenty five percent (25%) of the total number of all issued and outstanding shares of common stock from time to time. Based upon the current shares outstanding, a maximum of 6,290 options are authorized for issuance under the plan. The option exercise price for all options issued under the plan is based on the fair value of the underlying shares on the date of grant. All options vest within three years or less and are exercisable for a period of seven years from the date of grant. The stock option plan, as amended, allows the issuance of Canadian and U.S. dollar grants. A summary of the stock option transactions, for both the Canadian and U.S. dollar grants, through the year ended December 31, 2011 is below.

The following options granted under the stock option plan are exercisable in Canadian dollars:

		Exercise Price in Canadian Dollars	
	Number of Options	Range	Weighted-average
Outstanding at December 31, 2009	146	$ 29.70-58.50	$ 39.24
Granted	3,861	0.63-0.81	0.81
Exercised	-	-	-
Cancelled	(106)	29.70-47.70	35.46
Outstanding at December 31, 2010	3,901	0.63-58.50	1.26
Granted	310	0.54-0.81	0.62
Reinstated (1)	10	5.04-35.10	8.93
Exercised	-	-	-
Cancelled	(50)	35.10 –58.50	49.39
Outstanding at December 31, 2011	4,171	$ 0.54-58.50	$ 0.78

(1) Includes 10 options reinstated to D.Scott Murray per severance agreement on March 8, 2011 which had either expired and or were cancelled prior to the agreed severance agreement.

Price in Canadian Dollars	# outstanding and exercisable at December 31, 2011	Weighted average remaining life (years)
$ 0.54	88	6.26
$ 0.63	303	6.42
$ 0.81	3,780	5.64
TOTAL	4,171	5.71

The following options granted under the stock option plan are exercisable in U.S. dollars:

	Number of Options	Exercise Price in U.S. Dollars	
		Range	Weighted-average
Outstanding at December 31, 2009	733	1.80 - 24.30	9.90
Granted	-	-	-
Exercised	-	-	-
Cancelled	(12)	1.80-21.60	3.78
Outstanding at December 31, 2010	721	$ 1.80 - 24.30	$ 9.90
Granted	138	0.50-0.63	0.54
Exercised	-	-	-
Reinstated (1)	104	$ 5.04-21.60	9.15
Outstanding at December 31, 2011	963	$ 0.50-24.30	8.51

(1)Includes104 options reinstated to D.Scott Murray per severance agreement on March 8, 2011 which were cancelled in error in 2010.

Price in US Dollars	# Outstanding at December 31, 2011	# Exercisable at December 31, 2011	Remaining life (years)
$ 0.50	94	94	6.89
$ 0.63	44	44	6.64
$ 1.80	4	4	3.71
$ 5.04	161	161	1.23
$ 5.22	2	1	3.41
$ 6.12	2	2	0.52
$ 6.84	178	178	1.22
$ 7.20	2	2	2.70
$ 10.26	23	23	2.37
$ 11.34	381	381	1.08
$ 15.84	9	9	.69
$ 19.80	8	8	0.50
$ 21.60	50	50	0.44
$ 24.30	4	3	0.50
	963	962	1.78

Pursuant to employment agreements dated May 3, 2010 between the Company and each of Robert Andrade, Rosty Raykov and Thomas Spector (collectively Messrs. Andrade, Raykov and Spector) and conditioned upon the approval of the amended Stock Option Plan, the Board approved the grant to each, Messrs. Andrade, Raykov and Spector an option to purchase up to 5.0% of Adherex's common stock estimated by the Company to be outstanding upon completion of the proposed rights offering announced by the Company on April 20, 2010.

Pursuant to Independent Director Agreements dated May 3, 2010 for each of Dr. Porter and Messrs. Breen and Bussandri and conditioned upon the approval of the amended Stock Option Plan, the Board approved the grant to each Dr. Porter and Messrs. Breen and Bussandri an option to purchase up to 1.33% of Adherex's common stock estimated by the Company to be outstanding upon completion of the proposed rights offering announced by the Company on April 20, 2010.

Effective upon the Continuance, Chris A. Rallis and Steven D. Skolsky were appointed as members of the Board of Directors and Dr. Arthur T. Porter, William G. Breen and Claudio F. Bussandri resigned from the Board of Directors. In addition, each of the new directors has entered into an Independent Director Agreement with the Company, dated as of August 25, 2011, which provides for (i) cash compensation in the form of $ 1,500 per board meeting attended, and (ii) non-cash compensation in the form of a grant of options to purchase shares of the Company's common stock having an aggregate value equal to $5,000 (with price per share and exercise price based on the value of the Company's common stock as of the date of grant) per board meeting attended. The options immediately vested when granted and are otherwise subject to the terms and conditions of the Company's stock option plan, as amended. The Independent Director Agreement also provides for the reimbursement of such director's reasonable travel and related expenses incurred in the course of attending board meetings.

Stock compensation expense for the fiscal years ended December 31, 2011 and 2010 was $250 and $2,492 respectively. These amounts have been included in the general and administrative expenses for the respective periods. The weighted average fair value per share of options granted during the fiscal years ended December 31, 2011 and 2010 was $0.56 and $0.81, respectively. The intrinsic value (being the difference between the share price as at December 31, 2011 and exercise price) of stock options outstanding at December 31, 2011 was NIL.

The fair values of options granted in fiscal years ended December 31, 2011 and 2010 were estimated on the date the options were granted based on the Black-Scholes option-pricing model, using the following weighted average assumptions:

	Year Ended December 31, 2011	Year Ended December 31, 2010
Expected dividend	0%	0%
Risk-free interest rate	1.85-2.5%	2.06-2.2%
Expected volatility	121-132%	99-103%
Expected life	7 years	7 years

The Company uses the historical volatility and adjusts for available relevant market information pertaining to the Company's share price.

5. Derivative Instruments

Effective January 1, 2009, the Company adopted ASC Topic 815-40, "Derivatives and Hedging" (ASC 815-40). One of the conclusions reached under ASC 815-40 was that an equity-linked financial instrument would not be considered indexed to the entity's own stock if the strike price is denominated in a currency other than the issuer's functional currency. The conclusion reached under ASC 815-40 clarified the accounting treatment for these and certain other financial instruments. ASC 815-40 specifies that a contract would not be treated as a derivative if it met the following conditions: (a) indexed to the Company's own stock; and (b) classified in shareholders' equity in the Company's statement of financial position. The Company's outstanding warrants denominated in Canadian dollars are not considered to be indexed to its own stock because the exercise price is denominated in Canadian dollars and the Company's functional currency is United States dollars. Therefore, these warrants have been treated as derivative financial instruments and recorded at their fair value as a liability. All other outstanding convertible instruments are considered to be indexed to the Company's stock, because their exercise price is denominated in the same currency as the Company's functional currency, and are included in stockholders' deficiency.

The Company's derivative instruments include warrants to purchase 18,035 shares, the exercise prices for which are denominated in a currency other than the Company's functional currency, as follows:

- Warrants to purchase 13,337 shares at CAD$1.44 per whole share that expire on April 30, 2015; and
- Warrants to purchase 4,698 shares exercisable at CAD$1.44 per whole share that expire on March 29, 2016.

These warrants have been recorded at their fair value as a liability at issuance and will continue to be re-measured at fair value as a liability at each subsequent balance sheet date. Any change in value between reporting periods will be recorded as unrealized gain/(loss). These warrants will continue to be reported as a liability until such time as they are exercised or expire. The fair value of these warrants is estimated using the Black-Scholes option-pricing model.

As of December 31, 2011, the fair value of the warrants expiring April 30, 2015 and March 29, 2016 was determined to be $3,672 and $1,340, respectively (December 31, 2010 – warrants expiring April 30, 2015, fair value of $10,450), and the gain on these warrants for the twelve months ended December 31, 2011 was $6,778 and $643, respectively (December 31, 2010 - warrants expiring April 30, 2015, loss of $3,146). There is no cash flow impact for these derivatives until the warrants are exercised. If these warrants are exercised, the Company will receive the proceeds from the exercise at the current exchange rate at the time of exercise.

Gain/(Loss) on Derivative Instruments	Twelve months ended December 31, 2011	Twelve months ended December 31, 2010
Warrant expiring April 15, 2015	6,778	(3,251)
Warrant expiring March 29, 2016	643	-
Rights offering derivative	613	-
Options to contractors	37	-
Total	**8,071**	**(3,251)**

In February 2011, the Company filed a final short form prospectus for a rights offering. In accordance with the terms of the rights offering, each shareholder of record on March 2, 2011 received one right for each common share held. Every right held entitled the holder thereof to purchase for CAD $0.03, or USD $0.0303 at the shareholder's option, a unit consisting of one common share along with one warrant to purchase a common share of the Company at CAD $0.08. The rights began trading on March 2, 2011 on the TSX and on the Pink Sheets and expired on March 29, 2011.

On March 2, 2011, the Company recognized a derivative financial liability of $1.25 million associated with the Company's obligation to carry out the rights offering. The deficit was adjusted by a corresponding amount. The derivative financial liability will be adjusted to fair value at each quarter end with changes being recognized in earnings until the expiry of the warrants. During the year ended December 31, 2011, the Company recognized a realized derivative gain of $613. The rights expired on March 29, 2011.

Under the terms of the rights offering, the monetary amount to be received by the Company upon the exercise of rights was not fixed. Each holder of rights could elect either the $0.03 CAD or USD$0.0303 subscription price. Furthermore, the CAD $0.03 subscription price was not denominated in the Company's U.S. dollar functional currency. Therefore, the pro rata distribution of rights to the Company's shareholders was accounted for as a derivative financial liability measured at fair value.

Upon the closing of the rights offering in March 2011, the Company issued a total of 84,559 units for total net proceeds of $2,566. Accordingly the Company recorded an increase in Common stock of $1,023 (4,697 shares). Expenses and fees relating to the rights offering totaled approximately $300 and were expensed since it was uncertain as to whether any shares would be issued.

During the fiscal year ended December 31, 2011, the Company issued 108 options to contractors with a Canadian dollar denominated strike price. Consequently, the Company now has derivatives relating to these options since the strike price is denominated in a currency other than the functional currency of the Company. While there is an exception to this rule for employees in ASU 2010-13, no such exception exists for contractors. Consequently, the Company classified $49 as a derivative relating to options issued in the quarter and reclassified $53 from additional paid in capital for the 100 options issued to contractors in 2010. These options will be marked to market until the earlier of their expiry or exercise.

6. Fair Value Measurements

The Company has adopted Fair Value Measurements and Disclosure Topic of the FASB. This Topic applies to certain assets and liabilities that are being measured and reported on a fair value basis. The Fair Value Measurements Topic defines fair value, establishes a framework for measuring fair value in accordance with GAAP, and expands disclosure about fair value measurements. This Topic enables the reader of the financial statements to assess the inputs used to develop those measurements by establishing a hierarchy for ranking the quality and reliability of the information used to determine fair values. The Topic requires that financial assets and liabilities carried at fair value be classified and disclosed in one of the following three categories:

Level 1: Quoted market prices in active markets for identical assets or liabilities.

Level 2: Observable market based inputs or unobservable inputs that are corroborated by market data.

Level 3: Unobservable inputs that are not corroborated by market data.

Assets/Liabilities Measured at Fair Value on a Recurring Basis

Fair Value Measurement at December 31, 2011

	Quoted Pricein Active Markets for IdenticalInstruments Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3	Total
Assets				
Cash equivalents	$ -	$ 5,127	$ -	$ 5,127
Liabilities				
Derivative liabilities	-	5,077	-	5,077

The Company's financial instruments include cash equivalents and derivatives. Only cash equivalents and derivatives are carried at their fair value. The derivative liabilities.include warrants denominated in a currency other than the Company's functional currency and options issued to contractors in a currency other than the functional currency of the Company. The warrants are carried at fair value and calculated using the Black-Scholes option pricing model using the following assumptions; expected dividend 0%; risk-free interest rate of 1.1%-1.2%; expected volatility of 136% - 149%; and a 3.3 or 4.3 year remaining life. The options also use the Black Scholes model with the following assumptions: expected dividend 0%; risk-free interest rate of 1.43%-1.85% expected volatility of 121%- 143%; and a 6.1-6.9 year remaining life. The risk free rate was based on Bank of Canada Bond issues of similar term. Expected volatility was estimated by using historical volatility of weekly close share prices for a period equal to the remaining life of the instrument.

7. Shareholders' Equity

Authorized capital stock

The Company's authorized capital stock consists of an unlimited number of shares of no par common stock.

On August 10, 2011, the Board of Directors approved a 1-for-18 reverse stock split, or "share consolidation", which became effective on August 25, 2011. The 1-for-18 reverse stock split affected all of the Company's common shares, stock options and warrants outstanding at the effective date. Consequently, the Company has retroactively adjusted its financial statements for all periods presented to show the share shares, stock options and warrants as if they had always been presented on this basis. The number of units and unit prices (including with respect to the units issued in our 2011 Private Placement and the Rights Offering) have not been adjusted to reflect the Share Consolidation, and the number of warrants outstanding have not been adjusted to reflect the Share Consolidation (in accordance with the terms of the warrants, the number of shares of common stock issuable thereunder were adjusted as a result of the Share Consolidation but not the number of warrants outstanding).

Equity financings

On June 5, 2001, the Company completed an IPO issuing 74 shares of common stock at a price of CAD$135 per share. Net proceeds of this offering credited to common stock amounted to $5,727 after deducting the underwriting fee of $501 and expenses of $354. As additional compensation in connection with the offering, the Company granted the underwriters non-assignable support warrants representing ten percent of the offered shares. At that time, each support warrant entitled the holder to purchase one share of common stock on or before June 5, 2003 at CAD$7.50.

On December 19, 2003, the Company completed a private placement of equity securities totaling $16,095, comprised of (i) $15,050 for 11,522 units, at a price of CAD$1.75 per unit. Each unit consisted of one share of common stock and one-half of a common stock purchase warrant in Adherex with an exercise price of CAD$2.15 per share, which expired unexercised on December 19, 2008 (on a post-consolidation basis, 640 shares of common stock were issued), and (ii) $1,045 for 800 Series 1 Preferred Shares and warrants to purchase 400 Series 1 Preferred Shares of 2037357 Ontario Inc. The $5,777 estimated fair value of the warrants has been allocated to additional paid-in capital and the balance of $8,053 has been credited to common stock. At that time, the non-redeemable Series 1 Preferred Shares of 2037357 Ontario Inc. (“Preferred Shares”) were exchangeable into 800 shares of common stock of Adherex (44 shares of common stock on a post-consolidation basis). Upon such an exchange, all of the then outstanding warrants to purchase the Preferred Shares would be exchanged for an equal number of warrants to purchase Adherex common stock, which warrants expired on December 19, 2008. The $1,045 was to be spent on specific research and development projects in Ontario, Canada as designated by Adherex. Adherex could compel the exchange of the Preferred Shares into common stock and warrants for common stock of Adherex at any time after January 3, 2005. 2037357 Ontario Inc. has been accounted for in accordance with the substance of the transaction. The $1,045 has been recorded as non-redeemable Preferred Shares and the amounts expended were recorded as expenses in the relevant periods. On June 14, 2004, the preferred shares and warrants were exchanged for 44 shares of Adherex common stock on a post-consolidation basis, and warrants to purchase shares of Adherex common stock, all of which warrants expired on December 19, 2008. In June 2004, 2037357 Ontario Inc. became a wholly owned subsidiary of the Company and was amalgamated with Adherex Technologies Inc. The investment has been split between the estimated fair value of the warrants of $363, which has been included in additional paid-in capital, and the remainder of $660, which has been recorded in common stock. On May 20, 2004, the Company completed equity financings with total gross proceeds of $9,029 less $555 of issuance costs and issued4,669 units at a purchase price of CAD$2.65 per unit. Each unit consisted of one share of common stock and one-half of a common stock purchase warrant, and, at that time, each whole warrant entitled the holder to acquire one additional share of common stock at an exercise price of CAD$3.50, all of which expired unexercised on May 19, 2007. The financing resulted in the issuance of an aggregate of 259 shares of common stock on a post-consolidation basis. The $2,118 value of the warrants has been allocated to additional paid-in capital and the balance of $6,356 has been credited to common stock.

On July 20, 2005, the Company completed a private placement of equity securities for gross proceeds of $8,510 and issued 6,079 units at a price of $1.40 per unit, providing net proceeds of $8,134 after deducting broker fees and other expenses of $376. At the time, each unit consisted of one common share and 0.30 of a common share purchase warrant and the private placement resulted in the issuance of an aggregate of337 shares of common stock on a post – consolidation basis, along with investor warrants and broker warrants to acquire additional shares of Adherex common stock. At that time, each whole investor warrant entitled the holder to acquire one additional share of common stock of Adherex at an exercise price of $1.75 per share for a period of three years and each whole broker warrant entitled the holder to acquire one share of Adherex common stock at an exercise price of $1.75 for a period of two years, all of which expired unexercised on July 20, 2007 and 2008, respectively. The warrants, with a value of $1,074 based on the Black-Scholes option pricing model, have been allocated to additional paid-in capital and the remaining balance of $7,060 has been credited to common stock.

On May 8, 2006, the Company completed a private placement of equity securities for gross proceeds of $6,512 and issued 7,753 units at a price of $0.84 per unit providing net proceeds of $6,040 after deducting broker fees and certain other expenses. Each unit consisted of one common share and 0.30 of a common share purchase warrant, and the private placement resulted in the issuance of an aggregate of 431 shares of common stock on a post-consolidation basis, along with , investor warrants and broker warrants to acquire additional shares of Adherex common stock. At that time, each whole investor warrant entitled the holder to acquire one additional share of Adherex common stock at an exercise price of $0.97 per share for a period of four years, and each whole broker warrant entitled the holder to acquire one share of Adherex common stock at an exercise price of $0.97 per share for a period of two years, all of which expired unexercised on May 7, 2008. The warrants, with a value of $822 based on the Black-Scholes option pricing model, have been allocated to additional paid-in capital and the remaining balance of $5,218 has been credited to common stock.

On February 21, 2007, the Company completed the sale of equity securities providing gross proceeds of $25,000 for 75,759 units at a price of $0.33 per unit providing net proceeds of $23,221 after deducting broker fees and other expenses. Each unit consisted of one common share and one-half of a common share purchase warrant. The offering resulted in the issuance of an aggregate of4,209 shares of common stock on a post-consolidation basis, along with investor warrants and broker warrants to acquire additional shares of Adherex common stock. At that time, each whole investor warrant entitled the holder to acquire one additional share of Adherex common stock at an exercise price of $0.40 per share for a period of three years, and each whole broker warrant entitled the holder to acquire one additional unit at an exercise price of $0.33 per unit for a period of two years, the unexercised portion of which expired on February 21, 2009. The warrants, with a value of $5,379 based on the Black-Scholes option pricing model, have been allocated to additional paid-in-capital and the remaining balance of $17,842 has been included in common stock.

During the second quarter of fiscal 2007, the Company received gross proceeds of $694 related to the exercise of warrants and issued 116 shares of common stock on a post-consolidation basis and additional investor warrants,which warrants expired on February 21, 2010. The warrants, with a value of $131 based on the Black-Scholes option pricing model, have been allocated to additional paid-in capital and the remaining balance of $563 has been included in common stock.

On April 30, 2010, the Company completed a first closing of a non-brokered private placement (“Private Placement”) of 240,066,664 units, at a price of CAD$0.03 per unit for net proceeds of CAD$7.2 million. Each unit consisted of one common share and one common share purchase warrant (a “Warrant”). At that time, each Warrant entitled the holder thereof to purchase one common share of the Company at a purchase price of CAD$0.08 per share for a period of five years from the issue date. As a result of the Share Consolidation on August 25, 2011, the number of sharesand warrants issued upon exercise of the units consists of 13,337,037 shares and warrants to purchase 13,337,037 shares of common stock at the exercise price of CAD $1.44 per whole share.

Special warrants

From May 2000 through November 2000, the Company issued special warrants. At that time, each special warrant was sold for CAD$25.00 and entitled the holder thereof to acquire, for no additional consideration, four shares of common stock of the Company. The special warrants also included a price protection adjustment determined by dividing CAD$32.50 by the initial public offering (“IPO”) price of CAD$7.50.

During the year ended June 30, 2000, 16 of 126 special warrants were issued, with the balance of110 issued in the year ended June 30, 2001. Upon completion of the IPO, on June 5, 2001, these special warrants were converted to 30 shares of common stock, which included 2 shares of common stock issued under the price protection adjustment (such shares are presented on a post-consolidation basis).

Special A warrants

During October 2000, the Company issued Series A special warrants. At that time, each Series A special warrant was sold at CAD$6.25 and entitled the holder to acquire, for no additional consideration, one share of common stock of the Company. At that time, the Series A special warrants also included a price protection adjustment determined by dividing CAD$8.125 by the IPO price.

Upon completion of the IPO, on June 5, 2001, these Series A special warrants were converted to 69 shares of common stock, which included 5 shares of common stock issued under the price protection adjustment (such shares are presented on a post-consolidation basis).

In addition, each Series A special warrant included a share purchase warrant entitling the holder to purchase an additional share of common stock at the IPO price, which was also subject to the price protection adjustment. These share purchase warrants expired unexercised on September 3, 2001.

2010 Private Placement Warrants

On April 30, 2010, the Company completed a first closing of a non-brokered private placement (“Private Placement”) of 240,066,664 units, at a price of CAD$0.03 per unit for net proceeds of CAD$7,202. Each unit consisted of one common share and one common share purchase warrant (a “Warrant”). At that time, each Warrantentitled the holder thereof to purchase one common share of the Company at a purchase price of CAD$0.08 per share for a period of five years from the issue date. As the exercise price is denominated in a currency other than the company’s functional currency, these warrants are treated as a derivative instrument. (Note 5) As a result of the Share Consolidation on August 25, 2011, the number of shares issuable upon the exercise of thewarrants issued in connection with the April 2010 Private Placement consists of 13,337,037 shares of common stock at the exercise price of CAD $1.44 per whole share.

Equity rights

On September 28, 1999, University Medical Discoveries Inc. (“UMDI”) invested $171 for equity of the Company. The form of this equity was to be the same as the first class of securities to raise greater than $683 subsequent to the date of the investment. The date of conversion was dependent on certain milestones being met under a specific research project. On August 24, 2000, the Company and UMDI agreed to convert UMDI’s $171 investment into 3 shares of common stock of the Company.

We commenced a rights offering to our shareholders on March 2, 2011, the record date for the rights offering (the "Rights Offering"). Pursuant to the terms of the Rights Offering, we distributed rights to subscribe for up to 425,000,000 Units at a price of CAD$0.03 per unit, for gross proceeds of up to CAD$12,750,000, to our shareholders on the basis of one right per each share of common stock held by such shareholder on March 2, 2011, the record date for the Rights Offering. Purchasers of units in the Company's April 2010 Private Placement described above that owned common stock as of the record date for the Rights Offering agreed not to participate in the Rights Offering. Each right was exercisable for one unit which consisted of one common share and one common share purchase warrant (a “Warrant”). Each Warrant entitles the holder thereof to purchase one common share of the Company at a purchase price of CAD$0.08 per share for a period of five years from the issue date. Adherex filed a short-form prospectus for the Rights Offering with the securities regulatory authorities in Canada to qualify the distribution of the rights in Canada on February 11, 2011 and a Form S-1 registration statement with the Securities and Exchange Commission to register the rights and underlying securities in the United States, which registration statement was declared effective on February 11, 2011. As of 5:00 pm New York City time on March 29, 2011, the expiration date for the Rights Offering, we had received subscriptions for an aggregate of 84,559,178 Units, representing estimated aggregate gross proceeds of approximately $2.5 million.

Triathlon settlement

During fiscal 2000, other advances totaling $175 were settled by the issuance to Triathlon Limited of 16 shares of common stock of the Company. The number of shares issued was determined with reference to the fair value at the time the advances were made.

Shire BioChem Inc. agreement

On August 17, 2000, the Company entered into a subscription agreement and a license agreement with Shire BioChem Inc. (“BioChem”). Under the subscription agreement, BioChem purchased 5 shares of common stock of the Company for $341. Pursuant to a price protection clause in the agreement, an additional eight shares of common stock were issued on completion of the Company’s IPO on June 5, 2001.

Acquisitions

On November 20, 2002, the Company issued 446 shares of commons stock to acquire all of the issued and outstanding securities of Oxiquant, a holding company which held certain intellectual property rights, including rights to sodium thiosulfate.

In connection with the acquisition of the intellectual property of Oxiquant in November 2002, the Company issued warrants to purchase shares of common stock with an exercise price of CAD$3.585 that expired unexercised on May 20, 2007 and introduction warrants to purchase shares of common stock with an exercise price of CAD$2.05 that expired unexercised on November 20, 2007.

As a prerequisite of the Oxiquant transaction, Adherex licensed all of its Cadherin-related intellectual property for non-cancer applications and transferred $158 in cash to Cadherin Biomedical Inc. or CBI, a wholly-owned subsidiary of Adherex at the time, in return for Class A Preferred Shares of CBI. These CBI Class A Preferred Shares were then distributed to all of the Adherex shareholders of record by way of special dividend, effecting a “spin out” of CBI and the non-cancer assets from Adherex.

In order to effect such a distribution under Section 42 of the Canada Business Corporations Act (“CBCA”), the Company was legally required to reduce its stated capital so that the aggregate amount of its liabilities and stated capital did not exceed the realizable value of Adherex’s assets. Management determined that the stated capital needed to be reduced by $9,489, in order to comply with the requirements of Section 42 of the CBCA. The Company decreased common stock and increased additional paid-in capital by $9,489.

In February 2004, the Company and CBI became involved in litigation. On December 3, 2004, the Company and CBI settled the litigation and the Company agreed to acquire all of the issued and outstanding shares of CBI and reacquire the non-cancer rights to the cadherin-based intellectual property. As part of the agreement, the Company issued 37 common shares valued at $1,252, net of transaction costs.

Convertible note warrants

On June 23, 2003, the Company issued senior secured convertible notes with a face value totaling $2,219. These notes were convertible into common stock and warrants to acquire common stock of the Company upon completion of an equity fund raising round. At that time, investors also received warrants to purchase shares of common stock of the Company with an exercise price of CAD$2.75 per share that expired unexercised on June 23, 2007. The notes bore interest at an annual rate of eight percent compounded semi-annually, and matured one year from issue but were renewable for one additional year at the option of the Company. In connection with this issuance, at that time, the Company issued broker warrants to purchase shares of common stock exercisable at a price of CAD$2.35 per share, which expired unexercised on June 23, 2005.

On December 3, 2003, the Company issued additional senior secured convertible notes with a face value totaling CAD$1,458. These notes were convertible into common stock and warrants to acquire common stock of the Company upon completion of an equity fund raising round. Also, at that time, investors received warrants to purchase shares of common stock exercisable at a price of CAD$2.15 per share which expired unexercised on December 3, 2007. The notes bore interest at an annual rate of eight percent compounded semi-annually, and matured one year from issue but were renewable for one additional year at the option of the Company. At that time, the Company also issued broker warrants to purchase shares of common stock exercisable at a price of CAD$2.15 per share which expired unexercised on December 3, 2005.
On December 19, 2003, the Company completed an equity financing resulting in the conversion of the June and the December notes into 156 shares of common stock on a post-consolidation basis with a carrying value of $1,785 credited to common stock. At that time, the Company issued warrants to purchase, shares of common stock with an exercise price of CAD$2.15 per share which expired unexercised on December 19, 2008.

Warrants to Purchase Common Stock

At December 31, 2011, the Company had the following warrants outstanding to purchase common stock priced in Canadian dollars with a weighted average exercise price of $1.44 and a weighted average remaining life of 3.6 years:

Warrant Description (Warrants in thousands)	Common Shares Issuable Upon Exercise of Outstanding Warrants at December 31, 2011	Exercise Price in Canadian Dollars	Expiration Date
Investor Warrants (1)	13,337	$ 1.44	April 30, 2015
Investor Warrants (2)	4,698	$ 1.44	March 29, 2016
	18,035		

(1) On April 30, 2010, the Company announced that it had completed a first closing of a non-brokered private placement ("Private Placement") of 240,066 units, at a price of $0.03 CAD per unit for net proceeds of CAD$7,200. Each unit consisted of one common share and one common share purchase warrant (a "Warrant"). As a result of the Share Consolidation, each eighteen (18) Warrants now entitle the holder thereof to purchase one common share of the Company at a purchase price of CAD$1.44 per whole share for a period of five years from the issue date.

(2) On March 29, 2011, the Company announced that it had completed a non-brokered rights offering of 84,559 units, at a price of $0.03 CAD per unit for total net proceeds of $2,547. Each unit consisted of one common share and one common share purchase warrant (a "Warrant"). As a result of the Share Consolidation, each eighteen (18) Warrants now entitle the holder thereof to purchase one common share of the Company at a purchase price of CAD$1.44 per whole share for a period of five years from the issue date.

8. Research and Development

Investment tax credits earned as a result of qualifying research and development expenditures and government grants have been applied to reduce research and development expenses as follows:

	Year Ended December 31, 2011	Year Ended December 31, 2010	Cumulative FromSeptember 3,1996 to December 31, 2011
Research and development	$ 1,494	$ 708	$ 67,093
Investment tax credits	-	-	(1,632)
National Research Council grants	-	-	(197)
	$ 1,494	$ 708	$ 65,264

9. Capital and Operating Lease Commitments

We had no material commitments for capital expenses or commitments extending beyond three years as of December 31, 2011. The following table represents our contractual obligations and commitments at December 31, 2011 (in thousands of U.S. dollars):

	Less than 1 year	1-3 years	Total
OCT Clinical Service Agreement (1)	288	144	432
Database Integration Service Agreement (2)	117	21	138
Drug purchase commitments (3)	125	-	125
Total	$ 530	$ 165	$ 695

(1) Under the service agreement with OCT Group LLC entered in August 2010, we are required to make several payments over the course of our planned Phase II clinical trial in Russia. The payments will be made upon the fulfillment of several milestones during the planned clinical trial including: regulatory approval of trial, enrollment of patients and the completion of therapy of patients.The Company amended the agreement in April 2011 and August 2011 for the addition of additional sites for OCT to service during the Phase II clinical trial.The Company's amended agreement with OCT in August 2011 for the monitoring of additional sites for OCT to service increased the contractual obligations by $0.09 million.

(2) Under the service agreement with Database Integrations entered in December 2010, we are required to make several payments over the course of our planned Phase II clinical trial in Russia. The payments will be made upon the fulfillment of several milestones during the planned clinical trial including: Electronic Data Collection live, time and completion of enrollment and the closing of the database.

(3) Commitments to our third party manufacturing vendors that supply drug substance primarily for our clinical studies.

10. Commitments and Contingencies

Oregon Health & Science University agreement

The Company has an exclusive license agreement with Oregon Health & Science University ("OHSU") for exclusive worldwide license rights to intellectual property directed to thiol-based compounds, including STS and their use in oncology. OHSU will receive certain milestone payments, a 2.5 percent royalty on net sales for licensed products and a 15 percent royalty on any consideration received from sublicensing of the licensed technology. Milestone payment fees payable to OHSU include: $50 upon completion of Phase I clinical trials; $200 upon completion of Phase II clinical trials; $500 upon completion of Phase III clinical trials; and $250 upon first commercial sale for any licensed product. To date, no milestone payments have been accrued or paid.

GlaxoSmithKline

On July 14, 2005, we entered into a development and license agreement with GlaxoSmithKline, or GSK. The agreement included the in-license by our Company of GSK's oncology product, eniluracil, and an option for GSK to license ADH-1. As part of the transaction, GSK invested $3.0 million in our Company's common stock. On October 11, 2006, the GSK option to license ADH-1 expired unexercised. Under the terms of the agreement relating to eniluracil, we received an exclusive license to develop eniluracil for all indications and GSK retained options to buy-back and assume development of the compound at various points in time.

On March 1, 2007, the GSK agreement was amended and we purchased all of GSK's remaining buy-back options for a fee of $1.0 million. As a result of the amendment to the GSK agreement, we now may be required to pay GSK development and sales milestones and royalties. Specifically, if we file a New Drug Application, or NDA, with the Food and Drug Administration, or FDA, we may be required to pay development milestones of $5.0 million to GSK. Additionally, depending upon whether the NDA is approved by the FDA and whether eniluracil becomes a commercial success, we may be required to pay up to an additional $70.0 million in development and sales milestones for the initially approved indication, plus royalties in the low-double digit range based on annual net sales. If we pursue other indications, we may also be required to pay up to an additional $15 million to GSK for each FDA-approved indication. The GSK agreement continues until the earliest of (i) the licensed patents expire or (ii) is terminated by either party in the event of an uncured breach by the breaching party after 60 days prior written notice.

11. Income Taxes

The Company operates in both U.S. and Canadian tax jurisdictions. Its income is subject to varying rates of tax and losses incurred in one jurisdiction cannot be used to offset income taxes payable in another. A reconciliation of the combined Canadian federal and provincial income tax rate with the Company's effective tax rate is as follows:

	Year Ended December 31, 2011	Year Ended December 31, 2010
Domestic loss	5,623	(7,100)
Foreign loss	(938)	(723)
Loss before income taxes	4,685	(7,823)
Expected statutory rate (recovery)	28.25%	28.25%
Expected provision for (recovery of) income tax	1,324	(2,339)
Permanent differences	(2,209)	1,686
Change in valuation allowance	(589)	2,334
Non-refundable investment tax credits	157	(196)
Effect of foreign exchange rate differences	(204)	(585)
Effect of change in future enacted tax rates	(77)	-
Effect of tax rate changes and other	1,599	(900)
Provision for income taxes	$ -	$ -

The Canadian statutory come tax rate of 28.25 percent is comprised of federal income tax at approximately 16.5 percent and provincial income tax at approximately 11.75 percent.

The primary temporary differences which gave rise to future income taxes (recovery) at December 31, 2011, December 31, 2010:

	December 31, 2011	December 31, 2010
Future tax assets:		
SR&ED expenditures	2,071	2,228
Income tax loss carryforwards	19,635	20,008
Non-refundable investment tax credits	1,719	1,719
Share issue costs	84	81
Accrued expenses	-	9
Fixed and intangible assets	685	737
Harmonization credit	280	280
	24,193	25,062
Less: valuation allowance	(24,193)	(25,062)
Net future tax assets	$ -	$ -

There are no current income taxes owed, nor are any income taxes expected to be owed in the near term.

At December 31, 2011 the Company has unclaimed Scientific Research and Experimental Development ("SR&ED") expenditures, income tax loss carry forwards and non-refundable investment tax credits. The unclaimed amounts and their expiry dates are as listed below:

	Federal	Province/ State
SR&ED expenditures (no expiry)	$ 7,872	$ 1,580
Income tax loss carryforwards (expiry date):		
2014	6,089	6089
2015	11,499	11,499
2021	26	-
2022	233	-
2023	133	-
2024	1,536	1,455
2025	4,795	4,768
2026	20,562	20,496
2027	8,340	8,320
2028	10,840	10,823
2029	8,502	8,502
2030	2,587	2,586
2031	3,399	3,399
Investment tax credits (expiry date):		
2018	10	
2019	8	
2020	96	
2021	55	
2022	548	
2023	399	
2024	178	
2025	199	
2026	86	
2027	90	
2028	50	

Exhibit 31.1

ADHEREX TECHNOLOGIES INC
CERTIFICATION

I, Rostislav Raykov, certify that:

1. I have reviewed this annual report on Form 10-K for the period ended December 31, 2011 of Adherex Technologies 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(s) 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(s) 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 26, 2012

By: /s/ Rostislav Raykov
Rostislav Raykov
Chief Executive Officer

Exhibit 31.2

ADHEREX TECHNOLOGIES INC.
CERTIFICATION

I, Robert Andrade, certify that:

1. I have reviewed this annual report on Form 10-K for the period ended December 31, 2011 of Adherex Technologies 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(s) 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(s) 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 26, 2012

By: /s/ Robert Andrade
Robert Andrade
Chief Financial Officer

Exhibit 32.1

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

In connection with the Annual Report of Adherex Technologies Inc. (the " Company ") on Form 10-K for the period ended December 31, 2011 (the " Report "), each of the undersigned, Rostislav Raykov, Chief Executive Officer of the Company, and Robert Andrade, Chief Financial Officer of the Company, hereby certifies pursuant to 18 U.S.C. §1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 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.

Date: March 26, 2012

By: /s/ Rostislav Raykov
Rostislav Raykov
Chief Executive Officer

Date: March 26, 2012

By: /s/ Robert Andrade
Robert Andrade
Chief Financial Officer