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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, 2007

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.)**
4620 Creekstone Drive, Suite 200 Research Triangle Park Durham, North Carolina	
(Address of Principal Executive Offices)	**27703 (Zip Code)**

(919) 484-8484
(Registrant's telephone number, including area code)

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, no par value	**The American Stock Exchange**

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

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

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 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 American Stock Exchange on June 30, 2007, (the last business day of the Registrant's most recently completed second fiscal quarter) was $45,226,358 based upon a total of 83,752,514 shares held as of June 30, 2007 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 17, 2008, there were 128,226,787 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive Proxy Statement to be filed for its 2008 Annual Meeting of Stockholders currently scheduled to be held May 14, 2008 are incorporated into Part III of this report.

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ADHEREX TECHNOLOGIES INC.
2007 FORM 10-K ANNUAL REPORT
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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 commencement dates, completion dates and results of clinical trials; (2) our anticipated progress and costs of our clinical and preclinical research and development programs; (3) our corporate and development strategies; (4) our expected results of operations; (5) our anticipated levels of expenditures; (6) our ability to protect our intellectual property; (7i) the anticipated applications and efficacy of our drug candidates; (8) our ability to attract and retain key employees; (9) our efforts to pursue collaborations with the government, industry groups or other companies; (10) the nature and scope of potential markets for our drug candidates and (11) our anticipated sources and uses of cash, cash equivalents and short-term investments. 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 those 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.

Item 1. Business.

Overview

We are a biopharmaceutical company focused on cancer therapeutics with preclinical and clinical product candidates. The following product candidates are in the clinical stage of development:

- *Eniluracil* is a dihydropyrimidine dehydrogenase ("DPD") inhibitor that was previously under development by GSK for the treatment of cancer. We are developing eniluracil to enhance the therapeutic value and effectiveness of 5-fluorouracil, or 5-FU, one of the world's most widely used oncology agents. 5-FU is currently used as first or second-line therapy for a variety of cancers, including colorectal, breast, gastric, head and neck, ovarian, and basal cell cancer of the skin, among others. We are currently focused on the development of eniluracil for the treatment of liver cancer and breast cancer.
- *ADH-1* is an anti-cancer drug that selectively targets N-cadherin present on certain tumor cells and the established blood vessels that supply tumors. ADH-1 is currently in a clinical development program in combination with various chemotherapy agents. We are currently focused on the development of ADH-1 for the treatment of melanoma and solid tumors such as ovarian and lung cancers.
- *STS* is a chemoprotectant that has been shown in Phase I and Phase II clinical studies conducted by investigators at Oregon Health & Science University, or OHSU, to reduce the disabling loss of hearing in both adults and children treated with platinum-based anti-cancer agents. 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, launched a randomized Phase III trial to investigate whether STS can reduce the hearing loss in children receiving cisplatin. The study opened initially in the United Kingdom and will include additional SIOPEL centers in up to 33 countries. Under the terms of our agreement, SIOPEL will conduct and fund the clinical activity and we will provide drug and drug distribution for the study. On March 26, 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, or COG. This multi-centered Phase III study is expected to enroll up to 120 patients over approximately three years in up to 230 COG centers in the United States, Canada, Australia and Europe.

Our preclinical portfolio includes: (i) backup peptides and small chemical molecule successors to ADH-1; (ii) peptides and small molecules targeted to inhibiting the metastatic spread of some cancers; and (iii) peptides that combine both angiolytic and antiangiogenic properties. We have synthesized small chemical molecules and peptide antagonists and agonists for a wide array of cadherin adhesion molecules, with drug candidates available to move into future clinical development, particularly in the following areas:

- *Peptide N-cadherin antagonists:* We have identified small peptide molecules that differ in structure from ADH-1 and that have extended stability in plasma. These molecules offer the potential advantages of extended plasma half-life and enhanced potency compared to ADH-1.
- *Small molecule N-cadherin antagonists*. We have identified a series of small chemical molecules that, in our preliminary studies, have displayed potent N-cadherin antagonism activity. Unlike ADH-1 and the other peptide N-cadherin antagonists, these molecules are not peptides and are smaller and simpler in structure. Compared to peptides, small chemical molecules are often active after oral administration, more stable and have different potency and toxicity profiles.
- *OB-cadherin*. OB-cadherin is reported to be involved through several mechanisms in the metastatic spread of certain cancers to sites distant from the original tumor. Metastatic disease is a major determinant of both a patient's survival and quality-of-life. We have developed OB-cadherin peptide and small molecule antagonists with the potential to reduce or slow down the metastatic spread of tumors, such as breast and prostate cancers.
- *VE-cadherin*. Like N-cadherin, VE-cadherin is important in the structural integrity of certain tumor blood vessels. We have developed peptide VE-cadherin antagonists that have the potential to be synergistic with our N-cadherin antagonists.

In addition to our current development efforts, we continue to pursue collaborations with other pharmaceutical companies, governmental agencies or corporate collaborators with respect to these and other cadherin molecules. Our drug discovery and development efforts are supported by more than 50 issued U.S. patents and more than 50 issued and pending patents worldwide that we either own or have exclusively licensed.

Adherex Technologies Inc. is incorporated under the *Canada Business Corporations Act* and has three wholly-owned subsidiaries: Oxiquant, Inc. and Adherex, Inc., both Delaware corporations, and Cadherin Biomedical Inc., a Canadian company.

Eniluracil

Eniluracil was previously under development by GSK for the treatment of cancer and is being developed by Adherex to enhance the therapeutic value and effectiveness of 5-FU, one of the world's most widely used oncology agents. 5-FU is currently used as the first or second line therapy for colorectal, breast, gastric, head and neck, ovarian and basal cell cancer of the skin, among others. Eniluracil is expected to make 5-FU more effective by increasing its half-life, reducing its side effects and making it orally available.

Normally, 5-FU is rapidly broken down in the body by an enzyme known as dihydropyrimidine dehydrogenase, or DPD. Eniluracil irreversibly inhibits DPD, thereby substantially slowing the breakdown of 5-FU and prolonging exposure of the tumor cells to the drug.

While 5-FU is a current mainstay of contemporary oncology treatment, it has some therapeutic drawbacks:

- It must be given intravenously and often by prolonged, multi-day infusion.
- Its use is typically associated with variable blood and tissue levels. Variable levels can reduce its effectiveness and can increase its side effects.
- It can cause severe and often dose-limiting side effects. For example, a breakdown product of 5-FU known as F-BAL is thought to be associated with neurotoxicity and hand-foot syndrome, which are disabling and dose-limiting side effects of therapy with 5-FU and other 5-FU prodrugs like capecitabine.
- Some tumors may be resistant to 5-FU due to intrinsically elevated DPD levels in the tumor cells. In other cases, the tumor may develop resistance to 5-FU as DPD levels rise in the tumor.

When eniluracil is properly used in combination with 5-FU, it may resolve many of the therapeutic drawbacks of 5-FU noted above. For instance, combining eniluracil and 5-FU is expected to have the following benefits:

- 5-FU becomes orally active, eliminating the need for intravenous, or IV, administration.
- The blood and tissue levels become more consistent, resulting in improved efficacy.
- The consistent blood and tissue levels may also lead to an improved side effect profile.
- Elimination of F-BAL production may improve the side effect profile, particularly the reduction of hand-foot syndrome.

Thus, the use of eniluracil in combination with 5-FU has the potential to make 5-FU more effective, better tolerated and orally active.

The combination of eniluracil and 5-FU may also expand the range of cancers that currently respond to 5-FU. Some tumors, such as liver, prostate and lung cancers, have inherently high levels of DPD that result in resistance to 5-FU. Eniluracil may eliminate these high levels of DPD activity in the tumor, thereby potentially expanding the use of 5-FU to new cancer indications.

GSK's clinical development program for the combination of 5-FU and eniluracil met with success in early development. However, three Phase III trials failed, and development was stopped. We believe new scientific data obtained by Adherex subsequent to those Phase III trials may account for the early suboptimal efficacy and provide a basis for enhancing the effectiveness of the combination. This proprietary data formed the basis of a patent application by Adherex, which claims that the combination of eniluracil and 5-FU has the potential to be more effective than 5-FU alone when used in accordance with Adherex's proprietary methods.

Adherex's initial development plan for eniluracil is focused on two indications: 1) liver (hepatocellular) cancer, and 2) taxane- and anthracycline-resistant breast cancer. Several other potential cancer indications are also being evaluated.

Liver cancer is one of the most common cancers in the world. In the U.S., there are approximately 19,000 new cases per year. Adherex has received orphan drug designation from the U.S. Food and Drug Administration, or FDA, for the use of eniluracil in combination with fluoropyrimidines (including 5-FU) to treat liver cancer. The rationale for targeting liver cancer is: 1) liver cancer has intrinsically high levels of DPD, making it resistant to treatment with 5-FU. Eniluracil inhibits DPD and therefore, may make liver cancer more susceptible to therapy with 5-FU, and 2) two Phase II studies conducted by GSK in liver cancer showed extended periods of stable disease and survival, even though these studies were conducted using what now appears to be a suboptimal dose and schedule.

Our second development strategy is in taxane- and anthracycline-resistant breast cancer. Capecitabine (Xeloda®) is currently approved for this indication, yet therapy with capecitabine often results in a painful side effect known as hand-foot syndrome (reported to occur in up to 60% of patients), frequently requiring dose reduction or cessation of therapy. A breakdown product of 5-FU known as F-BAL is thought to be responsible for this side effect**.** Eniluracil irreversibly inhibits DPD, the enzyme responsible for the breakdown of 5-FU to metabolites such as F-BAL. In GSK's earlier studies with eniluracil in combination with 5-FU, the incidence of hand-foot syndrome was less than 2%. Adherex may, therefore, be able to seek approval for eniluracil through either a reduced toxicity profile in comparison to capecitabine or an enhanced efficacy profile, or both.

To optimize our proprietary method of administration for the combination of eniluracil and 5-FU, we commenced a Phase I dose escalation study in patients with solid tumors in 2007. As of February 28, 2008, we had not reached the Maximum Tolerated Dose, or MTD, for eniluracil. Upon completion of this study, we plan to commence a Phase II trial in breast cancer. In the fourth quarter of 2006, we also commenced a Phase I/II clinical trial in liver cancer in Asia. Once we obtain the MTD for eniluracil in the Phase I arm of this trial, we will immediately commence the Phase II portion of the trial and expect that it will take approximately six month to complete patient accruals in the Phase II portion of the trial. Together, these two studies are intended to define the optimal dose of eniluracil, the optimal dose ratio and schedule of eniluracil in combination with 5-FU, and the clinical response rate to our proprietary combination of these two drugs.

ADH-1

ADH-1 is a small peptide that selectively targets N-cadherin present on certain tumor cells and the established blood vessels that supply blood to the tumor. Pursuant to a general collaboration agreement, McGill granted us an exclusive worldwide license to certain intellectual property rights relating to ADH-1 and uses thereof. N-cadherin is found throughout the body and, like other cadherins, is important in cell-to-cell binding and in maintaining the structural integrity of cells. ADH-1 appears to inhibit the binding of the N-cadherin protein molecules to each other. Within tumors, the N-cadherin protein can be found on the tumor cells themselves and on the blood vessels that supply blood to the tumor. Therefore, N-cadherin is a single target where antagonizing N-cadherin binding with ADH-1 could have a dual effect; both on the tumor cells directly and on the tumor blood vessels. In our Phase I single-agent studies, radiologic changes consistent with areas of cell death (by either apoptosis or necrosis) were observed following administration of ADH-1.

In 2006, we began conducting preclinical studies of ADH-1 in combination with various chemotherapy agents. In preclinical melanoma studies, significant synergistic anti-tumor activity was observed when systemic ADH-1 was given in combination with regionally-infused melphalan (a generic chemotherapy typically used in this setting), where all of the animals on study achieved complete remission of their tumors, and the tumors remained in complete remission during the entire two-month timeframe of the studies. A similar study was conducted in a melanoma animal model that was resistant to treatment with melphalan. The combination of melphalan and ADH-1 in the melphalan-resistant models also produced striking synergistic effects, with significant tumor growth delay being observed compared to the untreated and melphalan-alone control groups.

Based on this preclinical data, we initiated a clinical program of ADH-1 in combination with various chemotherapeutic agents. In October 2006, we initiated a Phase I study intended to define the dose limiting toxicities and maximum tolerated dose of ADH-1 in combination with three separate chemotherapies: ADH-1 + docetaxel (Taxotere®), ADH-1 + carboplatin (a generically available agent), and ADH-1 + capecitabine (Xeloda®). We have completed patient enrollment in the docetaxel and capecitabine arms and expect to complete patient enrolment in the carboplatin arm shortly. In March 2007, we also initiated a Phase I study combining systemic ADH-1 in combination with regionally-infused melphalan for the treatment of melanoma at Duke University.

In January 2008, we announced the completion of patient enrollment in our Phase I study combining systemic ADH-1 with regionally-infused melphalan for the treatment of melanoma and commenced a Phase IIb expansion of the study. We expect to enroll up to 25 additional patients in the Phase IIb portion of the study. To gain multi-institutional experience, we have also added the M.D. Anderson Cancer Center in Houston, Texas, the Lehigh Valley Hospital in Pennsylvania and the H. Lee Moffitt Cancer Center in Tampa, Florida as participating clinical trial sites. This Phase IIb expansion trial is anticipated to complete patient accruals by approximately mid-2008.

STS

STS is currently approved by the FDA for use in humans as part of a treatment for cyanide poisoning. We have licensed from OHSU 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 both children and adults. Preclinical and clinical studies conducted by OHSU and others have indicated that STS can effectively reduced 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. The Company is also considering a trial with STS to study hearing loss in adult patients taking cisplatin-based chemotherapy.

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 relief. In addition, adults undergoing chemotherapy for several common malignancies, including ovarian cancer, testicular cancer, and particularly head and neck cancer and brain cancer, receive intensive platinum-based therapy and may experience severe, irreversible hearing loss, particularly in the high frequencies.

Investigators at OHSU 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 OHSU, 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 will include SIOPEL centers in up to 33 further countries. The clinical trial is expected to enroll approximately 100 children with liver (hepatoblastoma) cancer. Patients will receive either cisplatin 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 and drug distribution for the study.

On March 26, 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, or COG. 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 will be one to eighteen years of age who are to receive cisplatin according to their disease-specific regimen and, upon enrollment onto 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 120 patients over approximately three years in up to 230 COG centers in the United States, Canada, Australia and Europe. COG will fund the clinical activities for the study and we will be responsible for providing the drug and drug distribution for the study.

Preclinical Portfolio

Our product candidates are in the early stages of clinical development, so we strive to maintain a robust preclinical portfolio to hedge against unavoidable development risks and to provide possible new product candidates for the future. In considering our product candidates, note that we are subject to the risks of failure that are inherent in the development of therapeutic products based on innovative technologies as described in Item 1A, "Risk Factors."

Our preclinical portfolio includes: (i) backup peptides and small chemical molecule successors to ADH-1; (ii) peptides and small molecules targeted to inhibiting the metastatic spread of some cancers; and (iii) peptides that combine both angiolytic and antiangiogenic properties. We have synthesized small chemical molecules and peptide antagonists and agonists for a wide array of cadherin adhesion molecules, with drug candidates available to move into future clinical development, particularly in the following areas:

- *Peptide N-cadherin antagonists.* We have identified small peptide molecules that differ in structure from ADH-1 and that have extended stability in plasma. These molecules offer the potential advantages of extended plasma half-life and enhanced potency compared to ADH-1.
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- *OB-cadherin*. OB-cadherin is reported to be involved through several mechanisms in the metastatic spread of certain cancers to sites distant from the original tumor. Metastatic disease is a major determinant of both a patient's survival and quality-of-life. We have developed OB-cadherin peptide and small molecule antagonists with the potential to reduce or slow down the metastatic spread of tumors, such as breast and prostate cancers.
- *VE-cadherin*. Like N-cadherin, VE-cadherin is important in the structural integrity of certain tumor blood vessels. We have developed peptide VE-cadherin antagonists that have the potential to be synergistic with our N-cadherin antagonists.

In addition to our own development efforts, we intend to continue to pursue collaborations with other pharmaceutical companies, government entities or corporate collaborators with respect to our most promising agents. In 2005, we received approval from the Drug Development Group, or DDG, of the National Cancer Institute's, or NCI, Division of Cancer Treatment and Diagnosis for a Level III collaboration for the clinical development of our lead biotechnology compound, ADH-1. As part of that collaboration, we executed a Clinical Trial Agreement, or CTA, with the NCI's Cancer Therapy Evaluation Program and Developmental Therapeutics Program to support additional preclinical studies of ADH-1 in preparation for future NCI-sponsored clinical trials to further evaluate the anti-cancer and vascular targeting effects of ADH-1 both as a single agent and in combination with other anti-cancer agents. We also entered into a standard form screening agreement with the NCI in 2003, under which NCI continues to screen and test select Adherex compounds from our preclinical pipeline for their anti-cancer properties in various preclinical anti-cancer assays and tumor models. The NCI has no obligation to sponsor future clinical trials of ADH-1 or to continue to perform preclinical or screening work for us and may terminate the CTA or screening agreement at any time, as may we.

Intellectual Property

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. Our cadherin-based patent portfolio currently includes patents with respect to our unique composition of matter, broad claims with respect to modulating cell adhesion, specific claims for the use of these compounds in various diseases and pharmaceutical formulations of these compounds. We have also sought patent protection with respect to alternate "sites" of cell adhesion activity as well as related compounds, screening methods and antibodies. With respect to the intellectual property licensed from GSK, McGill and OHSU, we work closely with these institutions to continually strengthen and expand our worldwide patent protection.

Currently, we own or have licensed more than 50 issued U.S. patents and more than 50 issued and pending patents worldwide. ADH-1 is currently protected under issued composition of matter patents in the United States that we exclusively licensed from McGill that expire in 2017. Eniluracil is currently protected under issued composition of matter and method patents that we exclusively licensed from GSK that expire in 2014 and 2015 (in combination with 5-fluorouracil). STS is currently protected by method of use patents that we exclusively licensed from OHSU that expire in Europe in 2021 and are currently pending in the United States. None of the above expiry dates take into consideration additional pending patent applications for ADH-1 and 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 ADH-1 and 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 and for the use of ADH-1 in conjunction with melphalan for the treatment of Stage IIB/C, III, and IV malignant melanoma in 2008, and as a result, if approved, will have seven years of exclusivity in the United States from the approval date.

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.

Corporate Relationships

General 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 ("PCT"), continuations and certain other patents and patent applications.

In consideration, we issued 508,416 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. This research commitment can be deferred in any given year if it would exceed 5% of our cash and cash equivalents. To date, there have been no deferrals and we have paid out approximately CAD$1.5 million in research and development milestone funding to McGill pursuant to this agreement and other research-related payments. Pursuant to the terms of the agreement, we are entitled to certain intellectual property rights that result from this research.

The term of the general collaboration agreement expires on September 23, 2028, unless earlier terminated by operation of law or as provided in the agreement. The agreement is terminable by either Adherex or McGill in the event of an uncured breach by either party after 60 days prior written notice. We also have the right to terminate the agreement at any time after September 2006 upon 60 days prior written notice to McGill.

License Agreement with Oregon Health & Science University

In November 2002, we acquired an exclusive license agreement with OHSU through our acquisition of Oxiquant, which had entered into the license agreement with OHSU in September 2002. Pursuant to the license agreement, OHSU granted us an exclusive worldwide license to intellectual property directed to thiol-based compounds including STS and their use in oncology. In consideration, OHSU was issued 250,250 shares of common stock of Oxiquant that were subsequently converted upon the acquisition of Oxiquant into 382,514 shares of Adherex common stock and warrants to purchase shares of Adherex common stock that expired in 2007. In addition, we are required to make 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, and (iv) $250,000 upon the first commercial sale for any licensed product. We are also required to pay OHSU 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. The agreement is terminable by OHSU in the event of a material breach of the agreement by us or our sublicensees after 60 days prior written notice from OHSU. We have the right to terminate the agreement at any time upon 60 days prior written notice and payment of all fees due to OHSU under the agreement.

Development and License Agreement with GlaxoSmithKline

In July 2005, Adherex licensed eniluracil from GlaxoSmithKline, or GSK. Under the original terms of the Development and License Agreement, Adherex received an exclusive license for eniluracil for all indications, and GSK retained options to buy back the compound at various points in time during its development in return for milestone payments and sales royalties to Adherex. GSK made a concurrent equity investment of $3.0 million to assist in its further development.

In March 2007, Adherex purchased all of GSK's remaining options to buy back eniluracil under the agreement for a $1.0 million fee. Adherex now has full control over the development of eniluracil and is required to pay GSK development and sales milestone payments and sales royalties. Specifically, if we file a New Drug Application with the FDA, we will be obligated to pay GSK development milestones of $5.0 million. Depending upon the commercial success of eniluracil, we may also be required to pay GSK up to an additional $70.0 million in development and sales milestones, plus double-digit royalties based on our annual net sales. If we pursue other indications, we may be required to pay up to an additional $15.0 million to GSK for each indication approved by the FDA.

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 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, Abbott Laboratories, Amgen, Antisoma, AstraZeneca, Bayer, Bristol-Myers Squibb, EntreMed, Genentech, Merck & Co., NeoPharm, Novartis, Johnson & Johnson, OSI Pharmaceuticals, Onyx, OXiGENE, Peregrine Pharmaceuticals, 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 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. However, we are not aware of any other N-cadherin targeted compounds in clinical trials. Because cancer treatment often consists of using different drug combinations, it is possible that agents that are either marketed (e.g., Taxotere®) or investigational could be combined with ADH-1 (after achievement of applicable regulatory requirements and approvals) in an effort to improve the efficacy in comparison to the agents used alone. In other words, while a drug with a similar mechanism of action, or with anti-tumor activity in a disease where ADH-1 is also shown to be active, could be viewed as a potential competitor when both drugs are used alone, the combination could prove to be superior to the current standard of care.

We are aware of at least four companies, AstraZeneca, Aventis, OXiGENE and Roche that are clinically developing cancer angiolytics. Their product candidates are tubulin depolymerizing agents that destroy the scaffold-like structure that supports the lining cells (endothelial cells) of blood vessels, causing the endothelial cells to round and cut off blood flow through the blood vessel. They cut off a tumor's blood supply and lead to tumor cell death. Some other angiolytic agents are known to us to be in preclinical development, including antibodies to tumor blood vessel wall components and agents linked with liposomal cytotoxic agents, but little information about these agents is publicly available at this time. These competing angiolytics work in a very different manner than ADH-1 and, to our knowledge, we are the only company approaching tumor angiolysis from the perspective of peptide-based cadherin antagonism. Tumor angiolysis is an emerging field, and our competitors' tubulin depolymerizing agents, like our drug candidates, are still in clinical development. OXiGENE has initiated a Phase III study with its angiolytic agent in the United Kingdom. To our knowledge, no other angiolytic compounds have entered late-stage development. Accordingly, it is premature to speculate on the potential advantages and disadvantages of different angiolytic agents because the efficacy and tolerability profiles of these agents are not yet publicly available.

Anti-angiogenic compounds, which aim to prevent the growth of new tumor vessels, may compete with angiolytic compounds like ADH-1, but they may also be complementary. For instance, it may be useful to consider the use of an anti-angiogenic agent in sequential therapy with an angiolytic agent as a way to initially destroy existing tumor vessels and subsequently prevent new tumor blood vessel growth.

Programmed cell death or apoptosis has a critical role in the maintenance of healthy tissues. It has been increasingly recognized that defects in apoptotic mechanisms and pathways commonly occur to allow cancer cells to survive and flourish. In fact, the defects in the apoptotic pathways are fundamental properties of cancer biology. In recent years, the molecular underpinning of apoptosis pathways has received considerable attention and provides another opportunity for potential therapeutic intervention by inducing apoptosis in tumor cells. ADH-1 is thought to trigger apoptosis in cancer cells. Many other such apoptosis inducers are in preclinical and clinical development as oncology therapeutics candidates with companies that include Sanofi-Aventis, Abbott Laboratories, Novartis, Pfizer and Merck & Co.

There are several potential therapies that may be competitive to our 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. UFT, marketed by Merck KGaA, is another oral 5-FU pro-drug that has not been approved by the FDA, but which is marketed in Japan and several European countries.

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 and under development by Sanofi-Aventis elsewhere in the world, 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. Other reversible DPD inhibitors are in development, including 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. We are aware of one company, Sound Pharmaceuticals, that is developing agents for noise, age related hearing loss and the side effects of chemotherapy. We are also aware of research relating to the use of high doses of amifostine (another thiol-based drug used to control some of the side effects of chemotherapy and radiation therapy) for the protection of hearing in connection with platinum-based chemotherapy, but such research has generally shown it to be less effective than STS for this purpose. 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 are. 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.

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, 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, or IND, 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 patients) 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 (several hundred to several thousand patients) at separate test sites (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. The FDA and its counterparts in other countries may not (i) allow clinical trials to proceed at any time after receiving an IND, (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.

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 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 SEC.

Risks Related to Our Business

We will need to raise substantial additional funds in the future to continue our operations.

We believe that our current cash and cash equivalents will be sufficient to satisfy our anticipated capital requirements through June 30, 2009. Our projections of our capital requirements through June 30, 2009 and beyond, however are subject to substantial uncertainty. Our current and future working capital requirements may change depending upon numerous factors, including: results of our research and development activities; progress or lack of progress in our preclinical studies or clinical trials; our drug substance requirements to support clinical programs; our ability to enter into collaborations that provide us with funding, up-front payments, milestone or other payments; changes in the focus, direction, or costs of our research and development programs; 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; the establishment of marketing and sales capabilities; our business development activities; new regulatory requirements implemented by regulatory authorities; the timing and outcome of any regulatory review process; and our commercialization activities, if any. Any such change could mean additional capital may be required earlier than June 2009 or more capital thereafter may be required than we had anticipated. To finance our operations beyond June 2009, or earlier if necessary, 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. We might not be able to raise the necessary capital or such funding may not be available on favorable terms or at all.

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 to date 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 licensing fees, milestone payments, royalties, up-front payments or other revenue. We have incurred significant operating losses every year since our inception on September 3, 1996. We have experienced net losses of approximately $13.4 million for the fiscal year ended December 31, 2007, $16.4 million for the fiscal year ended December 31, 2006 and $13.9 million for the fiscal year ended December 31, 2005. As of December 31, 2007 we had an accumulated deficit of approximately $84.4 million. We anticipate incurring substantial additional losses over the next several years due to the need to expend substantial amounts on our continuing 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 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.

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 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 not be effective, as eniluracil was shown to be in earlier clinical trials conducted by GSK, 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 superior or equivalent 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, including a significant delay in the activation of our STS Phase III study with COG, 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 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, including specifically eniluracil, ADH-1 and STS, our product candidates that are farthest along in development and the regulatory approval process.

Our clinical studies might be delayed or halted, or additional studies might be required, for various reasons, including:

- the drug is not shown to be 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 FDA current Good Manufacturing Practices, or GMP, 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.

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 collaboration arrangements with academic institutions and other collaborators, including our Development and License Agreement for eniluracil with GSK, a general collaboration agreement with McGill University for ADH-1 and other related compounds, and an exclusive worldwide license from OHSU for STS.

The agreements with McGill and OHSU are terminable by either party in the event of an uncured breach by the other party. We may also terminate our agreement with McGill and OHSU 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. In addition, our collaborators might not perform as agreed in the future.

In addition to the collaborative arrangements above, we have received approval from the DDG of the U.S. National Cancer Institute's Division of Cancer Treatment and Diagnosis for a Level III collaboration for the clinical development of our lead biotechnology compound, ADH-1. The NCI has no obligation to sponsor future clinical trials of ADH-1 or to continue to perform any preclinical work for us and may terminate the collaboration at any time, as may we. The success of our business strategy will be dependent on our ability to maintain current and enter into new collaborations with other industry participants that advance the development and clinical testing of, regulatory approval for and commercialization of our product candidates, as well as collaborations that provide us with funding, such as licensing fees, milestone payments, royalties, up-front payments or otherwise. We may not be successful in maintaining current collaborations or establishing any future collaborations and any collaborations we have or may establish may not lead to the successful development of our product candidates.

Since we conduct a significant portion of our early stage 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.

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 internally to complete Phase III trials for any of our lead product candidates. We are currently developing STS in a Phase III trial in collaboration with SIOPEL and COG. SIOPEL and COG 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 getting the COG trial launched. We may not be able to independently develop or conduct such trials ourselves. We intend to seek a licensing or funding partner for the further development of one or all of our products. 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.

As we expand the size of our organization, we may experience difficulties in effectively managing our growth, which could adversely impact our business.

Our planned future growth will strain our management, human, operational, financial and other resources. As of December 31, 2007, we had 19 full-time employees. We also use contractors as needed, primarily within the clinical development function with approximately five (5) full time equivalents at December 31, 2007. In order to manage our future growth effectively, we will have to implement and improve operational, financial, manufacturing and management information systems and to expand, train, manage and motivate our employees. To the extent that we are unable to manage our growth effectively, we may not be able to successfully accomplish our business objectives.

We may expand our business through new acquisitions that could disrupt our business, harm our financial condition and dilute current stockholders' ownership interests in the Company.

Our business strategy includes expanding our products and capabilities, and we may seek acquisitions to do so. Acquisitions involve numerous risks, including:

- substantial cash expenditures;
- potentially dilutive issuance of equity securities;
- incurrence of debt and contingent liabilities, some of which may be difficult or impossible to identify at the time of acquisition;
- difficulties in assimilating the operations of the acquired companies;
- diverting our management's attention away from other business concerns;
- risks of entering markets in which we have limited or no direct experience; and
- the potential loss of our key employees or key employees of the acquired companies.

We cannot assure you that any acquisition will result in short-term or long-term benefits to us. We may incorrectly judge the value or worth of an acquired company or business. In addition, our future success would depend in part on our ability to assimilate acquired companies and their personnel effectively. We might not be able to make the combination of our business with that of acquired businesses or companies work or be successful. Furthermore, the development or expansion of our business or any acquired business or companies may require a substantial capital

investment by us. We may not have the necessary funds or they might not be available to us on acceptable terms or at all. We may also seek to raise the necessary funds by selling shares of our stock, which could dilute current stockholder's ownership interest in our Company.

If we lose our key personnel or are unable to attract and retain personnel, we may be unable to effectively manage our business and successfully develop our product candidates.

Our success depends upon certain key personnel, in particular Dr. William P. Peters, our Chief Executive Officer and Chairman of the Board, the loss of whose services might significantly delay or prevent the achievement of our scientific or business objectives. Although we have an employment agreement with Dr. Peters through March 2010, and with each of our other key personnel, we cannot be certain that any individual will continue in such capacity for any particular period of time. The loss of any key personnel, or the inability to hire and retain qualified employees, could negatively affect our ability to manage our business. We do not currently carry key person life insurance.

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. A number of our product candidates are licensed under agreements with GSK, McGill and OHSU. 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 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 that 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 or 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.

ADH-1 is currently protected under issued composition of matter patents in the United States that we exclusively licensed from McGill that expire in 2017. Eniluracil is currently protected under issued composition of matter and method patents that we exclusively licensed from GSK that expire in 2014 and 2015 (in combination with 5-fluorouracil). STS is currently protected by method of use patents that we exclusively licensed from OHSU that expire in Europe in 2021 and are currently pending in the United States. None of the above expiry dates take into consideration additional pending patent applications for ADH-1 and 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 ADH-1 and 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 and for the use of ADH-1 in conjunction with melphalan for the treatment of Stage IIB/C, III, and IV malignant melanoma in 2008, and as a result, if approved, will have seven years of exclusivity in the United States from the approval date.

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 our 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.

Some of our product candidates, including STS, are currently only covered by "method of use" patents, which cover 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 provide 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 ADH-1, 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 Canadian 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.

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 GSK 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 GMP. 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 focus, 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, Abbott Laboratories, Amgen, Antisoma, Adventrix, AstraZeneca, Bayer, Bristol-Myers Squibb, EntreMed, Genentech, Johnson & Johnson, Merck & Co., NeoPharm, Novartis, Onyx, OSI Pharmaceuticals, OXiGENE, Peregrine Pharmaceuticals, 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, 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 with a policy limit of $5.0 million, 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 are successful. 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. Adverse liability claims may also harm our ability to obtain or maintain regulatory approvals.

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

Our research and development processes involve 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. While we believe that our safety procedures for handling and disposing of such materials will comply with the standards prescribed by applicable federal, state, local or foreign regulations, the risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of such an accident, 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.

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 some foreign 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 and Canada. 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.

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.

New accounting or regulatory pronouncements may impact our future financial position and results of operations.

There may be new accounting or regulatory pronouncements or rulings, which could have an impact on our future financial position and results of operations. Changing laws, regulations and standards relating to corporate governance and public disclosures can create uncertainty and such uncertainty may lead to increased expenses and exposure to liabilities.

Risks Related to Owning Our Common Shares

We are a passive foreign investment company under U.S. tax law, which has adverse tax consequences for our U.S. shareholders.

As further described in Item 5. “Market for the Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities” – “Material United States Federal and Canadian Income Tax Consequences” in our Annual Report on Form 10-K, we have determined that we are currently a Passive Foreign Investment Company, or PFIC, under U.S. tax law and likely will continue to be a PFIC at least until we develop a source of significant operating revenues. As a result, there may be adverse tax consequences to U.S. holders of our common shares. A U.S. holder whose holding period for our shares includes a period during which we are classified as a PFIC generally may be required to treat certain excess distributions with respect to our shares and gains realized on the disposition of our shares as ordinary income earned ratably over the holder’s holding period and may be subject to a special tax and interest charge on amounts treated as earned in the periods in which we are a PFIC. In addition, the holder’s shares may not receive a “stepped-up” basis upon a transfer at death. These PFIC tax rules may not apply if a U.S. holder makes an election for the first taxable year of the holder’s holding period to be taxed currently on the holder’s pro rata share of our ordinary earnings and net capital gain for any year we are a PFIC. Alternatively, a U.S. holder may avoid the special tax and interest charge on excess distributions and gains by making an election to mark the shares to market annually during any period in which we are a PFIC and our shares are treated as marketable shares. If a mark-to-market election is made, amounts included in or deducted from income pursuant to the election and actual gains and losses realized upon disposition generally may be treated as ordinary gains or losses. Whether or not an applicable election is made, if we are classified as a PFIC for the taxable year in which a dividend is paid, or for the preceding taxable year, a dividend paid to a non-corporate U.S. holder may not qualify for the reduced long-term capital gains rates. These tax issues could make our stock less attractive to U.S. investors and therefore negatively affect our stock price and the ability to sell our shares.

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

Historically, the market price of our common shares has been highly volatile and the market for our common shares has from time to time experienced significant price and volume fluctuations, some of which are unrelated to our operating performance. From November 12, 2004 to March 17, 2008, the trading price of our stock fluctuated from a high closing price of CAD$2.09 per share to a low closing price of CAD$0.23 per share on the TSX, and from a high closing price of $1.71 per share to a low closing price of $0.20 per share on the AMEX. Historically, our common shares have 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 shares. It is likely that the market price of our common shares will continue to fluctuate significantly in the future.

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

- 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;
- announcements of licensing agreements, joint ventures, collaborations or other strategic alliances that involve our products or those of our competitors;
- developments or disputes concerning our licensed or owned patents or those of our competitors;
- economic and other external factors generally or stock market trends in the pharmaceutical or biotechnology industries specifically;
- developments with respect to the efficacy or safety or our products or those of our competitors; and
- health care reforms and reimbursement policy changes nationally and internationally.

There are a large number of our common shares 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 shares.

Sale or issuance of a substantial number of our common shares in the future could cause the market price of our common stock to decline. It may also impair our ability to obtain additional financing. As of December 31, 2007, we had outstanding warrants to purchase approximately 7.6 million of our common shares at an exercise price of CAD$2.15 per share, and outstanding warrants to purchase approximately 48.2 million of our common shares at exercise prices ranging from $0.33 to $1.75. In addition, as of December 31, 2007, there were approximately 15.6 million common shares issuable upon the exercise of stock options granted by us of which approximately 2.9 million were denominated in Canadian dollars and had a weighted average exercise price of CAD$2.18 per common share and approximately 12.7 million denominated in U.S. dollars and had a weighted average exercise price of $0.58 per common share. In addition, on February 27, 2008, we issued 3.2 million stock options with an exercise price of $0.38. We may also issue further warrants as part of any future financings as well as the additional 1.8 million common shares currently remaining available for issuance under our stock option plan.

We are no longer a foreign private issuer and may incur additional expenses associated with compliance with the U.S. securities laws applicable to U.S. domestic issuers.

We must now comply with the provisions of U.S. securities laws applicable to U.S. domestic issuers including, without limitation, the U.S. proxy solicitation rules, Regulation FD and the Section 16 short swing profit rules. As a result, we must now report on the forms required of U.S. companies, such as Forms 10-K, 10-Q and 8-K, rather than the forms we have filed with the SEC in the past as a foreign private issuer, such as Forms 20-F and 6-K. Compliance with these additional securities laws may result in increased expenses. In addition, we will now be subject to additional restrictions on offers and sales of securities outside of the United States, including in Canada. To the extent that we were to offer or sell our securities outside of the United States in the future, we will have to comply with the generally more restrictive Regulation S requirements that apply to U.S. companies.

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 Shares and the lack of a dividend payable on our Common Shares 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 shares.

There is no public market for our outstanding warrants.

We have not and do not intend to list any of our outstanding warrants on any securities exchange or to arrange for any quotation system to quote them. We cannot assure you that there will be a liquid trading market for our warrants or that a trading market for our warrants will develop.

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

As of December 31, 2007, our current 5% stockholders beneficially own approximately 60% of our Common Shares. In particular, Southpoint Capital Advisors LP owns or exercises control over 41.5 million Common Shares, representing approximately 32% of the issued and outstanding Common Shares and 42% beneficially owned (assuming full exercise of the 20.8 million warrants issued to Southpoint Capital but no other outstanding warrants or options). In addition, Mr. Robert Butts, Co-Founder and Portfolio Manager of Southpoint Capital Advisors LP, serves as a member of our Board of Directors. Southpoint Capital, our other 5% stockholders, as well as 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 the election and removal of directors, an acquisition or merger with another company, certain equity transactions, a sale of substantially all of our assets, 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 Shares or deprive our other stockholders of an opportunity to receive a premium for their Common Shares as part of a sale of our company.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We lease two facilities, one of which we sublease to another tenant. The facility we occupy has approximately 18,272 square feet of laboratory and office space in Research Triangle Park, North Carolina and the current monthly lease payments are approximately $30,000 and the lease expires in August 2012. The subleased space consists of approximately 7,636 square feet of laboratory and office space and the current monthly payments are approximately $10,000 and the lease expires in March 2010 and is sublet through March 31, 2008. The sublease agreement is on the same terms as our original lease.

Item 3. Legal Proceedings

None.

Item 4. Submission of Matters to a Vote of Security Holders

None.

Executive Officers of the Registrant

The following table sets forth information concerning our executive officers as of March 17, 2008:

Name	Age	Position
Dr. William P. Peters	57	Chief Executive Officer and Chairman
Dr. Robin J. Norris	61	President and Chief Operating Officer
James A. Klein, Jr.	45	Chief Financial Officer
D. Scott Murray	38	Senior Vice President, Corporate Development, General Counsel and Secretary

William P. Peters, MD, PhD, MBA. Dr. Peters has been the Chief Executive Officer of Adherex since March 2003, the Chairman of our Board since February 2004, and a member of the Board since November 2002. From March 2003 to February 2004, Dr. Peters served as the Vice Chairman of the Board. Dr. Peters has served on the faculty at Harvard University, Duke University and Wayne State University. He originated the solid tumor high-dose chemotherapy and bone marrow transplant program at the Dana-Farber Cancer Institute, and was Director of Bone Marrow Transplantation and Professor of Medicine at Duke University from 1984 to 1995 and was an Associate Director of the Cancer Center. He then served as President, Director and CEO of the Karmanos Cancer Institute from 1995 to 2001. Simultaneously, he served as Associate Dean for Cancer at Wayne State University and Senior Vice President for Cancer Services at the Detroit Medical Center. In 2001, he organized the Institute for Strategic Analysis and Innovation at the Detroit Medical Center of which he served as President. Dr. Peters has three Bachelor degrees (Biochemistry, Biophysics and Philosophy) from Pennsylvania State University, received his MPhil, MD and PhD degrees from the Columbia University College of Physicians & Surgeons in New York and trained clinically at Harvard University Medical School's Brigham and Women's Hospital and Dana-Farber Cancer Institute. He is board certified in internal medicine and medical oncology. He earned his MBA at the Duke University Fuqua School of Business.

Robin J. Norris, MD. Dr. Norris has been the Chief Operating Officer of Adherex since January 2002, President of Adherex since June 2002 and a member of the Board since November 2002. Prior to joining Adherex, Dr. Norris was Chief Operating Officer and Chairman of the Scientific Advisors Committee of PowderJect plc from March 1998 to December 2001 and Chief Operating Officer of Noven Inc. from March 1995 to March 1998. Dr. Norris received his medical education and degree in the United Kingdom with postgraduate qualifications in obstetrics, general medicine and pharmaceutical medicine. Following eight years of clinical practice, Dr. Norris has spent over 25 years in the pharmaceutical industry, predominantly based in the United States, but with global drug development responsibilities. During his career, Dr. Norris has been responsible for the successful development of a wide range of pharmaceutical products and devices, moving and transitioning them from fundamental "bench-level" research and development through the regulatory process and into the global marketplace.

James A. Klein, Jr., CPA. Mr. Klein joined Adherex as Chief Financial Officer in April 2004. From 1999 to April 2004, Mr. Klein founded and served as Chief Executive Officer and Chairman of DataScout Software Inc., a company that develops and commercializes software for the pharmaceutical industry. From 1995 to 1999, Mr. Klein served as Chief Financial Officer and Treasurer of Triangle Pharmaceuticals Inc., a publicly traded pharmaceutical company. Prior to that, Mr. Klein was the International Research and Development Financial Controller for Burroughs Wellcome Co., an international pharmaceutical group. Mr. Klein is a Certified Public Accountant.

D. Scott Murray, BScPharm, LLB, MBA. Mr. Murray has been General Counsel and Corporate Secretary of Adherex since February 2003, a Vice President of the Company since September 2003 and Senior Vice President, Corporate Development since February 2007. Prior to joining Adherex, Mr. Murray was an Associate at Osler, Hoskin & Harcourt LLP in Toronto specializing in private and public corporate finance, mergers and acquisitions as well as securities compliance and pharmaceutical regulatory matters. At Osler, Hoskin & Harcourt LLP, Mr. Murray worked with a number of international pharmaceutical corporations, some of the largest securities dealers in North America, various early-stage biotechnology clients and also spent a secondment in the legal department of General Motors of Canada. Prior to joining Osler, Hoskin & Harcourt LLP, Mr. Murray practiced as a pharmacist for over seven years, including several retail pharmacy management positions. Mr. Murray holds a Bachelor of Science in Pharmacy degree from Dalhousie University and LLB and MBA degrees from the University of Ottawa.

Part II

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

Our common stock has been traded on the American Stock Exchange, or AMEX, under the trading symbol "ADH" since November 12, 2004 and on the Toronto Stock Exchange, or TSX, under the trading symbol "AHX" since June 5, 2001. The following table sets forth the quarterly high and low market closing prices, and average daily trading volume on the AMEX and the TSX, for the two most recent full financial years:

	American Stock Exchange (in U.S. dollars)			Toronto Stock Exchange (in Canadian dollars)		
	High $	Low $	Volume	High $	Low $	Volume
Fiscal 2007:						
Quarter ended 12/31/07	$ 0.43	$ 0.25	114,251	$ 0.43	0.23	16,622
Quarter ended 09/30/07	0.57	0.26	177,938	0.59	0.27	75,130
Quarter ended 06/30/07	0.69	0.44	684,122	0.76	0.48	88,394
Quarter ended 03/31/07	0.54	0.28	481,203	0.65	0.32	100,693
Fiscal 2006:						
Quarter ended 12/31/06	0.44	$ 0.31	119,038	0.52	0.35	40,284
Quarter ended 09/30/06	0.66	0.32	100,338	0.72	0.35	34,439
Quarter ended 06/30/06	1.11	0.64	53,284	1.32	0.70	20,125
Quarter ended 03/31/06	1.40	0.82	50,006	1.64	0.88	23,019

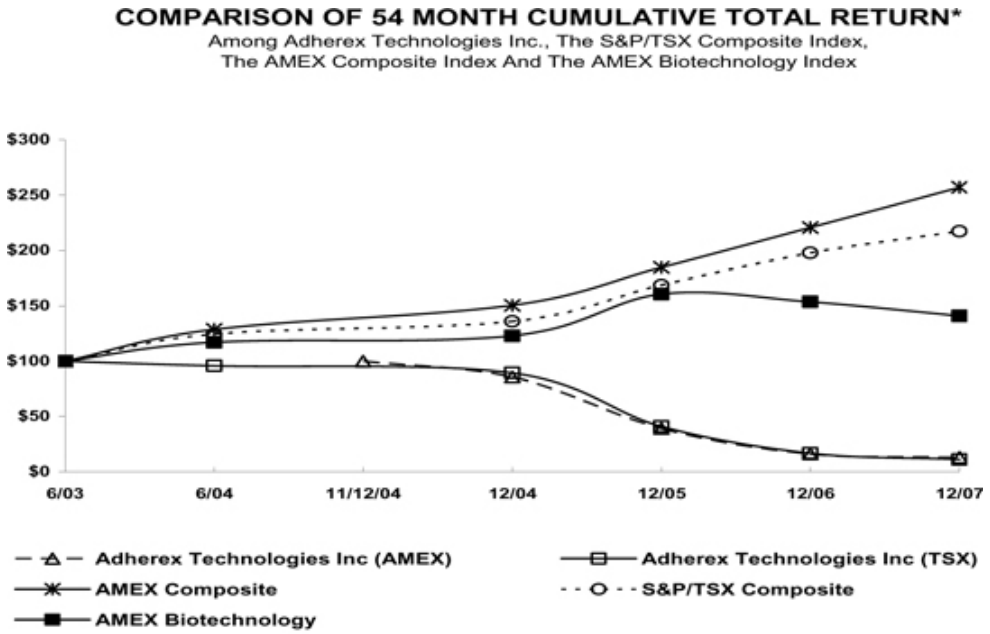
On March 17, 2008, the last reported sale price on the AMEX was $0.35 per share. As of March 17, 2008, the last reported sale on the TSX was CAD$0.30 per share.

Record Holders

As of March 17, 2008, there were approximately 88 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.

Relative Stock Performance

The following line graph compares the percentage change, from June 30, 2003 to December 31, 2007, in cumulative total shareholder return for $100 (CAD$ for TSX and US$ for AMEX) invested in our common stock with cumulative total return of the AMEX Composite, the AMEX Biotechnology Index and the S&P/TSX Composite Total Return Index. Note the line graph reflects our change in year end from June 30th to December 31st in June 2004. The line graph also reflects the November 12, 2004 commencement of trading on the AMEX stock exchange.



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.

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. In this section, we have calculated whether it meets certain thresholds related to its status under various U.S. tax rules. Any such calculation is dependent on many facts, not all of which may be known to us and any of which might change, which could change the results of any calculation.

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

- at all relevant times are: (i) U.S. persons for purposes of the U.S. Internal Revenue Code of 1986, or the Code, as amended, through the date hereof, (ii) non-residents 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 Tax Convention (1980), or the Tax Treaty, as amended through the date hereof;
- hold common stock as capital assets 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 Canada-United States Income Tax Convention (1980);
- 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 published by the U.S. Internal Revenue Service; and
- judicial decisions.

All of the foregoing is 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," 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 Foreign Personal Holding Company Rules, Passive Foreign Investment Company Rules and Controlled Foreign Corporation Rules, 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 company to the extent of a company'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 in an amount equal to the Canadian tax withheld. To the extent distributions paid by a 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.

On May 28, 2003, the Jobs and Growth Tax Relief Reconciliation Act of 2003, or the 2003 Act, was signed into law. In general, the 2003 Act reduces the maximum rate of U.S. federal income tax on dividends paid to non-corporate U.S. holders to 15% for tax years from 2003 to 2008. In order to qualify for the reduced tax rates on dividends, a non-corporate 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. Additionally, the new tax rates do not apply to dividends, which a non-corporate shareholder elects to treat as investment income for purposes of Section 163(d)(4) of the Code.

Dividends received from a "qualified foreign corporation" are eligible for the reduced dividends tax rates under the 2003 Act. 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 foreign personal holding company, or FPHC, or a passive foreign investment company, or PFIC. Accordingly, any dividends paid by us in a year that we are a FPHC or 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 under the 2003 Act. As discussed below under "Foreign Personal Holding Company Rules" and "Passive Foreign Investment Company Rules," we have determined that we are a PFIC for U.S. federal income tax purposes and likely will continue to be a PFIC at least until we develop a source of significant operating revenues.

Dividends paid by the Company generally will constitute foreign source dividend income and "passive income" for purposes of the foreign tax credit, which could reduce 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. tax payer.

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 "dividend received" deduction.

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.

Dividends paid by the Company on the common stock generally will be subject to U.S. information reporting, and a backup withholding tax 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 tax rules against your U.S. federal income tax liability, provided you furnish the required information to the Internal Revenue Service.

Foreign Personal Holding Company Rules

Special U.S. tax rules apply to a shareholder of a foreign personal holding company or FPHC. Furthermore, as discussed above, dividends from a FPHC do not qualify for the reduced tax rates on dividends paid to non-corporate U.S. holders under the 2003 Act. The Company would be classified as a FPHC in any taxable year if both of the following tests are satisfied:

- five or fewer individuals who are U.S. citizens or residents own or are deemed to own more than 50% of the total voting power of all classes of our stock entitled to vote or the total value of the our stock; and

- at least 50% (60% in the first year that we are classified as a FPHC) of our gross income consists of "foreign personal holding company income," which generally includes passive income such as dividends, interest, gains from the sale or exchange of stock or securities, rents and royalties.

We believe that we are not a FPHC. However, we cannot assure you that we will not be classified as a FPHC in the future.

Personal Holding Company Rules

We will not be classified as a personal holding company, or a PHC, for U.S. federal income tax purposes unless at any time during the last half of the Company's taxable year, five or fewer individuals (without regard to their citizenship or residency) own or are deemed to own (pursuant to certain attribution rules) more than 50% of our stock by value, and at least 60% of our ordinary gross income for the taxable year is "personal holding company income" (generally passive income such as dividends and interest). If we are classified as a PHC, the corporation may be liable for the U.S. PHC tax on the Company's U.S. source undistributed PHC income. The Company should not meet the PHC tests, and even if the Company were to become a PHC, it does not expect to have material undistributed PHC income. However, we cannot assure you that we will not become a PHC because of uncertainties regarding the application of the constructive ownership rules and the possibility of changes in our shareholder base and income or other circumstances that could change the application of the PHC rules. In addition, if we should become a PHC, we cannot assure you that the amount of its PHC income will be immaterial.

Passive Foreign Investment Company Rules

The passive foreign investment company or PFIC provisions of the Code can have significant tax effects on U.S. Shareholders. We will be classified as a PFIC for any taxable year, if, after the application of certain "look through" rules, either:

- 75% or more of our gross income is “passive income,” which includes interest, dividends and certain rents and royalties; or
- the average quarterly percentage, by fair market value of our assets that produce or are held for the production of “passive income,” is 50% or more of the fair market value of all of our assets.

Based upon our review of our financial data for the current and prior fiscal years, we have determined that we are currently a PFIC and likely will continue to be a PFIC at least until we develop a source of significant operating revenues.

Our classification as a PFIC for any period during a U.S. Shareholder’s holding period for our shares, absent the holder validly making one of the elections described below, would generally require the U.S. Shareholder to treat all “excess distributions” received during such holding period with respect to those shares as if those amounts were ordinary income earned ratably over such holding period. Excess distributions for this purpose would include all gain realized on the disposition of the shares as well as certain distributions made by us. Amounts treated under this analysis as earned in the year of the disposition or in any year before the first year in which we are a PFIC would be included in the holder’s ordinary income for the year of the disposition. Additionally, amounts treated as earned in a year of distribution would be included in the holder’s ordinary income for the year of the distribution. All remaining amounts would be subject to tax at the highest ordinary income tax rate that would have been applicable in the year in which such amounts were treated as earned, and interest would be charged on the tax payable with respect to such amounts. In addition, if we are classified as a PFIC, shares acquired from a decedent generally would not receive a “stepped-up” basis but would, instead, have a tax basis equal to the lower of the decedent’s basis or the fair market value of those shares or ADSs on the date of the decedent’s death.

The special PFIC tax rules described above will not apply to a U.S. Shareholder if the holder makes a QEF election to have us treated as a qualified electing fund for the first taxable year of the holder’s holding period in which we are a PFIC and we provide certain information to the U.S. Shareholder. A U.S. Shareholder that makes a QEF election with respect to us will be currently taxable on its pro rata share of our ordinary earnings and net capital gain during any years we are a PFIC (at ordinary income and capital gains rates, respectively), regardless of whether or not distributions were received. An electing U.S. Shareholder’s basis in the shares would be increased by the amounts included in income, and subsequent distributions by us of previously included earnings and profits generally would not be treated as a taxable dividend and would result in a corresponding reduction in basis. A U.S. Shareholder making such a timely election will not be taxed on our undistributed earnings and profits for any year that we are not a PFIC. Upon request by a U.S. shareholder, we will provide the information necessary for such holder to make the QEF election.

Alternatively, subject to specific limitations, U.S. Shareholders who actually or constructively own marketable shares in a PFIC may make an election under Section 1296 of the Code to mark those shares to market annually, rather than being subject to the above-described rules. Amounts included in or deducted from income under this mark-to-market election and actual gains and losses realized upon disposition, subject to specific limitations, will be treated as ordinary gains or losses. For this purpose, we believe that our shares will be treated as “marketable securities” within the meaning of Section 1296(e)(1) of the Code.

As discussed above, dividends from a PFIC do not qualify for the reduced tax rates on dividends paid to non-corporate U.S. Shareholders under the 2003 Act.

You should consult your tax advisor with respect to how the PFIC rules affect your tax situation.

Controlled Foreign Corporation Rules

If more than 50% of the voting power or total value of all classes of our shares are owned, directly or indirectly, by U.S. shareholders, each of which owns 10% or more of the total combined voting power of all classes of our shares, we could be treated as a controlled foreign corporation, or CFC under Subpart F of the Code. This classification would require such 10% or greater shareholders to include in income their pro rata shares of our “Subpart F Income,” as defined in the Code. In addition, under Section 1248 of the Code, gain from the sale or exchange of shares by a U.S. Shareholder who is or was a 10% or greater shareholder while we were a CFC at any time during the five year period ending with the sale or exchange will be ordinary dividend income to the extent our earnings and profits attributable to the shares sold or exchanged and not previously taxed under Subpart F.

We believe that we are not a CFC. However, we cannot assure you that we will not become a CFC in the future.

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 prescribed stock exchange, which includes the Toronto Stock Exchange and the American Stock Exchange, 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 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.

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 Canada-United States Income Tax Convention (1980), or Convention, 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 a company’s voting shares, the rate of withholding tax on dividends generally is reduced to 5%. United States limited liability companies, or LLCs, are not currently entitled to rely on the terms of the Convention, and therefore do not benefit from these reduced rates. Under the terms of a protocol to the Convention signed in September 2007, reduced rates under the Convention will apply to members of look-through entities, such as LLCs and partnerships, who would be

entitled to rely on the Convention if they held the common stock directly. Members of such entities will be regarded as holding their proportionate share of the common stock held by the entity for the purposes of the Convention. The protocol has not yet been ratified. The new provisions will come into effect with respect to withholding taxes at the beginning of the second month after ratification."

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 6. Selected Financial Data.

The selected statement of operations data and balance sheet data with respect to the years ended December 31, 2007, 2006 and 2005 and the six months ended December 31, 2004 and the years ended June 30, 2004 and 2003 as set forth below are derived from our consolidated financial statements as prepared in all material respects with generally accepted accounting principles in the United States and prepared in U.S. dollars. The selected financial data set forth below should be read in conjunction with our "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained in Item 7 below and our consolidated financial statements and the notes thereto appended to this Annual Report filed on Form 10-K. These historical results are not necessarily indicative of our future results.

Statement of Operations Data: In thousands, except per share data	Year Ended December 31, 2007	Year Ended December 31, 2006	Year Ended December 31, 2005	Six Months Ended December 31, 2004	Years Ended June 30, 2004	Years Ended June 30, 2003
Revenue	$ —	$ —	$ —	$ —	$ —	$ —
Operating expenses:						
Research and development	10,912	14,003	11,678	3,448	3,691	2,992
Acquired in-process research and development	—	—	—	—	—	13,094
General and administration	3,278	2,883	2,543	2,290	3,486	2,023
Loss from operations	(14,190)	(16,886)	(14,221)	(5,738)	(7,177)	(18,109)
Settlement of Cadherin Biomedical Inc. litigation	—	—	—	(1,283)	—	—
Interest expense	—	(3)	(11)	—	—	(5)
Interest income	833	449	361	171	162	72
Loss before income taxes	(13,357)	(16,440)	(13,871)	(6,850)	(7,015)	(18,042)
Recovery of income taxes	—	—	—	166	130	247
Net loss	$ (13,357)	$ (16,440)	$ (13,871)	$ (6,684)	$ (6,885)	$ (17,795)
Net loss per share of common stock, basic and diluted	$ (0.11)	$ (0.34)	$ (0.35)	$ (0.19)	$ (0.28)	$ (1.38)
Weighted average number of shares of common stock outstanding, basic and diluted	116,571	47,663	39,276	35,989	24,233	12,920

Balance Sheet Data: In thousands, except per share data	December 31, 2007	December 31, 2006	December 31, 2005	December 31, 2004	June 30, 2004	June 30, 2003
Cash, cash equivalents and short-term investments	$ 16,217	$ 5,718	$ 13,144	$ 17,548	$ 20,701	$ 2,360
Working capital	14,159	1,200	10,735	16,132	20,091	2,231
Total assets	17,209	6,628	14,291	18,573	22,014	3,919
Common stock	64,929	46,524	41,306	34,362	33,603	16,726
Additional paid-in capital	32,355	24,523	23,110	21,760	21,117	11,147
Accumulated deficit	(84,379)	(71,022)	(54,582)	(40,711)	(34,117)	(27,244)
Shareholders' equity	$ 14,148	$ 1,268	$ 11,077	$ 16,654	$ 20,454	$ 699
Number of shares of common stock outstanding	128,227	50,382	42,629	36,535	35,891	16,069

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 ("U.S. GAAP") and applicable U.S. Securities and Exchange Commission ("SEC") regulations for financial information. The preparation of these financial statements also conform in all material respects with generally accepted accounting principles in Canada ("Canadian GAAP") except as described in Note 15 in our annual consolidated financial statements contained in this Annual Report on Form 10-K for the year ended December 31, 2007. 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

We are a biopharmaceutical company focused on cancer therapeutics with preclinical and clinical product candidates. Our clinical product portfolio includes:

- *Eniluracil*, a dihydropyrimidine dehydrogenase, or DPD, inhibitor that we are developing to enhance the therapeutic value and effectiveness of 5-fluorouracil, or 5-FU, one of the world's most widely used oncology agents. 5-FU is currently used as first or second-line therapy for a variety of cancers, including colorectal, breast, gastric, head and neck, ovarian, and basal cell cancer of the skin, among others. We have two ongoing Phase I clinical trials combining eniluracil and 5-FU which are intended to establish the safety and tolerability of our proprietary combination. We licensed eniluracil from GlaxoSmithKline, or GSK, in July 2005.
- *ADH-1*, an anti-cancer drug that selectively targets N-cadherin present on certain tumor cells and the established blood vessels that supply tumors. We currently have two Phase I combination clinical studies ongoing, including a study using systemic ADH-1 in combination with three different systemic chemotherapy agents, and a study combining systemic ADH-1 with regional melphalan for the treatment of melanoma. In December 2006, we completed patient enrollment in our Phase Ib/II and Phase II single-agent ADH-1 clinical studies in Europe and North America. We licensed ADH-1 from McGill University in February 2001.
- *STS*, a chemoprotectant that has been shown in Phase I and Phase II clinical studies conducted by investigators at Oregon Health & Science University, or OHSU, to reduce the disabling loss of hearing in patients treated with platinum-based anti-cancer agents. In 2006, we entered into an agreement with 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, for the conduct of a Phase III clinical trial using STS. On October 30, 2007, we announced that SIOPEL had launched the Phase III clinical trial and opened the study for patient enrollment in the United Kingdom. The study will involve SIOPEL centers in up to 33 countries is expected to enroll approximately 100 evaluable children with liver (hepatoblastoma) cancer being treated with cisplatin, a platinum-based chemotherapy drug used to treat various types of pediatric cancers. Under the terms of our agreement, SIOPEL will conduct and fund the clinical activity and we will provide the drug and drug distribution for the study. On March 26, 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, or COG. 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 will be one to eighteen years of age who are to receive cisplatin according to their disease-specific regimen and, upon enrollment onto 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 120 patients over approximately three years in up to 230 COG centers in the United States, Canada, Australia and Europe. COG will fund the clinical activities for the study and we will be responsible for providing the drug and drug distribution for the study. We licensed STS from OHSU in September 2002.

Our preclinical portfolio includes: (1) novel peptides and small chemical molecule successors to ADH-1; (2) peptides and small molecules targeting the cadherin-mediated metastatic spread of some cancers; and (3) peptides that combine both angiolytic and anti-angiogenic properties. We have synthesized small chemical molecules and peptide antagonists and agonists for a wide array of cadherin adhesion molecules, with drug candidates available to move into future clinical development, particularly in the following areas:

- *Peptide N-cadherin antagonists.* We have identified novel peptide molecules that differ in structure from ADH-1 and that have extended stability in plasma. These molecules offer the potential advantages of extended plasma half-life and enhanced potency compared to ADH-1.
- *Small molecule N-cadherin antagonists*. We have identified a series of small chemical molecules that, in our preliminary studies, have displayed potent N-cadherin antagonism activity. Unlike ADH-1 and the other peptide N-cadherin antagonists, these molecules are not peptides and are smaller and simpler in structure. Compared to peptides, small chemical molecules are often active after oral administration, more stable and have different potency and toxicity profiles.
- *OB-cadherin*. OB-cadherin is reported to be involved in the metastatic spread of certain cancers to sites distant from the original tumor. Metastatic disease is a major determinant of both a patient's survival and quality-of-life. We have developed OB-cadherin peptide and small molecule antagonists with the potential to reduce or slow down the metastatic spread of tumors, such as breast and prostate cancers.
- *VE-cadherin*. Like N-cadherin, VE-cadherin is important in the structural integrity of certain tumor blood vessels. We have developed peptide VE-cadherin antagonists that have the potential to be synergistic with our N-cadherin antagonists.

In addition to our current development efforts, we continue to pursue collaborations with other pharmaceutical companies, governmental agencies, academic or corporate collaborators with respect to these and other cadherin agonist and antagonist molecules. Our drug discovery and

development efforts are supported by more than 50 issued U.S. patents and more than 50 issued and pending patents worldwide that we either own or have licensed Exclusively.

We have not received any revenues to date through the sale of our products and do not expect to have significant revenues until we are either able to sell our product candidates after obtaining applicable regulatory approvals or we establish collaborations that provide us with licensing fees, milestone payments, royalties, up-front payments or other revenue. As of December 31, 2007, our deficit accumulated during development stage was approximately $84.4 million.

Our operating expenses will depend on many factors, including the progress of our drug development efforts and the potential commercialization of our product candidates. 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 and will depend on the results of clinical trials, availability of financial resources and directions 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, insurance and other administrative matters associated with our facilities in the Research Triangle Park, North Carolina in support of our drug development programs.

Results of Operations

Fiscal 2007 versus Fiscal 2006

In thousands of U.S. Dollars	Fiscal 2007	%	Fiscal 2006	%	Increase (Decrease)
Revenue	$ —		$ —		$ —
Operating expenses:					
Research and development	10,912	77%	14,003	83%	(3,091)
General and administration	3,278	23%	2,883	17%	395
Total operating expense	(14,190)	100%	(16,886)	100%	(2,696)
Interest expense	—		(3)		3
Interest income	833		449		384
Total other income	833		446		387
Net loss and total comprehensive loss	$(13,357)		$(16,440)		$ (3,083)

- Research and development expenses were lower in fiscal 2007 as compared to 2006, primarily due to lower drug manufacturing and clinical trial expense and a reduction in staff. In fiscal 2006, we incurred more drug manufacturing expense to source clinical studies, including the single-agent Phase Ib/II and Phase II studies for ADH-1 which completed enrollment in December 2006. During fiscal 2007, we transitioned the clinical trials of ADH-1 from single-agent clinical trials to combination studies with other chemotherapies, as is often customary in the development of drugs for the treatment of cancer. The combination studies with ADH-1 were less expensive compared to the single-agent ADH-1 studies. During fiscal 2007, we reduced our permanent preclinical and clinical personnel and adopted the use of external contractors for certain functions, thereby decreasing compensation expense. While we had a reduction in expenses for ADH-1 in fiscal 2007, we increased development expenses during fiscal 2007 due to the clinical advancement of eniluracil. In addition, on March 1, 2007, we purchased all of GlaxoSmithKline's, or GSK, remaining options to buy back eniluracil for a fee of $1.0 million, which is included in research and development expense. As a result, we have assumed full direction and control over the future development of eniluracil. We are required to pay GSK development and sales milestone payments and sales royalties. Specifically, if we file a New Drug Application, or NDA, with the Food and Drug Administration, or FDA, we will be obligated to pay GSK development milestones of $5.0 million. Depending upon the commercial success of eniluracil, we may also be required to pay GSK up to $70.0 million in additional development and sales milestones, plus double-digit royalties based on our annual net sales. If we pursue other indications, we may be required to pay up to an additional $15.0 million to GSK for each indication approved by the FDA.
- General and administrative expenses increased in fiscal 2007 as compared to fiscal 2006 primarily due to stock-based compensation expense. During fiscal 2007, we granted 11.1 million stock options as compared to 0.4 million in fiscal 2006 thereby increasing our fiscal 2007 stock-based compensation expense.
- Interest expense for fiscal 2006 relates to the financing of certain leasehold improvements which were not present in fiscal 2007.
- Interest income increased in fiscal 2007 due to the earnings on additional cash from our February 2007 financing, which resulted in net proceeds of $23.2 million.

Fiscal 2006 versus Fiscal 2005

In thousands of U.S. Dollars	Fiscal 2006	%	Fiscal 2005	%	Increase (Decrease)
Revenue	$ —		$ —		$ —
Operating expenses:					
Research and development	14,003	83%	11,678	82%	2,325
General and administration	2,883	17%	2,543	18%	340
Total operating expense	(16,886)	100%	(14,221)	100%	2,665
Interest expense	(3)		(11)		(8)
Interest income	449		361		88
Total other income	446		350		96
Net loss and total comprehensive loss	$(16,440)		$(13,871)		$ (2,569)

- Research and development expenses increased in fiscal 2006 as compared to 2005, primarily due to clinical trial expense in fiscal 2006 as compared to fiscal 2005. Fiscal 2006 included a full year of development of eniluracil as compared to only six months during fiscal 2005. In addition, we incurred more clinical trial expense in fiscal 2006 due to the advancement of our single-agent ADH-1 Phase Ib/II and Phase II studies. Increases in R&D expense in fiscal 2006 were offset by lower stock-based compensation expense in fiscal 2006 as compared to fiscal 2005.
- General and administrative increases in fiscal 2006 as compared to fiscal 2005 primarily relate to the adoption of Statement of Financial Accounting Standards, or SFAS No. 123 (revised 2004), Share-Based Payment", or SFAS123(R), on January 1, 2006. As a result of the adoption of SFAS123(R) in fiscal 2006, no stock-based compensation was recorded in fiscal 2005.
- Interest expense for fiscal 2006 and 2005 relate to the financing of certain leasehold improvements which was terminated in fiscal 2006.
- Interest income increased in fiscal 2006 due to the additional cash from our May 2006 offering and slightly higher interest rates achieved in fiscal 2006.

Quarterly Information

The following table presents selected consolidated financial data for each of the last eight quarters through December 31, 2007, as prepared under U.S. GAAP (dollars in thousands, except per share information):

Period	Net Loss for the Period	Basic and Diluted Net Loss per Common Share
December 31, 2005	$ (4,149)	$ (0.10)
March 31, 2006	$ (3,177)	$ (0.07)
June 30, 2006	$ (3,854)	$ (0.08)
September 30, 2006	$ (4,648)	$ (0.09)
December 31, 2006	$ (4,761)	$ (0.09)
March 31, 2007	$ (3,968)	$ (0.05)
June 30, 2007	$ (3,179)	$ (0.03)
September 30, 2007	$ (3,202)	$ (0.02)
December 31, 2007	$ (3,008)	$ (0.02)

Liquidity and Capital Resources

In thousands, except share data	December 31, 2007	December 31, 2006	December 31, 2005
Selected Asset and Liability Data:			
Cash and cash equivalents	$ 16,217	$ 5,718	$ 13,144
Working capital	14,159	1,200	10,735
Selected Asset and Liability Data:			
Common stock	$ 64,929	$ 46,524	$ 41,306
Accumulated deficit	(84,379)	(71,022)	(54,582)
Shareholders' equity	14,148	1,268	11,077
Selected Cash Flow Data:			
Net cash used in operating activities	$ (13,303)	$ (13,475)	$ (12,261)
Net cash provided from financing activities	23,875	6,054	7,959
Number of shares of common stock outstanding	128,227	50,382	42,629

We have financed our operations since inception on September 3, 1996 through the sale of equity and debt securities and have raised gross proceeds totaling approximately $86.0 million through December 31, 2007. We have incurred net losses and negative cash flow from operations each year, and we had an accumulated deficit of approximately $84.4 million as of December 31, 2007. We have not generated any revenues to date through the sale of products. We do not expect to have significant revenues or income, other than interest income, until we are able to sell our product candidates after obtaining applicable regulatory approvals or we establish collaborations that provide us with licensing fees, royalties, milestone payments or up-front payments.

On February 21, 2007, we completed the sale of equity securities for gross proceeds of $25.0 million. We issued 75.8 million units at a price of $0.33 per unit providing net proceeds of $23.2 million after deducting broker fees and other offering expenses. Each unit sold consisted of one common share and one-half of a common share purchase warrant. This financing included an aggregate of 75.8 million shares of common stock, 37.9 million investor warrants and 6.6 million broker warrants to acquire additional shares of our common stock. Each whole investor warrant entitles the holder to acquire one additional share of our common stock at an exercise price of $0.40 per share for a period of three years. Each whole broker warrant entitles the holder to acquire one unit (the same as the units sold to investors) at an exercise price of $0.33 per unit for a period of two years. During fiscal 2007, we issued 2.1 million shares of common stock pursuant to the exercise of warrants resulting in additional proceeds of approximately $0.7 million.

The net cash flow used in operating activities for the fiscal years 2007 and 2006 were relatively consistent with an average monthly cash burn of $1.1 million for each year. During fiscal 2007, we paid GSK a license fee of $1.0 million to purchase all of GSK's remaining buy-back options for eniluracil under our development and license agreement with GSK. In addition, we had increased cash payments to vendors during the first half of fiscal 2007 from our improved liquidity as a result of our $25.0 million offering completed in February 2007.

At December 31, 2007, our working capital increased by approximately $13.0 million primarily due to the February 2007 financing. This increase was partially offset by our payments to fund R&D activities and general corporate operations.

We believe that our current cash and cash equivalents of $16.2 million will be sufficient to satisfy our anticipated capital requirements through June 30, 2009. In February 2008, we revised our clinical development strategy and implemented a plan which has allowed us to extend our existing financial resources by delaying certain clinical trial and drug manufacturing commitments. The revisions primarily relate to planned combination studies with ADH-1 and future planned orders for the manufacturing of ADH-1. We do not anticipate these revisions to have a significant impact on our overall development plan. 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: 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; our ability to enter into collaborations that provide us with funding, up-front payments, milestone or other payments; our ability to obtain additional financial resources, change in the focus, direction, or costs of our research and development programs; 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; establishment of marketing and sales capabilities; 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.

To finance our operations beyond June 30, 2009, 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. There can be no assurance that we will be able to raise the necessary capital or that such funding will be available on favorable terms or at all.

Financial Instruments

At December 31, 2007, we held cash and cash equivalents of $16.2 million, which consisted primarily of highly liquid money market funds.

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 trade 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 the fair value with unrealized gains and losses included in accumulated other comprehensive income.

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 effect on our operations. We had no material commitments for capital expenses as of December 31, 2007.

The following table represents our contractual obligations and commitments at December 31, 2007 (in thousands of U.S. dollars):

	Less than 1 year	1-3 years	4-5 years	More than 5 years	Total
Englert Lease (1)	$ 102	$ 185	$—	$ —	$ 287
Maplewood Lease (2)	361	755	663	—	1,779
Drug purchase commitments (3)	436	184	29	—	649
McGill License (4)	506	1,332	—	—	1,838
OHSU License (5)	—	—	—	—	—
GSK (6)	—	—	—	—	—
Total	$ 1,405	$2,456	$692	$ —	$4,553

(1) In April 2004, we entered into a lease for facilities in Durham, North Carolina. Amounts shown assume the maximum amounts due under the lease. This facility has now been subleased to another company that is responsible for payments through March 31, 2008; however, in the event of their default or their decision to not extend the lease beyond March 31, 2008, Adherex would become responsible for the obligation. Adherex is contractually obligated under the lease until August 31, 2010.

(2) In August 2005, we entered into a lease for new office and laboratory facilities in Durham, North Carolina. Amounts shown assume the maximum amounts due under the lease. We received lease and capital inducements to enter into the lease, including a 50 percent discount for the first 24 months of the 84-month lease term and capital inducements with a fair market value of $0.5 million.

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

(4) Research obligations are shown in the table. Royalty payments, which are contingent on sales, are not included.

(5) Under the license agreement with OHSU for STS, we are required to pay specified amounts in the event that we complete certain Adherex-initiated clinical trials. For example, upon the completion of the Phase III clinical trial with SIOPEL, which began recruiting patients in October 2007, we may become responsible for a payment to OHSU of up to $0.5 million.

(6) Royalty and milestone payments that we may be required to pay, which are contingent on sales or progress of clinical trials, are not included. Under the terms of the Development and License Agreement with GSK, if we file an NDA with the FDA, we will be required to pay a development milestone of $5.0 million to GSK. 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 initial approved indication, plus double-digit royalties based on annual net sales. We may also be required to pay up to $15.0 million to GSK for each FDA-approved indication.

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 ADH-1, eniluracil, STS and various cadherin-based preclinical programs.

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. Major development issues are presented to the members of our Scientific and Clinical Advisory Board for discussion and review.

Research and development expenses totaled $10.9 million and $14.0 million for the fiscal years ended December 31, 2007 and 2006, respectively.

ADH-1 is a small peptide molecule that selectively targets N-cadherin, a protein present on certain tumor cells and the established blood vessels that supply tumors. Based on encouraging data from our preclinical studies, we initiated a clinical program with ADH-1 in combination with various chemotherapeutic agents. In October 2006, we initiated a Phase I study intended to define the dose limiting toxicities and maximum tolerated dose of ADH-1 in combination with three separate chemotherapies: ADH-1 + docetaxel (Taxotere®), ADH-1 + carboplatin (a generically available agent), and ADH-1 + capecitabine (Xeloda®). In March 2007, we initiated a second Phase I study combining systemic ADH-1 in combination with regional melphalan for the treatment of melanoma at Duke University.

Eniluracil, which we licensed from GSK in July 2005, is a DPD inhibitor that was previously under development by GSK for the treatment of cancer. Eniluracil is being developed to enhance the therapeutic value and effectiveness of 5-FU, one of the world's most widely-used oncology agents. The ongoing Phase I clinical trials of eniluracil in combination with 5-FU are intended to determine the maximum tolerated dose, or MTD, of 5-FU in combination with eniluracil. An MTD has not yet been determined but we expect the U.S. Phase I trial to complete patient enrollment in the first half of 2008. Subject to adequate resources, we plan to commence a randomized, Phase II clinical trial in breast cancer once the MTD has been determined. The ongoing Asian Phase I/II clinical trial of eniluracil in combination with 5-FU in liver (hepatocellular) cancer has been amended to permit a more rapid dose escalation based upon the results of the ongoing U.S. Phase I trial.

STS is a chemoprotectant that has been shown in Phase I and Phase II clinical studies conducted by investigators at OHSU to reduce the loss of hearing in patients, both adults and children, treated with platinum-based chemotherapy agents. In 2006, we entered into an agreement with SIOPEL, a multi-disciplinary group of specialists under the umbrella of the International Society of Pediatric Oncology, for the conduct of a randomized trial of STS. Under the terms of our agreement, SIOPEL will conduct and fund the clinical activity and we will provide the drug and drug distribution for the study. On October 30, 2007, we announced that SIOPEL had launched the Phase III trial and opened the study for patient enrollment in the United Kingdom. The study is expected to enroll approximately 100 evaluable children with liver (hepatoblastoma) cancer at participating SIOPEL centers in up to 33 countries. Patients will be randomized to receive either cisplatin alone, a platinum-based drug associated with frequent hearing loss, or cisplatin plus STS. The study, which will be coordinated through the Children's Cancer and Leukaemia Group in the United Kingdom, will 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. On March 26, 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, or COG. 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 will be one to eighteen years of age who are to receive cisplatin according to their disease-specific regimen and, upon enrollment onto 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 120 patients over approximately three years in up to 230 COG centers in the United States, Canada, Australia and Europe. COG will fund the clinical activities for the study and we will be responsible for providing the drug and drug distribution for the study.

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.

The following table provides our research and development expenses for each program for the years ending December 31, 2007, 2006 and 2005, and cumulatively from inception of the Company on September 3, 1996 to December 31, 2007:

In thousands of U.S. dollars	Fiscal Year Ended December 31, 2007	Fiscal Year Ended December 31, 2006	Fiscal Year Ended December 31, 2005	Cumulative From September 3, 1996 to December 31, 2007
ADH-1	$ 5,087	$ 9,792	$ 7,743	$ 33,844
Eniluracil	5,004	2,910	2,395	10,821
Other anti-cancer	158	249	351	2,347
Total anti-cancer	10,249	12,951	10,489	47,012
STS	560	292	443	2,668
Other chemoprotectants and enhancers	—	—	16	40
Total chemoprotectants and enhancers	560	292	459	2,708
Other discovery projects	103	760	730	2,553
Transdermal drug delivery	—	—	—	138
Total research and development program expense	$ 10,912	$ 14,003	$ 11,678	$ 52,411

Critical Accounting Policies and Estimates

Effective January 1, 2007, we changed our primary basis of accounting to U.S. GAAP. We made the change to U.S. GAAP to comply with U.S. securities law as a result of our loss of foreign private issuer status with the Securities and Exchange Commission.

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, 2007 consolidated financial statements.

Stock-based Compensation

Effective January 1, 2006, we adopted the fair value recognition of Statement of Financial Accounting Standards, or SFAS, No. 123 (revised 2004), “Share-Based Payment”, or SFAS 123(R), using the modified prospective transition method and therefore has not restated results for prior periods. We use the Black-Scholes option-pricing model and recognize compensation expense on a straight-line basis over the vesting periods of our option awards. The estimation of stock awards that will ultimately vest requires judgment, and to the extent actual results or updated estimates differ from our current estimates, such amounts will be recorded as a cumulative adjustment in the period estimates are revised. Significant management judgment is required in determining estimates of future stock price volatility, forfeitures and expected life used in the valuation of the options. We consider many factors when estimating expected forfeitures, including types of awards and historical experience. We estimate volatility based on peer group companies with similar operations and our own historical volatility. Actual results, and future changes in estimates, may differ substantially from our current estimates. For stock options granted to non-employees, we have recognized compensation expense in accordance with the requirements of SFAS No. 123 “Accounting for Stock-based Compensation,” or SFAS 123. SFAS 123 requires that companies recognize compensation expense based on the estimated fair value of options granted to non-employees over their vesting period, which is generally the period during which services are rendered by such non-employees.

Common stock and warrants

Common stock is recorded as the net proceeds received on issuance after deducting all share issue 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 shareholders’ equity as additional paid-in capital.

At December 31, 2007 and 2006, we had warrants to purchase common stock that were denominated in both U.S. and Canadian dollars, which results in our having warrants outstanding that are denominated outside its U.S. dollar functional currency.

The SEC and the Financial Accounting Standards Board, or FASB have issued recent interpretations for U.S. GAAP that suggest warrants with exercise prices denominated in a different currency from the entity’s functional currency cannot be classified as equity. As a result, these

instruments would be treated as derivatives and recorded as liabilities which are carried at their fair value, with period to period changes in the fair value recorded as a gain or loss in the statement of operations.

In November 2007, the Emerging Issues Task Force or EITF 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”. The Issue Summary discusses the merits of various accounting treatments related to this issue but does not provide any definitive guidance. The EITF considers Issue 07-5 an open issue subject to further discussion at future meetings.

If we had recorded such instruments as derivatives, we would have reported a loss of approximately $50 and $9,452 for the fiscal year ended December 31, 2007 and 2006, respectively and a gain of $7,592 for the fiscal year ended December 31, 2005. We calculated the amounts using the Black-Scholes option pricing model and used the following assumptions: volatility rate of 80%, 70% and 70% for fiscal years ended December 31, 2007, 2006 and 2005, respectively; the actual exercise price of each instrument at December 31, 2007, 2006 and 2005; the stock price at December 31, 2007, 2006 and 2005 and the Canadian risk free interest rate for the remaining life of the related warrants; and a 0% dividend rate for all fiscal years.

Outstanding Share Information

The outstanding share data for the Company as of December 31, 2007 is as follows (in thousands):

	December 31, 2007
Common shares	128,227
Warrants	55,794
Stock options	15,663
Total	199,684

Canadian Accounting Principles

We present our consolidated financial results in accordance with U.S. GAAP. Significant differences exist between U.S. and Canadian GAAP and are presented in Note 15 in the consolidated financial statements.

Recent Accounting Pronouncements

In June 2007, the Emerging Issues Task Force, or EITF, issued EITF No. 07-3, “Accounting for Nonrefundable Advance Payments for Goods or Services to Be Used in Future Research and Development Activities”, or EITF 07-3, which provides guidance for up-front payments related to goods and services of research and development costs. EITF 07-3 is effective for fiscal years beginning after December 15, 2007. We are currently evaluating the impact of EITF 07-3 on our financial statements but do not anticipate a material impact.

In February 2007, the Financial Accounting Standards Board, or FASB, issued SFAS No. 159, “The Fair Value Option for Financial Assets and Financial Liabilities—including an amendment of FASB Statement No. 115”, or SFAS 159, which is effective for fiscal years beginning after November 15, 2007. SFAS 159 permits companies to choose to measure many financial instruments and certain other items at fair value on a per instrument basis, with changes in fair value recognized in earnings each reporting period. This will enable some companies to reduce volatility in reported earnings caused by measuring related assets and liabilities differently. SFAS 159 also establishes presentation and disclosure requirements designed to facilitate comparisons between companies that choose different measurement attributes for similar types of assets and liabilities. We are currently evaluating the impact, if any, that adopting SFAS 159 will have on our results of operations and financial condition.

In July 2006, the Financial Accounting Standards Board issued Interpretation No. 48 (“FIN 48”), “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.” FIN 48 also prescribes a recognition threshold and measurement of a tax position taken or expected to be taken in an enterprise’s tax return. We adopted FIN 48, as required, effective January 1, 2007. The adoption of FIN 48 did not have any impact on our consolidated financial position or results of operations.

In September 2006, the FASB issued SFAS No. 157, “Fair Value Measurements”, or SFAS 157. SFAS 157 establishes a framework for measuring fair value, and expands disclosures about fair value measurements. The statement is effective for financial statements issued for fiscal years beginning after November 15, 2007, and interim periods within that fiscal year. On February 12, 2008, the FASB approved the Financial Staff Position, or FSP, No. SFAS 157-2, “Effective Date of FASB Statement No. 157”, or FSP FAS 157-2, which delays the effective date of SFAS 157 to fiscal years beginning after November 15, 2008, and interim periods within those fiscal years for non-financial assets and non-financial liabilities, except for those items that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually). We are currently evaluating the impact, if any, that adopting SFAS 157 will have on our results of operations and financial condition.

In December, 2007, the FASB issued SFAS No. 141(R), “Business Combinations”, or SFAS 141(R), which applies prospectively to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008. SFAS 141(R) 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 noncontrolling 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. We do not expect the adoption of SFAS 141 (R) to have an effect on our results of operations and financial condition unless we enter into a business combination after January 1, 2009.

Item7A. Quantitative and Qualitative Disclosures About Market Risk

Foreign Exchange Risk

Currently the Company's principal operations are located in the United States. At December 31, 2007, we had approximately $16.2 million in cash and cash equivalents. To date, derivative financial instruments have not been needed or used. Security of principal versus income historically governed investment decisions, with excess funds invested in short term, government backed securities or bankers acceptances.

At December 31, 2007, we held approximately CAD$1.5 million of cash to fund certain research and development activities in Canada. At this time we do not utilize derivative financial instruments. Should business conditions dictate, we may consider the use of derivative instruments in the future. However, security of principal versus income generation will continue to govern investment decisions.

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 file 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

Disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e)) are designed only to provide reasonable assurance that information to be disclosed in our Exchange Act Reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. As of the end of the period covered by this report, the Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the Company's disclosure controls and procedures pursuant to Exchange Act Rule 13a-15(e). Based upon this evaluation, the Company's Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures are effective to provide the reasonable assurance discussed above.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Our internal control over financial reporting is designed to provide reasonable assurance to our management and board of directors regarding the preparation and fair presentation of published financial statements. A control system, no matter how well designed and operated, can only provide reasonable, not absolute, assurance that the objectives of the control system are met and must reflect the fact that there are resource constraints that require management to consider the benefits of internal controls relative to their costs. Because of these inherent limitations, management does not expect that our internal controls over financial reporting can prevent all error and all fraud. Under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework found in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework found in *Internal Control – Integrated Framework*, our management concluded that our internal control over financial reporting was effective as of December 31, 2007.

Changes in Internal Control over Financial Reporting

There was no change in our internal controls over financial reporting during the fourth quarter of the period covered by this Annual Report that has materially affected, or is reasonably likely to materially affect, our internal controls over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Information required by this Item concerning our directors is incorporated by reference from the section captioned "Election of Directors" contained in our proxy statement related to the 2008 Annual General Meeting of Stockholders scheduled to be held on May 14, 2008, which we intend to file with the SEC within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K.

The Board of Directors has determined that the members of the Audit Committee are independent as defined in Rule 4200(a)(15) of the National Association of Securities Dealers' listing standards. The Board of Directors has also determined that Dr. Arthur T. Porter is an "audit committee financial expert" as defined in Item 401(h) of Regulation S-K.

Our Board of Directors adopted a code of business conduct and ethics that applies to all of our directors and employees, including our Chief Executive Officer, Chief Financial Officer, Chief Accounting Officer and Controller, or persons performing similar functions. We will provide copies of our code of business conduct and ethics without charge upon request. To obtain a copy, please send your written request to Adherex Technologies Inc., 4620 Creekstone Drive, Suite 200, Durham, NC 27703, Attention: Secretary. In addition, you can find the code on our website under the Investors Relations section at www.adherex.com.

The information required by this Item concerning executive officers of the Registrant is set forth at the end of Part I of this report.

The information required by this Item concerning compliance with Section 16(a) of the United States Securities Exchange Act of 1934, as amended, is incorporated by reference from the section of the proxy statement captioned "Report on Corporate Governance—Section 16(a) Beneficial Ownership Reporting Compliance."

Item 11. Executive Compensation

The information required by this Item is incorporated by reference from the sections captioned "Executive Compensation" and "Compensation of Directors" contained in the proxy statement.

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

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, 2007:

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 approved by security holders	12,724,106 2,938,841	$ 0.58 CAD $ 2.18	5,000,453
Equity compensation plans not approved by security holders	—	—	—
Total	15,662,947	—	5,000,453

* 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. The numbers presented include 700,000 options with an exercise price of CAD$2.25 that were specifically approved by the Company's shareholders on December 16, 2003 and granted to the Company's Chief Executive Officer outside of the Company's stock option plan. At December 31, 2007 we had 12,724,106 stock options denominated in U.S. dollars with a weighted-average exercise price of $0.58 and 2,938,841 stock options denominated in CAD dollars with a weighted-average exercise price of CAD$2.18. At December 31, 2007, we had 5,000,453 stock options available for future issuance. On February 27, 2008, the Company issued 3,200,000 options with an exercise price of $0.38.

The other information required by this Item is incorporated by reference from the section captioned "Voting Securities and Principal Holders of Voting Securities" contained the proxy statement.

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

The information required by this Item is incorporated by reference from the section captioned "Other Information Regarding Management – Interest of Informed Persons in Material Transactions" and "Report on Corporate Governance – Board of Directors" contained in the proxy statement.

Item 14. Principal Accounting Fees and Services

The information required by this Item is incorporated by reference from the section captioned "Report on Corporate Governance – Other Board Committees – Audit Committee Report" contained in the proxy statement.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) The following documents are included as part of this Annual Report file 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
1.1	Underwriting and Agency Agreement dated January 19, 2007 between Adherex Technologies Inc. and Versant Partners Inc.	Exhibit 1.1 to Form 8-K of Adherex, filed February 22, 2007
3.1	Articles of Amalgamation dated June 29, 2004	Exhibit 1.7 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
3.2	By-laws of the Company, as amended on November 2, 2004	Exhibit 1.9 to the Form 20-F/A Registration Statement (No. 001-32295) of Adherex, filed November 5, 2004
4.1	Form of Common Stock Warrant, dated December 19, 2003	Exhibit 4.24 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
4.2	Registration Rights Agreement, dated as of December 19, 2003, by and between Adherex Technologies Inc. and HBM BioVentures (Cayman) Ltd.	Exhibit 4.9 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
4.3	Common Stock Warrant issued to The Vengrowth Advanced Life Sciences Fund Inc., dated December 19, 2003	Exhibit 4.25 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
4.4	Common Stock Warrant issued to HBM BioVentures (Cayman) Ltd., dated December 19, 2003	Exhibit 4.26 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
4.5	Form of Common Stock Warrant, dated July 20, 2005	Exhibit 4.34 to the Form 20-F Annual Report (No. 001-32295) of Adherex filed for fiscal year ended December 31, 2005
4.6	Warrant Indenture dated February 21, 2007 between Adherex Technologies Inc. and Computershare Trust Company of Canada	Exhibit 4.45 to Form 8-K of Adherex, filed February 21, 2007
4.7	Form of Common Stock Warrant dated February 21, 2007	Exhibit 4.43 to Form 8-K of Adherex, filed February 21, 2007
4.8	Form of Underwriter's Warrant dated February 21, 2007	Exhibit 4.44 to Form 8-K of Adherex, filed February 21, 2007
10.1	General Collaboration Agreement, dated as of February 26, 2001, by and between Adherex Technologies Inc. and McGill University	Exhibit 4.2 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
10.2	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

Exhibit No.	Description	Location
10.3	Lease Agreement, dated as of March 8, 2004, by and between Realmark-Commercial, LLC and Adherex, Inc.	Exhibit 4.8 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
*10.4	Executive Employment Agreement, dated as of December 12, 2001, by and between Adherex Technologies Inc. and Robin J. Norris	Exhibit 4.10 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
*10.5	Executive Employment Agreement, dated as of February 19, 2003, by and between Adherex Technologies Inc. and William P. Peters	Exhibit 4.12 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
*10.6	Executive Employment Agreement, dated April 21, 2004, by and between Adherex, Inc. and James A. Klein, Jr.	Exhibit 4.13 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
10.7	Second Amendment to Lease Agreement dated September 14, 2004 between Realmark Commercial LLC and Adherex, Inc.	Exhibit 4.29 to the Form 20-F/A Registration Statement (No. 001-32295) of Adherex, filed November 5, 2004
10.8	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
10.9	Sublease Agreement, dated as of August 31, 2005, by and between Biostratum, Inc. and Adherex, Inc. (Englert)	Exhibit 4.32 to the Form 20-F Annual Report (No. 001-32295) of Adherex filed for fiscal year ended December 31, 2005
10.10	Sublease Agreement, dated as of August 31, 2005, by and between Biostratum, Inc. and Adherex, Inc. (Creekstone)	Exhibit 4.33 to the Form 20-F Annual Report (No. 001-32295) of Adherex filed for fiscal year ended December 31, 2005
10.11	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 filed for fiscal year ended December 31, 2005
10.12	Partial Assignment of Lease and Lease Amendment Number Two dated August 31, 2005	Exhibit 4.38 to the Form 20-F Annual Report (No. 001-32295) of Adherex filed for fiscal year ended December 31, 2005
10.13	Highwoods Realty Limited Partnership Office Master Lease (Creekstone)	Exhibit 4.39 to the Form 20-F Annual Report (No. 001-32295) of Adherex filed for fiscal year ended December 31, 2005
10.14	Consent to Sublease dated August 31, 2005 among Highwoods Realty Limited Partnership, BioStratum, Inc. and Adherex, Inc.	Exhibit 4.40 to the Form 20-F Annual Report (No. 001-32295) of Adherex filed for fiscal year ended December 31, 2005
10.15	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
10.16	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
10.17	Sub-SubLease Agreement dated December 22, 2006 between Biostratum, Inc and NephroGenex, Inc	Exhibit 4.46 to the Form 20-F Annual Report (No. 001-32295) of Adherex filed for fiscal year ended December 31, 2006

Exhibit No.	Description	Location
10.18	Executive Employment Agreement, dated as of February 28, 2007, by and between Adherex, Inc. and D. Scott Murray	Exhibit 4.47 to the Form 20-F Annual Report (No. 001-32295) of Adherex filed for fiscal year ended December 31, 2006
10.19	Amended and Restated Stock Option Plan	Filed herewith
10.20	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
21	Subsidiaries	Exhibit 8 to the Form 20-F Registration Statement (No. 001-32295) of Adherex, filed September 17, 2004
23	Consent of PricewaterhouseCoopers LLP	Filed herewith
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

* 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.

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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/ William P. Peters
William P. Peters
Chairman, Chief Executive Officer and Director
Date: March 28, 2008

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/ WILLIAM P. PETERS **William P. Peters**	Chairman, Chief Executive Officer (principal executive officer) and Director	March 28, 2008
/s/ JAMES A. KLEIN, JR. **James A. Klein, Jr.**	Chief Financial Officer (principal financial officer and principal accounting officer)	March 28, 2008
/s/ ROBIN J. NORRIS **Robin J. Norris**	President and Chief Operating Officer and Director	March 28, 2008
/s/ FRED H. MERMELSTEIN **Fred H. Mermelstein**	Director	March 28, 2008
/s/ WILLIAM G. BREEN **William G. Breen**	Director	March 28, 2008
/s/ CLAUDIO F. BUSSANDRI **Claudio F. Bussandri**	Director	March 28, 2008
/s/ ROBERT W. BUTTS **Robert W. Butts**	Director	March 28, 2008
/s/ DONALD W. KUFE **Donald W. Kufe**	Director	March 28, 2008
/s/ MICHAEL G. MARTIN **Michael G. Martin**	Director	March 28, 2008
/s/ PETER MORAND **Peter Morand**	Director	March 28, 2008
/s/ ARTHUR T. PORTER **Arthur T. Porter**	Director	March 28, 2008

ADHEREX TECHNOLOGIES INC.
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Independent Auditors' Report

To the Shareholders of Adherex Technologies Inc.

We have audited the accompanying consolidated balance sheets of Adherex Technologies Inc. as of December 31, 2007 and December 31, 2006, and the related consolidated statements of operations, cash flows and stockholders' equity for the years ended December 31, 2007, December 31, 2006 and December 31, 2005, and, cumulatively, for the period from September 3, 1996 to December 31, 2007. 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 the Company's financial statements as of December 31, 2007 and December 31, 2006 and for each of the three years in the period ended December 31, 2007, and cumulatively for the period from September 3, 1996 to December 31, 2007 in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform an audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit of financial statements includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management and evaluating the overall financial statement presentation.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2007 and December 31, 2006 and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2007, and cumulatively, for the period from September 3, 1996 to December 31, 2007 in accordance with accounting principles generally accepted in the United States of America.

/s/ PricewaterhouseCoopers LLP
Chartered Accountants, Licensed Public Accountants
Ottawa, Canada
March 28, 2008

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

	December 31, 2007	December 31, 2006
Assets		
Current assets		
Cash and cash equivalents	$ 16,162	$ 5,665
Cash pledged as collateral	55	53
Accounts receivable	21	32
Investment tax credits recoverable	164	71
Prepaid expense	130	41
Other current assets	29	33
Total current assets	16,561	5,895
Capital assets	285	293
Leasehold inducements	363	440
Total assets	**$ 17,209**	**$ 6,628**
Liabilities and shareholders' equity		
Current liabilities		
Accounts payable	$ 532	$ 2,074
Accrued liabilities	1,830	2,621
Other current liabilities	40	—
Total current liabilities	2,402	4,695
Other long-term liabilities	—	40
Deferred lease inducement	659	625
Total liabilities	**3,061**	**5,360**
Commitments and contingencies		
Shareholders' equity		
Common stock, no par value; unlimited shares authorized; 128,227 shares and 50,382 shares issued and outstanding, respectively	64,929	46,524
Additional paid-in capital	32,355	24,523
Deficit accumulated during development stage	(84,379)	(71,022)
Accumulated other comprehensive income	1,243	1,243
Total shareholders' equity	**14,148**	**1,268**
Total liabilities and shareholders' equity	**$ 17,209**	**$ 6,628**

Signed on behalf of the Board of Directors

/s/ Arthur T. Porter
Director

/s/ William G. Breen
Director

(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, 2007	Year Ended December 31, 2006	Year Ended December 31, 2005	Cumulative From September 3, 1996 to December 31, 2007
Revenue	$ —	$ —	$ —	$ —
Operating expenses:				
Research and development	10,912	14,003	11,678	52,411
Acquired in-process research and development	—	—	—	13,094
General and administration	3,278	2,883	2,543	19,976
Loss from operations	(14,190)	(16,886)	(14,221)	(85,481)
Other income (expense):				
Settlement of Cadherin Biomedical Inc. litigation	—	—	—	(1,283)
Interest expense	—	(3)	(11)	(19)
Other income	—	—	—	98
Interest income	833	449	361	2,464
Total other income	833	446	350	1,260
Net loss and total comprehensive loss	$ (13,357)	$ (16,440)	$ (13,871)	(84,221)
Net loss per share of common stock, basic and diluted	**$ (0.11)**	**$ (0.34)**	**$ (0.35)**	
Weighted-average number of shares of common stock outstanding, basic and diluted	**116,571**	**47,663**	**39,276**	

(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, 2007	Year Ended December 31, 2006	Year Ended December 31, 2005	Cumulative From September 3, 1996 to December 31, 2007
Cash flows from (used in):				
Operating activities:				
Net loss	$ (13,357)	$ (16,440)	$ (13,871)	$ (84,221)
Adjustments for non-cash items:				
Depreciation and amortization	81	86	224	1,240
Non-cash Cadherin Biomedical Inc. litigation expense	—	—	—	1,187
Unrealized foreign exchange loss	—	—	—	9
Amortization of leasehold inducements	111	165	108	137
Non-cash severance expense	—	—	—	168
Stock options issued to consultants	59	101	276	624
Stock options issued to employees	2,263	490	—	4,754
Acquired in-process research and development	—	—	—	13,094
Changes in operating assets and liabilities	(2,460)	2,123	1,002	1,615
Net cash (used) in operating activities	(13,303)	(13,475)	(12,261)	(61,393)
Investing activities:				
Purchase of capital assets	(73)	(5)	(102)	(1,425)
Disposal of capital assets	—	—	—	115
Release of restricted cash	—	—	22	190
Restricted cash	(2)	—	—	(209)
Purchase of short-term investments	—	—	(3,435)	(22,148)
Redemption of short-term investments	—	1,175	2,260	22,791
Investment in Cadherin Biomedical Inc.	—	—	—	(166)
Acquired intellectual property rights	—	—	—	(640)
Net cash provided (used) in investing activities	(75)	1,170	(1,255)	(1,492)
Financing activities:				
Conversion of long-term debt to equity	—	—	—	68
Long-term debt repayments	—	—	—	(65)
Capital lease repayments	—	—	—	(8)
Issuance of common stock	23,915	6,096	8,134	76,687
Registration expense	—	—	—	(465)
Financing expenses	—	(57)	(141)	(544)
Proceeds from convertible note	—	—	—	3,017
Other liability repayments	(40)	(13)	(59)	(87)
Security deposits received	—	28	—	28
Proceeds from exercise of stock options	—	—	25	51
Net cash provided in financing activities	23,875	6,054	7,959	78,682
Effect of exchange rate changes on cash and cash equivalents	—	—	—	365
Net change in cash and cash equivalents	10,497	(6,251)	(5,557)	16,162
Cash and cash equivalents - Beginning of period	5,665	11,916	17,473	—
Cash and cash equivalents - End of period	$ 16,162	$ 5,665	$ 11,916	$ 16,162
Supplemental non-cash information:				
Leasehold improvements – Maplewood	—	—	$ 544	—

(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' Equity
	Number	Amount					
Balance at June 30, 1996	—	$ —	$ —	$ —	$ —	$ —	$ —
Issuance of common stock	1,600	—	—	—	—	—	—
Net loss	—	—	—	—	—	(37)	(37)
Balance at June 30, 1997	1,600	—	—	—	—	(37)	(37)
Net loss	—	—	—	—	—	(398)	(398)
Balance at June 30, 1998	1,600	—	—	—	—	(435)	(435)
Exchange of Adherex Inc. shares for Adherex Technologies Inc. shares	(1,600)	—	—	—	—	—	—
Issuance of common stock	4,311	1,615	—	—	—	—	1,615
Cumulative translation adjustment	—	—	—	—	20	—	20
Net loss	—	—	—	—	—	(958)	(958)
Balance at June 30, 1999	4,311	1,615	—	—	20	(1,393)	242
Issuance of common stock	283	793	—	—	—	—	793
Issuance of equity rights	—	—	—	171	—	—	171
Issuance of special warrants	—	—	—	255	—	—	255
Settlement of advances:							
Issuance of common stock	280	175	—	—	—	—	175
Cancellation of common stock	(120)	—	—	—	—	—	—
Cumulative translation adjustment	—	—	—	—	16	—	16
Net loss	—	—	—	—	—	(1,605)	(1,605)
Balance at June 30, 2000	4,754	2,583	—	426	36	(2,998)	47
Issuance of common stock:							
Initial Public Offering ("IPO")	1,333	5,727	—	—	—	(38)	5,689
Other	88	341	—	—	—	—	341
Issuance of special warrants	—	—	—	1,722	—	—	1,722
Conversion of special warrants	547	1,977	—	(1,977)	—	—	—
Issuance of Series A special warrants	—	—	—	4,335	—	—	4,335
Conversion of Series A special warrants	1,248	4,335	—	(4,335)	—	—	—
Conversion of equity rights	62	171	—	(171)	—	—	—
Cumulative translation adjustment	—	—	—	—	182	—	182
Net loss	—	—	—	—	—	(2,524)	(2,524)
Balance at June 30, 2001	8,032	15,134	—	—	218	(5,560)	9,792
Cumulative translation adjustment	—	—	—	—	11	—	11
Net loss	—	—	—	—		(3,732)	(3,732)
Balance at June 30, 2002	8,032	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' Equity
	Number	Amount					
Balance at June 30, 2002	8,032	15,134	—	—	229	(9,292)	6,071
Common stock issued for Oxiquant acquisition	8,032	11,077	—	543	—	—	11,620
Exercise of stock options	5	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	16,069	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	1,728	1,216	—	(93)	—	—	1,123
Conversion of December convertible notes	1,085	569	—	(398)	—	—	171
Non-redeemable preferred stock	—	—	1,045	—	—	—	1,045
December private placement	11,522	8,053	—	5,777	—	—	13,830
May private placement	4,669	6,356	—	2,118	—	—	8,474
Exercise of stock options	18	23	—	—	—	—	23
Amalgamation of 2037357 Ontario Inc.	800	660	(1,045)	363	—	—	(22)
Cumulative translation adjustment	—	—	—	—	(219)	—	(219)
Net loss	—	—	—	—	—	(6,872)	(6,872)
Balance at June 30, 2004	35,891	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.	644	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	36,535	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' Equity
	Number	Amount					
Balance at December 31, 2004	36,535	34,362	—	21,760	1,243	(40,711)	16,654
Financing costs	—	(141)	—	—	—	—	(141)
Exercise of stock options	15	25	—	—	—	—	25
Stock options issued to consultants	—	—	—	276	—	—	276
July private placement	6,079	8,134	—	—	—	—	8,134
Financing warrants	—	(1,074)	—	1,074	—	—	—
Net loss	—	—	—	—	—	(13,871)	(13,871)
Balance at December 31, 2005	42,629	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	7,753	5,218	—	822	—	—	6,040
Net loss	—	—	—	—	—	(16,440)	(16,440)
Balance at December 31, 2006	50,382	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	75,759	17,842	—	5,379	—	—	23,221
Exercise of warrants	2,086	563	—	131	—	—	694
Net loss	—	—	—	—	—	(13,357)	(13,357)
Balance at December 31, 2007	128,227	$64,929	$ —	$ 32,355	$ 1,243	$ (84,379)	$ 14,148

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

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

1. Nature of Operations

Adherex Technologies Inc. ("Adherex"), 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.

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 ("U.S. GAAP"). We 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 material inter-company transactions and balances have been eliminated upon consolidation.

The preparation of these consolidated financial statements also conform in all material respects with generally accepted accounting principles in Canada ("Canadian GAAP") except as described in Note 16 in the consolidated financial statements.

Share consolidation

On July 20, 2005, the Company announced that the Board of Directors had approved a share consolidation of the Company's common stock at a ratio of one-for-five. The share consolidation had previously been approved by the Company's shareholders at the Annual and Special Meeting held on April 29, 2005. The number of shares of Adherex common stock, stock options and warrants issued and outstanding and the basic and diluted weighted-average shares outstanding as well as per share data and per stock option data have been adjusted for all periods presented to reflect the one-for-five share consolidation.

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 financial statements and the reported amounts of revenue and expense during the reporting period. Actual results could differ from those estimates.

Cash, Cash Equivalents and Investments

Cash equivalents consist of highly liquid investments with original maturities at the date of purchase of three months or less. Short-term investments mature in less than one year from the balance sheet date.

The Company classifies its cash equivalents and investments as "available-for-sale." Such investments are recorded at fair value, determined based on quoted market prices, and unrealized gains and losses, which are considered to be temporary, are recorded as other comprehensive income (loss) in a separate component of stockholders' equity until realized. The cost of securities sold is based on the specific identification method.

The Company places its cash, cash equivalents, and investments with financial institutions with high credit quality investments in accordance with its investment policy designed to protect the principal investment. Therefore, the Company believes that its exposure due to concentration of credit risk is minimal and has not experienced credit losses on investments in these instruments to date.

Adherex Technologies Inc.
(a development stage company)
Notes to the Consolidated Financial Statements (continued)
U.S. dollars and shares in thousands, except per share information

Cash pledged as collateral

The Company has pledged cash as collateral on corporate credit accounts in the form of interest-bearing term deposits.

Capital assets

Capital assets are initially recorded at cost and are then amortized using the declining balance method at the following annual rates:

Furniture, fixtures and office equipment	20%
Computer equipment	30%
Computer software	100%
Laboratory equipment	20%

Leasehold improvements are amortized on a straight-line basis over the lease term.

Deferred leasehold inducements

Leasehold inducements consist of periods of reduced rent and other capital inducements provided by the lessor. The leasehold inducements relating to the reduced rent periods are deferred and allocated over the term of the lease. The Company received lease inducements in the form of leasehold improvements and rent-free periods.

Impairment of long-lived assets

The Company tests the recoverability of long-lived assets whenever events or changes in circumstances indicate that its carrying amount may not be recoverable. The Company records an impairment loss in the period when it is determined that the carrying amount of the asset may not be recoverable. The impairment loss is calculated as the amount by which the carrying amount of the assets exceeds the discounted cash flows from the asset.

Convertible notes

The Company splits convertible notes into their debt and detachable warrant components based on the relative fair value of each component.

Common stock and warrants

Common stock is recorded as the net proceeds received on issuance after deducting all share issue 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 shareholders' equity as additional paid-in capital.

At December 31, 2007 and 2006, the Company had warrants to purchase common stock that were denominated in both U.S. and Canadian dollars, which results in the Company having warrants outstanding that are denominated outside its U.S. dollar functional currency.

The SEC and the Financial Accounting Standards Board ("FASB") have issued recent interpretations that suggest warrants with exercise prices denominated in a different currency from the entity's functional currency cannot be classified as equity. As a result, these instruments would be treated as derivatives and recorded as liabilities which are carried at their fair value, with period to period changes in the fair value recorded as a gain or loss in the statement of operations.

In November 2007, the Emerging Issues Task Force ("EITF") 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". The Issue Summary discusses the merits of various accounting treatments related to this issue but does not provide any definitive guidance. The EITF considers Issue 07-5 an open issue subject to further discussion at future meetings.

Adherex Technologies Inc.
(a development stage company)
Notes to the Consolidated Financial Statements (continued)
U.S. dollars and shares in thousands, except per share information

If the Company had recorded such instruments as derivatives, it would have reported a loss of approximately $50 and $1,860 for the fiscal year ended December 31, 2007 and 2006, respectively and a gain of $7,592 for the fiscal year ended December 31, 2005. The Company calculated the amounts using the Black-Scholes option pricing model and used the following assumptions: volatility rate of 80%, 70% and 70% for fiscal years ended December 31, 2007, 2006 and 2005, respectively; the actual exercise price of each instrument at December 31, 2007, 2006 and 2005; the stock price at December 31, 2007, 2006 and 2005 and the Canadian risk free interest rate for the remaining life of the related warrants; and a 0% dividend rate for all fiscal years.

Revenue recognition

The Company recognizes revenue from multiple element arrangements under development and license agreement, which include license payments, milestones and royalties. Revenue arrangements with multiple deliverables are accounted for in accordance with EITF No. 00-21, “Revenue Arrangements with Multiple Deliverables” and Staff Accounting Bulletin No. 101 “Revenue Recognition in Financial Statements” and are divided into separate units of accounting if certain criteria are met. The consideration the Company receives is allocated among the separate units of accounting based on their respective fair values, and the applicable revenue recognition criteria are considered separately for each of the separate units.

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.

Research 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 and liabilities for the expected future tax consequences of temporary differences between the 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.

In July 2006, the Financial Accounting Standards Board issued Interpretation No. 48 (“FIN 48”), “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.” FIN 48 also prescribes a recognition threshold and measurement of a tax position taken or expected to be taken in an enterprise’s tax return. The Company adopted FIN 48, as required, effective January 1, 2007. The adoption of FIN 48 did not have any impact on the Company’s consolidated financial position or results of operations.

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Foreign currency translation

All of the Company's foreign operations are integrated. Financial statements of integrated foreign operations are translated as follows:

Monetary assets and liabilities denominated in foreign currencies are translated into U.S. dollars at exchange rates prevailing at the balance sheet date. Non-monetary items and any related amortization of such items are translated at the rates of exchange in effect when the assets were acquired or the obligations incurred. Expenses denominated in foreign currencies are translated at the relevant exchange rates prevailing during the year. Exchange gains and losses are included in net loss for the year.

Stock-Based compensation plan

Effective January 1, 2006, the Company adopted the fair value recognition requirements of Statement of Financial Accounting Standards ("SFAS") No. 123 (revised 2004), "Share-based Payment" ("SFAS No. 123(R)"), using the modified prospective transition method and therefore has not restated results for prior periods. The Company recognizes these compensation costs net of an estimated forfeiture rate on a straight-line basis over the requisite service period of the award, which is generally three years.

Loss per share

Basic net loss per share is computed by dividing net loss by the weighted average number of shares of common stock outstanding during the period. Diluted net loss per share is computed using the same method, except the weighted average number shares of common stock outstanding include, convertible debentures, stock options and warrants, if dilutive.

Recent Accounting Pronouncements

In June 2007, the Emerging Issues Task Force ("EITF") issued EITF No. 07-3, "Accounting for Nonrefundable Advance Payments for Goods or Services to Be Used in Future Research and Development Activities" ("EITF 07-3"), which provides guidance for up-front payments related to goods and services of research and development costs. EITF 07-3 is effective for fiscal years beginning after December 15, 2007. The Company is currently evaluating the impact of EITF 07-3 on its financial statements but does not anticipate a material impact.

In February 2007, the Financial Accounting Standards Board ("FASB") issued SFAS No. 159, "The Fair Value Option for Financial Assets and Financial Liabilities—including an amendment of FASB Statement No. 115" ("SFAS 159"), which is effective for fiscal years beginning after November 15, 2007. SFAS 159 permits companies to choose to measure many financial instruments and certain other items at fair value on a per instrument basis, with changes in fair value recognized in earnings each reporting period. This will enable some companies to reduce volatility in reported earnings caused by measuring related assets and liabilities differently. SFAS 159 also establishes presentation and disclosure requirements designed to facilitate comparisons between companies that choose different measurement attributes for similar types of assets and liabilities. The Company is currently evaluating the impact, if any, that adopting SFAS 159 will have on its results of operations and its financial condition.

In September 2006, the FASB issued SFAS No. 157, "Fair Value Measurements" ("SFAS 157"). SFAS 157 establishes a framework for measuring fair value, and expands disclosures about fair value measurements. The statement is effective for financial statements issued for fiscal years beginning after November 15, 2007, and interim periods within that fiscal year. On February 12, 2008, the FASB approved the Financial Staff Position ("FSP") No. SFAS 157-2, "Effective Date of FASB Statement No. 157" ("FSP FAS 157-2"), which delays the effective date of SFAS 157 to fiscal years beginning after November 15, 2008, and interim periods within those fiscal years for non-financial assets and non-financial liabilities, except for those items that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually). The Company is currently evaluating the impact, if any, that adopting SFAS 157 will have on its results of operations and its financial condition.

In December 2007, the FASB issued SFAS No. 141(R), "Business Combinations" ("SFAS 141(R)"), which applies prospectively to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008. An entity may not apply it before that date. SFAS 141(R) establishes principles and requirements for how the acquirer: i) recognizes and measures in its financial statements the

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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 Company does not expect the adoption of SFAS 141 (R) to have an effect on its results of operations and its financial condition unless it enters into a business combination after January 1, 2009.

3. Capital Assets

The components of our capital assets are presented below:

	December 31, 2007		December 31, 2006	
	Cost	Accumulated Amortization	Cost	Accumulated Amortization
Furniture, fixtures and office equipment	$ 92	$ 54	$ 92	$ 44
Computer equipment	151	95	131	75
Computer software	146	134	124	124
Laboratory equipment	622	446	591	405
Leasehold improvements	4	1	4	1
	1,015	$ 730	942	$ 649
Accumulated amortization	(730)		(649)	
Net book value	$ 285		$ 293	

Depreciation and amortization expense for capital assets was $81 and $86 for the years ended December 31, 2007 and 2006, respectively.

4. Leasehold Inducements

On August 31, 2005, the Company entered into agreements to lease a new office and laboratory facility (“Maplewood Facility”) and sublease the Company’s existing facility (“Englert Facility”) on similar terms as in the original lease. As an incentive to enter into the Maplewood Facility lease, the Company received free rent and capital inducements. The Company only paid half rent for the Maplewood Facility over the first 24 months of the 84-month lease term and received additional inducements in the form of furniture, equipment and leasehold improvements with a fair market value of approximately $544. As part of the sublease of the Englert Facility, the Company provided furniture, equipment and leasehold improvements with a net book value of $156 and an approximate fair market value of $75. In addition, the Company has written-off the $68 liability related to leasehold improvements at the Englert Facility and included this amount in the deferred rent inducement as the Company’s sublessee is now contractually obligated to make those payments; however, should the sublessee default on such payments, Adherex would then become liable for the remaining amount.

The Company records rent expense by charging the total rental payments plus the value of the capital inducements received against earnings on a straight-line basis over the 84-month term of the lease, which expires on August 31, 2012.

5. Shareholders’ Equity

Authorized capital stock

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

Equity financings

On June 5, 2001, the Company completed an IPO issuing 1,333 shares of common stock at a price of CAD$7.50 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

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non-assignable support options representing ten percent of the offered shares. Each support option entitled the holder to purchase one share of common stock on or before June 5, 2003 at CAD$7.50. The Company also granted the underwriters an option ("Over-allotment Option") to purchase up to 200 shares of common stock at the offering price for a period ending 30 days from the close of the offering. On July 5, 2001, the Over-allotment Option expired unexercised.

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, comprised of an aggregate of 11,522 shares of common stock and warrants to acquire 5,761 shares of common stock of Adherex with an exercise price of CAD$2.15 per share which expire December 19, 2008, 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. The non-redeemable Series 1 Preferred Shares of 2037357 Ontario Inc. ("Preferred Shares") were exchangeable into 800 shares of common stock of Adherex. 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 would have an exercise price of CAD$2.15 per share and expire 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. The Company also issued broker warrants to purchase 1,226 shares of common stock exercisable at a price of CAD$2.15 per share.

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 800 shares of Adherex common stock and warrants to purchase 400 shares of Adherex common stock which expire 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. The Company issued 4,669 units at a purchase price of CAD$2.65 per unit with each unit consisting of one share of common stock and one-half of a common stock purchase warrant. Each whole warrant entitles the holder to acquire one additional share of common stock at an exercise price of CAD$3.50 and expired May 19, 2007. 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 for 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. Each unit consisted of one common share and 0.30 of a common share purchase warrant. The private placement comprised an aggregate of 6,079 shares of common stock, along with 1,824 investor warrants and 57 broker warrants to acquire additional shares of Adherex common stock. Each whole investor warrant entitles 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. 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 for 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. The private placement comprised an aggregate of 7,753 shares of common stock, along with 2,326 investor warrants and 465 broker warrants to acquire additional shares of Adherex common stock. Each whole investor warrant entitles 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. Each whole broker warrant entitles 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. 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

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comprised an aggregate of 75,759 shares of common stock, 37,879 investor warrants and 6,618 broker warrants to acquire additional shares of Adherex common stock. Each whole investor warrant entitles 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. Each whole broker warrant entitles the holder to acquire one additional unit at an exercise price of $0.33 per unit for a period of two years. The warrants, with a value of $6,503 based on the Black-Scholes option pricing model, have been allocated to additional paid-in-capital and the remaining balance of $16,718 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 2,086 shares of common stock and 1,000 additional investor warrants, which entitle the holder to acquire one additional share of Adherex common stock at an exercise price of $0.40 per share and which expire on February 21, 2010. The warrants exercised during the period included 86 investor warrants with an exercise price of $0.40 per share and 2,000 broker warrants with an exercise price of $0.33 per unit. 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.

Special warrants

From May 2000 through November 2000, the Company issued special warrants. 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 of 110 issued in the year ended June 30, 2001. Upon completion of the IPO, on June 5, 2001, these special warrants were converted to 547 shares of common stock, which included 42 shares of common stock issued under the price protection adjustment.

Special A warrants

During October 2000, the Company issued Series A special warrants. 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. 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 1,248 shares of common stock, which included 96 shares of common stock issued under the price protection adjustment.

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, so that 1,248 additional common stock could have been sold at the IPO price. These share purchase warrants expired unexercised on September 3, 2001.

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 62 shares of common stock of the Company.

Triathlon settlement

During fiscal 2000, other advances totaling $175 were settled by the issuance to Triathlon Limited of 280 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.

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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 80 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 8,032 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 461 warrants with an exercise price of CAD$3.585 that expired on May 20, 2007 and 170 introduction warrants with an exercise price of CAD$2.05 that expired on November 20, 2007. These warrants expired unexercised.

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 644 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. Investors also received warrants to purchase an aggregate of 345 shares of common stock of the Company with an exercise price of CAD$2.75 per share that expired 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, the Company issued broker warrants to purchase 101 shares of common stock exercisable at a price of CAD$2.35 per share which expired on June 23, 2005 unexercised. As an inducement to consent to the issuance of the December 2003 convertible notes, the exercise price of these warrants was changed from CAD$2.75 per share to CAD$2.05 per share on December 3, 2003.

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, investors received warrants for 271 shares of common stock exercisable at a price of CAD$2.15 per share which expire 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. The Company also issued broker warrants to purchase 94 shares of common stock exercisable at a price of CAD$2.15 per share which expired 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 2,813 shares of common stock with a carrying value of $1,785 credited to common stock. In

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addition, the Company issued 1,407 warrants to purchase common stock with an exercise price of CAD$2.15 per share which expire on December 19, 2008.

Warrants to Purchase Common Stock

At December 31, 2007, the Company had 7,567 investor warrants to purchase common stock outstanding priced in Canadian dollars with an exercise price of CAD $2.15 that expire on December 19, 2008.

At December 31, 2007, the Company had the following warrants to purchase common stock outstanding priced in U.S. dollars with a weighted average exercise price of $0.47 and a weighted average remaining life of 1.98 years:

Warrant Description	Number Outstanding at December 31, 2007	Exercise Price In U.S. Dollars	Expiration Date
Agent warrants	465	$ 0.97	May 7, 2008
Investor warrants	1,824	$ 1.75	July 20, 2008
Broker warrants	4,818	$ 0.33	February 21, 2009
Investor warrants	38,794	$ 0.40	February 21, 2010
Investor warrants	2,326	$ 0.97	May 7, 2010
	48,227		

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. A maximum of 20,000 options, not including the 700 options issued to the Chief Executive Officer and specifically approved by the shareholders, 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, 2007 is below.

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

	Number of Options	Exercise Price in Canadian Dollars	
		Range	Weighted- average
Outstanding at December 31, 2004	3,763	$ 1.64 - 7.50	$ 2.40
Granted	—	—	—
Exercised	(15)	1.64 - 1.70	1.66
Cancelled	(84)	1.64 - 6.25	2.93
Outstanding at December 31, 2005	3,664	1.64 - 7.50	2.39
Granted	—	—	—
Exercised	—	—	—
Cancelled	(262)	1.64 - 6.25	2.00
Outstanding at December 31, 2006	3,402	1.6375 - 7.50	2.42
Granted	—	—	—
Exercised	—	—	—
Cancelled	(463)	1.64 - 7.50	3.93
Outstanding at December 31, 2007	2,939	$ 1.6500 - 3.25	$ 2.18

	Options Outstanding			Options Exercisable		
Range of Exercise Price in Canadian Dollars	Number Outstanding at December 31, 2007	Weighted- average Exercise Price in Canadian Dollars	Weighted-average Remaining Contractual Life (years)	Number Outstanding at December 31, 2007	Weighted-average Exercise Price	Weighted-average Remaining Contractual Life (years)
$1.50 - $2.00	1,228	$ 1.72	2.19	1,228	$ 1.72	
$2.01 - $2.50	1,024	2.25	2.99	1,024	2.25	
$2.51 - $3.00	549	2.81	3.33	549	2.81	
$3.01 - $3.50	138	3.25	3.17	138	3.25	
	2,939	$ 2.18	2.73	2,939	$ 2.18	2.73

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, 2004	—	—	—
Granted	1,603	$0.88 - 1.35	$ 1.14
Exercised	—	—	—
Cancelled	(20)	1.20	1.20
Outstanding at December 31, 2005	1,583	0.88 - 1.35	1.14
Granted	375	0.34 - 0.36	0.35
Exercised	—	—	—
Cancelled	(80)	0.88 - 1.20	0.97
Outstanding at December 31, 2006	1,878	0.34 - 1.35	0.99
Granted	11,109	0.28 - 0.63	0.51
Exercised	—	—	—
Cancelled	(263)	0.34 - 1.20	0.55
Outstanding at December 31, 2007	12,724	$0.28 - 1.35	$ 0.58

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Range of Exercise Price in U.S. Dollars	Options Outstanding: Number Outstanding at December 31, 2007	Options Outstanding: Weighted-average Exercise Price	Options Outstanding: Weighted-average Remaining Contractual Life (years)	Options Exercisable: Number Outstanding at December 31, 2007	Options Exercisable: Weighted-average Exercise Price	Options Exercisable: Weighted-average Remaining Contractual Life (years)
$0.28 - $0.50	4,023	$ 0.29	6.30	1,146	$ 0.29	
$0.51 - $1.00	7,487	0.63	6.29	2,438	0.65	
$1.01 - $1.25	1,134	1.19	4.38	985	1.19	
$1.26 - $1.50	80	1.35	4.50	60	1.35	
	12,724	$ 0.58	6.11	4,629	$ 0.68	5.89

Stock compensation expense for the fiscal year ended December 31, 2007, 2006 and 2005 was $2,322, 590 and $276, respectively. The weighted average fair value per share of options granted during the fiscal year ended December 31, 2007, 2006 and 2005 was $0.43, $0.35 and $1.13, respectively. There was no intrinsic value in stock options outstanding at December 31, 2007.

The fair value of options granted in fiscal year ended December 31, 2007, 2006 and 2005 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, 2007	Year Ended December 31, 2006	Year Ended December 31, 2005
Expected dividend	0%	0%	0%
Risk-free interest rate	4.58%	4.60%	3.82%
Expected volatility	77.7%	84.0%	70.0%
Expected life	7 years	7 years	7 years

The Company uses the historical volatility and adjusts for available relevant market information pertaining to the Company's share price. As of December 31, 2007, the Company had unrecognized fair value relating to unvested stock options totaling approximately $2,050 which is expected to be recognized over a weighted average period of 1.4 years.

On February 27, 2008, the Company issued 3,200 stock options to Company executives with an exercise price of $0.38 which all vested on February 28, 2008.

6. 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:

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	Year Ended December 31, 2007	Year Ended December 31, 2006	Year Ended December 31, 2005	Cumulative From September 3, 1996 to December 31, 2007
Research and development	$ 10,912	$ 14,003	$ 11,678	$ 54,240
Investment tax credits	—	—	—	(1,632)
National Research Council grants	—	—	—	(197)
	$ 10,912	$ 14,003	$ 11,678	$ 52,411

The Company's claim for any Scientific Research and Experimental Development ("SR&ED") deductions and related investment tax credits for income tax purposes are based upon management's interpretation of the applicable legislation in the Canadian Income Tax Act. These amounts are subject to review and acceptance by the Canada Revenue Agency prior to collection.

7. Capital and Operating Lease Commitments

The Company has entered into operating lease agreements for the office and laboratory facilities located in the United States. As of December 31, 2007, the minimum cash payments per the lease agreements are as follows:

Year Ending	Amount
December 31, 2008	$ 463
December 31, 2009	477
December 31, 2010	463
December 31, 2011	395
December 31, 2012 and thereafter	268
Total minimum rent payments	$2,066

The table above includes a lease agreement for the Englert Facility which has been subleased to a third party until March 31, 2008. Under the terms of the operating lease for the office facilities, the Company financed $80 of leasehold improvements through the building's owner. The amount is being financed over the term of the lease which expires in September 2010 and bears an annual interest rate of six percent. This obligation was assumed by the sublessee when the Company subleased the facility to a third party; however, should the sublessee default, the Company would become liable.

Rental payments on operating leases and interest on capital lease payments are summarized in the table below:

Year Ending	Rent Amount	Interest
December 31, 2007	$ 327	$ —
December 31, 2006	264	—
December 31, 2005	184	4

8. Commitments and Contingencies

McGill Agreement

On February 26, 2001, the Company entered into a general collaboration agreement with McGill that grants the Company a 27-year exclusive, worldwide license to develop, use and market certain cell adhesion technology and compounds. The license agreement provides for the Company to pay future royalties of two percent of gross revenues from the use of the technology and compounds. The agreement also provides for the Company to make payments as follows:

- CAD$100 if the Company has not filed an investigational new drug ("IND") application, or similar application with Canadian, US, European or a recognized agency, relating to the licensed product prior

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to September 23, 2002. On August 1, 2002, McGill acknowledged that work completed on the clinical development of ADH-1 was sufficient to meet the requirements of the September 23, 2002 milestone and thus no payment was required.

- CAD$100 if the Company has not commenced Phase II clinical trials in a recognized jurisdiction on any licensed product prior to September 23, 2004. On September 20, 2004, McGill acknowledged that the Company had met obligations with respect to the September 23, 2004 milestone and thus no payment was required.
- CAD$200 if the Company has not commenced Phase III clinical trials in a recognized jurisdiction on any licensed product prior to September 23, 2006, which was paid in fiscal year 2007.

In addition, the Company is required to fund mutually agreed upon research at McGill over a period of ten years totaling CAD$3,300. Annual funding commenced in 2001 with a total payment of CAD$200 and increases annually by 10 percent through to the tenth year of the agreement when annual funding reaches CAD$500. The additional research commitment can be deferred in any year if it exceeds five percent of the Company's cash and cash equivalents. As of December 31, 2007, there have been no deferrals. The Company receives certain intellectual property rights resulting from this research.

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 paid.

Employment matters

Under the terms of an agreement dated February 19, 2003, the prior Chief Executive Officer of the Company was terminated by mutual agreement. Pursuant to that agreement, the Company agreed to pay a total of $350. The initial payment of $150 was made during the quarter ended March 31, 2003 and was recorded as a General and Administration expense. Additionally, he received $50 per year for four years paid in semi-monthly installments. During fiscal 2007, the Company made the final payment under the agreement and therefore no liability exists at December 31, 2007.

GlaxoSmithKline

On July 14, 2005, the Company entered into a development and license agreement with GSK. The agreement included the in-license by Adherex of GSK's oncology product, eniluracil, and an option for GSK to license ADH-1. As part of the transaction, GSK invested $3,000 in the 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, Adherex 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 the Company purchased all of GSK's remaining buy-back options for a fee of $1,000. The Company is now required to pay GSK development and sales milestones and double-digit royalties. Specifically, if the Company files a NDA with the FDA, the Company may be required to pay development milestones of $5,000 to GSK. Depending upon whether the NDA is approved by the FDA and whether eniluracil becomes a commercial success, the Company may be required to pay up to an additional $70,000 in development and sales milestones for the initially approved indication, plus double digit royalties based on annual net sales. If the Company pursues other indications, it may be required to pay up to an additional $15,000 to GSK per FDA-approved indication.

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9. Income Taxes

The Company operates in several 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, 2007	Year Ended December 31, 2006	Year Ended December 31, 2005
Domestic loss	$ (9,104)	$ (10,931)	$ (7,834)
Foreign loss	(4,253)	(5,509)	(6,037)
Loss before income taxes	(13,357)	(16,440)	(13,871)
Expected statutory rate (recovery)	32.02%	32.01%	36.12%
Expected provision for (recovery of) income tax	(4,277)	(5,262)	(5,010)
Permanent differences	746	194	35
Change in valuation allowance	3,813	3,247	5,129
Non-refundable investment tax credits	(22)	(50)	(35)
Share issue costs and effect of change of carryforwards	(352)	(48)	(51)
Effect of foreign exchange rate differences	(637)	705	(68)
Effect of change in future enacted tax rates	916	804	—
Effect of tax rate changes and other	(187)	410	—
Provision for income taxes	$ —	$ —	$ —

The Canadian statutory income tax rate of 32.02 percent is comprised of federal income tax at approximately 22.12 percent and provincial income tax at approximately 9.9 percent.

The primary temporary differences which gave rise to future income taxes (recovery) at December 31, 2007, December 31, 2006 and December 31, 2005 are as follows:

	December 31, 2007	December 31, 2006	December 31, 2005
Future tax assets:			
SR&ED expenditures	$ 1,931	$ 2,209	$ 2,390
Income tax loss carryforwards	19,243	16,300	12,060
Non-refundable investment tax credits	1,090	1,029	998
Share issue costs	425	150	311
Reserves	—	—	518
Accrued expenses	153	—	—
Fixed and intangible assets	1,058	942	1,106
	23,900	20,630	17,383
Less: valuation allowance	(23,900)	(20,630)	(17,383)
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, 2007, the Company has unclaimed Scientific Research and Experimental Development ("SR&ED") expenditures, income tax loss carry forwards and investments tax credits. The unclaimed amounts and their expiry dates are as listed below:

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	Federal	Province/ State
SR&ED expenditures (no expiry)	$ 7,169	$ 7,189
Income tax loss carryforwards (expiry date):		
2008	592	—
2009	3,418	5,566
2010	4,089	5,700
2014	5,800	6,535
2015	6,239	6,976
2021	26	—
2022	233	—
2023	1,588	1,455
2024	4,849	4,768
2025	10,820	10,793
2026	13,637	13,572
2027	8,916	8,916
Investment tax credits (expiry date):		
2008	7	—
2009	89	—
2010	51	—
2011	510	—
2012	371	—
2013	166	—
2014	133	—
2015	52	—
2026	80	—
2027	22	—

The Company adopted FIN 48 effective January 1, 2007. Upon adoption of FIN 48 and through December 31, 2007, the Company had no unrecognized tax benefits. As of the date of adoption, there were no tax positions for which it is reasonably possible that the total amounts of unrecognized tax benefits will significantly increase or decrease within twelve months from the date of adoption of FIN 48 or from December 31, 2007. Accordingly, none have been recorded.

As of December 31, 2007, the Company is subject to federal and state income tax in the United States and federal and provincial tax in Canada. The open statute years available for examination by U.S. taxing authorities are 2004 through 2007; the open statute years available for examination by Canadian taxing authorities are 2003 through 2007. However, since the Company is in a loss carryforward position in both jurisdictions, the Company is generally subject to U.S. and Canadian federal and state or provincial income tax examinations by tax authorities for all years for which a loss carryforward is utilized in subsequent periods. Thus, upon adoption of FIN 48, the Company's U.S. and Canadian open tax years extend back to 2001 and 1999, respectively.

In the event that the Company concludes that there are unrecognized tax benefits to record and that it is subject to interest and/or penalties arising from uncertain tax positions, the Company will record interest and penalties as a component of other income and expense. No amounts of interest or penalties were recognized in the Company's consolidated financial statements upon adoption of FIN 48 or as of December 31, 2007 and for the year ended December 31, 2007.

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10. Net Loss Per Share

The outstanding number and type of securities that could potentially dilute basic earnings per share in the future and which were not included in the computation of diluted earnings per share, because to do so would have reduced the loss per share (anti-dilutive) for the years presented, are as follows:

	December 31, 2007	December 31, 2006	December 31, 2005
Stock options	15,663	5,280	5,246
Convertible note warrants	—	615	615
Acquisition warrants	—	461	461
Broker warrants	6,283	692	227
Investor warrants	49,511	14,052	11,726
Totals	71,457	21,100	18,275

11. Segment Information

The Company operates in one business segment, which is the development of pharmaceutical products based on its licensed and proprietary technologies, with substantially all of its capital assets and operations, which were previously located in Canada, now located in the United States in Research Triangle Park, North Carolina.

12. Research and Development Projects

The Company is in the development stage and conducts research and development in the areas of anti-cancer and chemoprotection:

Anti-Cancer:

- ADH-1 is a molecularly-targeted anti-cancer compound in clinical development that selectively targets N-cadherin, a protein present on certain tumor cells and the established blood vessels that supply the tumors.
- Eniluracil is a compound in clinical development that was previously under development by GSK for oncology indications. Eniluracil is a DPD inhibitor being developed to enhance the therapeutic value and effectiveness of an approved anti-cancer compound called 5-fluorouracil, or 5-FU.

Chemoprotectants and Chemoenhancers:

- STS is a compound in clinical development that has been shown to protect against the disabling loss of hearing in patients being treated with platinum-based anti-cancer agents.

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The following summarizes our research and development expenses, net of any investment tax credits or grants, through December 31, 2007:

	Year Ended December 31, 2007	Year Ended December 31, 2006	Year Ended December 31, 2005	Cumulative From September 3, 1996 to December 31, 2007
ADH-1	$ 5,087	$ 9,792	$ 7,743	$ 33,844
Eniluracil	5,004	2,910	2,395	10,821
Other anti-cancer	158	249	351	2,347
Total anti-cancer	10,249	12,951	10,489	47,012
STS	560	292	443	2,668
Other chemoprotectants and enhancers	—	—	16	40
Total chemoprotectants and enhancers	560	292	459	2,708
Other discovery projects	103	760	730	2,553
Transdermal drug delivery	—	—	—	138
Total research and development program expense	$ 10,912	$ 14,003	$ 11,678	$ 52,411

On March 1, 2007, the Company purchased all of GSK's remaining buy-back options for a fee of $1,000. The Company has made no upfront cash payments for research and development projects and is not obligated to repay research and development amounts to any third parties.

13. Financial Instruments

Financial instruments recognized on the balance sheets at December 31, 2007 and December 31, 2006 consist of cash and cash equivalents, cash pledged as collateral, accounts receivable, accounts payable and other current liabilities. The Company does not hold or issue financial instruments for trading purposes and does not hold any derivative financial instruments.

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 are 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 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.

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14. Changes in Operating Assets and Liabilities

The following table details the changes in operating assets and liabilities as per the Statements of Cash Flows:

	Year Ended December 31, 2007	Year Ended December 31, 2006	Year Ended December 31, 2005
Accounts receivable	$ 11	$ (17)	$ 2
Investment tax credits receivable	(93)	58	123
Prepaid expenses	(89)	31	(48)
Other current assets	4	19	41
Accounts payable and accrued liabilities	(2,293)	2,032	884
Net changes in operating assets and liabilities	$ (2,460)	$ 2,123	$ 1,002

15. Canadian Accounting Principles

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States in U.S. dollars. These principles differ, as they affect the Company, at December 31, 2007 and December 31, 2006 and for the fiscal years ended December 31, 2007, December 31, 2006, and December 31, 2005 in the following material respects from Canadian generally accepted accounting principles. There are no differences in reported cash flow for the periods presented.

Consolidated Balance Sheets - Canadian GAAP:

	December 31, 2007	December 31, 2006
Assets		
Current assets	$ 16,561	$ 5,895
Other assets	363	440
Capital assets	285	293
Acquired intellectual property rights	9,028	9,956
Total assets	$ 26,237	$ 16,584
Liabilities		
Current liabilities	$ 2,402	$ 4,695
Other long-term liabilities	—	40
Deferred lease inducement	659	625
Future income taxes	2,474	3,639
Total liabilities	5,535	8,999
Shareholders' equity		
Common stock	64,891	46,486
Contributed surplus	34,583	26,751
Cumulative translation adjustment	5,850	5,850
Deficit accumulated during development stage	(84,622)	(71,502)
Total shareholders' equity	20,702	7,585
Total liabilities and shareholders' equity	$ 26,237	$ 16,584

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Notes to the Consolidated Financial Statements (continued)
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Consolidated Statements of Operations – Canadian GAAP:

	Year Ended December 31, 2007	Year Ended December 31, 2006	Year Ended December 31, 2005
Net loss in accordance with U.S. GAAP	$ (13,357)	$ (16,440)	$ (13,871)
Adjustments to reconcile to Canadian GAAP:			
Acquired intellectual property rights amortization (2)	(1,808)	(2,177)	(2,723)
Loss on impairment of intellectual property (2)	—	(2,021)	(3,539)
Future income taxes (2)	1,165	1,535	2,290
License fee paid (2)	1,000	—	—
License fee amortization (2)	(120)	—	—
Stock-based compensation (3)	—	—	(1,402)
Net loss and comprehensive loss in accordance with Canadian GAAP	$ (13,120)	$ (19,103)	$ (19,245)
Net loss per share of common stock, basic and diluted	$ (0.11)	$ (0.40)	$ (0.49)
Weighted-average number of shares of common stock outstanding, basic and diluted	116,571	47,663	39,276

Notes to the Consolidated Financial Statements—Canadian GAAP:

1. Summary of significant accounting policies

Current accounting pronouncements

On January 1, 2007, the Company adopted the following standards: The Canadian Institute of Chartered Accountants (“CICA”) Sections 3855 “Financial Instruments—Recognition and Measurements”; 3865 “Hedges”; and 1530 “Comprehensive Income”. These sections require certain financial instruments and hedge positions to be recorded at their fair value. They also introduce the concept of comprehensive income and accumulated other comprehensive income.

CICA Section 3855 “Financial Instruments—Recognition and Measurements” establishes standards for recognizing and measuring financial assets, financial liabilities and non-financial derivatives. All financial instruments must be classified into defined categories. This classification determines how each instrument is measured and how gains and losses are recognized. In addition, the recommendations define derivatives and embedded derivatives which meet certain criteria.

CICA Section 3865 “Hedges” replaces AcG-13, “Hedging Relationships” and the guidance formerly in CICA Section 1650, “Foreign Currency Translation”. The recommendations of this section are optional and are only required if the entity is applying hedge accounting. This section establishes standards for the accounting treatment of qualifying hedge relationships and the necessary disclosures. For fair value hedges, the periodic change in value is recognized in income, where the changes in values of the hedged items are also recorded. For a cash flow hedge, the change in value of the effective portion is recognized in “other comprehensive income”.

CICA Section 1530, “Comprehensive Income”, introduces a statement of comprehensive income in the full set of interim and annual financial statements. Comprehensive income will present certain gains and losses outside net income. The adoption of these standards was on a prospective basis with no retroactive restatement of prior periods and had no material impact on the consolidated financial statements. As at December 31, 2007, the Company’s accumulated other comprehensive income balance was $5,820.

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Future accounting pronouncements

The CICA issued the following new recommendations which apply to fiscal years beginning on or after October 1, 2007. The Company expects these new standards relating to presentation and disclosure will have no impact on the financial results of the Company:

Financial Instruments – Disclosures, Section 3862, describes the required disclosures related to the significance of financial instruments on the entity's financial position and performance and the nature and extent of risks arising from financial instruments to which the entity is exposed and how the entity manages those risks. This section complements the principles of recognition, measurement and presentation of financial instruments of Section 3855, Financial Instruments – Recognition and Measurement.

Financial Instruments – Presentation, Section 3863, establishes standards for presentation of financial instruments and non-financial derivatives. It complements the standards of Section 3861, Financial Instruments – Disclosure and presentation.

Capital Disclosures, Section 1535, establishes the standards for disclosing information about the entity's capital and how it is managed to enable users of financial statements to evaluate the entity's objectives, policies and procedures for managing capital.

General Standards on Financial Presentation, Section 1400, has been amended to assess and disclose an entity's ability to continue as a going concern. The change is effective for interim and annual financial statements beginning on or after January 1, 2008.

Goodwill and Intangible Assets, Section 3064, which will replace Section 3062, Goodwill and Intangible Assets, establishes revised standards for the recognition, measurement, presentation and disclosure of goodwill and intangible assets. The new standard also provides guidance for the treatment of start-up costs and requires that the costs be expensed as incurred. The new standard applies to annual and interim financial statements relating to fiscal years beginning on or after October 31, 2008. Management is currently assessing the impact of these new standards on the Company's consolidated financial statements.

2. Acquired intellectual property rights

Under U.S. GAAP, the cost of acquired technology is charged to expense as in-process research and development ("IPRD") when acquired if the feasibility of such technology has not been established and no future alternative use exists. Canadian GAAP requires the capitalization and amortization of the costs of acquired technology. This difference decreases the net loss from operations under Canadian GAAP in the year the IPRD is acquired and reduces the net loss under Canadian GAAP in subsequent periods because there is no amortization expense.

Under Canadian GAAP, a future tax liability is also recorded upon acquisition of the technology to reflect the tax effect of the difference between the carrying amount of the technology in the financial statements and the tax basis of these assets, which is nil. As the intellectual property is amortized, the future tax liability is also reduced to reflect the change in this temporary difference between the tax and accounting values of the assets. Under U.S. GAAP, because the technology is expensed immediately as IPRD, there is no difference between the tax basis and the financial statement carrying value of the assets and therefore no future tax liability exists.

On November 20, 2002 Adherex acquired certain intellectual property through the acquisition of Oxiquant, a holding company with no active business. The intellectual property was valued at CAD$31,162 reflecting net liabilities assumed of CAD$401 and provision for future income tax liability of CAD$11,390, resulting in a total consideration of CAD$19,371. The assets consisted primarily of three product candidates including; mesna, N-Acetylcysteine ("NAC") and Sodium Thiosulfate ("STS"). The acquired intellectual property was deemed to have a ten year useful life, amortized on a straight-line basis.

At December 31, 2005, the Company determined the carrying value of the intellectual property relating to mesna, which had a book value of $3,539, and a related future income tax benefit of $1,294, was fully impaired and written off based on the Company's lack of any further developmental plans. This decision was based on the addition of eniluracil to the Company's product portfolio, along with the financial resources additionally devoted to the development of

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ADH-1. The loss on impairment is calculated as the amount by which the carrying amount of the asset exceeds its discounted cash flows.

At December 31, 2006, the Company determined the carrying value of the intellectual property relating to NAC, which had a book value of $2,021, and a related future income tax benefit of $739, was fully impaired and written off because the Company has no plans for further development of NAC and will allocate its resources to ADH-1, eniluracil and STS. The loss on impairment is calculated as the amount by which the carrying amount of the asset exceeds its undiscounted cash flows.

On March 1, 2007, the Company purchased all of GSK's remaining options to buy back eniluracil under our development and license agreement for a cash fee of $1,000. Under U.S. GAAP, the cost of the license fee paid to GSK was charged to expense as the feasibility of such technology had not been established and no future alternative use existed. Canadian GAAP requires the capitalization and amortization of the costs of such license fees. The license fee is being amortized over the estimated life of seven years on a straight-line basis.

During the year ended December 31, 2007, the Company reduced the future tax liability by $660 which was the amortization expense for the intellectual property. In addition, at December 31, 2007, the Company reduced the future tax liability by $505 to adjust for lower tax rates projected over the remaining estimated life of the intellectual property.

3. Stock-based compensation

Canadian GAAP required the fair value of employee and director stock options to be expensed in the statement of operations commencing for fiscal years beginning after January 1, 2004, under CICA Section 3870 Stock-Based Compensation and Other Stock-Based Payments ("*CICA* 3870"). For the fiscal year ended December 31, 2006, the Company adopted FASB Statement No. 123 (Revised 2004), Accounting for Stock-Based Compensation which requires companies to record the fair value of employee and director stock options as expense in the statement of operations. As a result, there are no differences between Canadian and U.S. GAAP for the fiscal year ended December 31, 2007 or December 31, 2006.

ADHEREX TECHNOLOGIES INC.
AMENDED AND RESTATED STOCK OPTION PLAN

PLAN DESCRIPTION

1. Purpose of the Plan

The purpose of the Adherex Technologies Inc. Amended and Restated Stock Option Plan is to develop the interest and incentive of eligible employees, directors and other service providers of ADHEREX TECHNOLOGIES INC. (the "Company"), in the Company's growth and development by providing incentives (thereby advancing the interests of the Company, enhancing the value of the Common Shares for the benefit of all the shareholders and increasing the ability of the Company to attract and retain skilled and motivated individuals in the service of the Company):

(a) to Employees of the Company, or its parent (if any) or any of its present or future subsidiaries (collectively, "Related Corporations"), by providing them with opportunities to purchase Common Shares (as defined below) of the Company pursuant to options granted hereunder that qualify as "incentive stock options" ("ISOs") under Section 422 of the Internal Revenue Code of 1986, as amended, or any successor statute (the "Code"); and

(b) to Directors, Employees and Service Providers of the Company and Related Corporations by providing them with opportunities to purchase Common Shares pursuant to options granted hereunder that do not qualify as ISOs (Nonstatutory Stock Options, or "NSOs").

Both ISOs and NSOs are referred to hereafter individually as "Options". As used herein, the terms "parent" and "subsidiary" mean "parent corporation" and "subsidiary corporation", respectively, as those terms are defined in Section 424 of the Code.

This Plan was adopted by the Board on March 18, 2005 (the "Effective Date"), and approved by the shareholders of the Company on April 29, 2005. This plan was amended by the Board on March 23, 2007 and the amendments were approved by the shareholders of the Company on April 27, 2007.

2. Definitions

In this Plan:

(a) "Board" means the board of directors of the Company;

(b) "Committee" means the appropriate compensation committee, if any, appointed by the Board of Directors to administer the Plan;

(c) "Common Shares" means the Common Shares of the Company or, in the event of an adjustment contemplated in Section 8 hereof, such other securities to which a Participant may be entitled upon the exercise of an Option as a result of such adjustment;

(d) "Date of Grant" means the date a Participant is granted an Option to purchase Option Shares;

(e) "Director" means a person occupying the position of director on the Board of the Company or any Related Corporation;

(f) "Employee" means a full time employee of the Company or any Related Corporation;

(g) "Exchange" means the Toronto Stock Exchange or, if the Common Shares are not then listed and posted for trading on the Toronto Stock Exchange, on such stock exchange or quotation system on which such shares are listed, posted for trading or quoted as may be selected by the Committee.

(h) "Exercise Date" means the date the Company receives from the Participant a completed Stock Option Purchase Form with payment for the Option Shares being purchased;

(i) "Fair Market Value" at any date in respect of the Common Shares is the fair value of the Common Shares as determined by the Committee in its sole discretion. If, at the time an Option is granted under the Plan, the Common Shares are publicly traded and listed on the Exchange or the American Stock Exchange, "Fair Market Value" shall be equal to the closing price of the Common Shares on the Exchange or the American Stock Exchange on the trading day immediately preceding the Date of Grant; provided that if the Common Shares are then traded on the American Stock Exchange or on the Nasdaq National Market or the Nasdaq SmallCap Market, "Fair Market Value" shall, if the Common Shares are not then listed on the Exchange or the American Stock Exchange or otherwise if so determined by the Committee in its sole discretion, be equal to the closing sale price for such stock on such exchange or market trading day immediately preceding the Date of Grant.

(j) "Option Price" means the price per share at which a Participant may purchase Option Shares;

(k) "Option Shares" means the Common Shares of the Company which a Participant is entitled to purchase under the Plan;

(l) "Participants" means Directors, Employees and Service Providers to whom Options are granted pursuant to the Plan;

(m) "Plan" means the Adherex Technologies Inc. Stock Option Plan, as the same may be amended and restated from time to time;

(n) "Service Provider" means any person other than an Employee or Director, engaged to provide ongoing management, advisory or consulting services for the Company or a Related Corporation;

(o) "Stock Option Agreement" means (i) prior to March 18, 2005, the stock option agreement to be entered into between the Company and a Participant in the form of Appendix "A" and (ii) after such date, the stock option agreement to be entered into between the Company and a Participant in the form of Appendix "C"; and

(p) "Vesting Period" means the period(s) as stipulated herein or in the Stock Option Agreement that the Participant may purchase the Option Shares.

3. Eligibility and Number of Option Shares Subject to Plan

Participation in the Plan shall be limited to Participants who are designated from time to time by the Committee. ISOs may be granted to any Employee resident in the United States. Those officers of the Company who are not employees may not be granted ISOs under the Plan. NSOs may be granted to any Director, Employee or Service Provider. Participation shall be voluntary and the extent to which any Participant shall be entitled to participate in the Plan shall be determined by the Committee. Until changed in accordance with Section 16, the maximum number of shares issuable under this Plan shall be 20,000,000 Common Shares, subject to adjustment in accordance with Section 8. Granting of any Option

to any individual or entity shall neither entitle that individual or entity to, nor disqualify him or her from, participation in any other grant of Options. If any Option granted under the Plan shall expire or terminate for any reason without having been exercised in full or shall cease for any reason to be exercisable in whole or in part, or if the Company shall reacquire any shares issued pursuant to Options, the unpurchased shares subject to such Options and any shares so reacquired by the Company shall again be available for grants of Options under the Plan.

The selection of a Director or an officer who is a Reporting Person (as the terms “director” and “officer” are defined for purposes of Rule 16b-3) as a recipient of an Option, the timing of the Option grant, the exercise price, if any, of the Option and the number of shares subject to the Option shall be determined either (i) by the Board, or (ii) by a committee of the Board that is composed solely of two or more Non-Employee Directors having full authority to act in the matter. For the purposes of the Plan, a director shall be deemed to be a “Non-Employee Director” only if such person is defined as such under Rule 16b-3(b)(3), as interpreted from time to time.

No fractional shares may be purchased or issued hereunder.

4. Price for Shares; ISO Limitations

The Committee shall advise each Participant, as applicable, of the number of shares subject to such Participant’s Option, the Option Price at which Option Shares may be purchased and the Vesting Period applicable to the Option. The Option Price at which the Option Shares may be purchased under the Plan shall be fixed by the Committee based upon the Fair Market Value of the Common Shares. The Committee may impose, in its discretion, performance thresholds which will need to be met prior to vesting of any Options granted.

The price per share specified in the Stock Option Agreement relating to each ISO granted under the Plan shall not be less than the Fair Market Value of the Common Shares on the date of such grant. In the case of an ISO to be granted to an employee owning stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or any Related Corporation, the price per share specified in the agreement relating to such ISO shall not be less than 110% of the fair market value per Common Share on the date of the grant.

To the extent that the aggregate Fair Market Value of the Common Shares (determined at the time an ISO is granted) for which ISOs granted to any employee are exercisable for the first time by such employee during any calendar year (under all stock option plans of the Company and any Related Corporation) exceeds US$100,000; or such higher value as permitted under Code Section 422 at the time of determination, such Options will be treated as NSOs, provided that this Section shall have no force or effect to the extent that its inclusion in the Plan is not necessary for Options issued as ISOs to qualify as ISOs pursuant to Section 422 of the Code. The rule of this Section shall be applied by taking Options in the order in which they were granted.

5. Exercise

Options granted under the Plan must be exercised within a period of seven (7) years from the Date of Grant, failing which the Option shall expire; provided that, if the end of such seven (7) year period for any vested Option falls on, or within nine (9) trading days immediately following, a date upon which the Participant is prohibited from exercising such Option due to a black-out period or other trading restriction imposed by the Company, then the expiry date of such Option shall be automatically be the tenth (10th) trading day following the date the relevant black-out period or other trading restriction imposed by the Company is lifted, terminated or removed. Notwithstanding, Options granted under the Plan shall expire

five (5) years from the Date of Grant in the case of ISOs granted to an employee owning stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or any Related Corporation.

Unless otherwise determined by the Committee and specifically set forth in the Stock Option Agreement, the Vesting Periods during which Options or a portion thereof vest and may be exercised by the Participant shall be as follows:

one-third of the Option may be exercised after the first anniversary of the date of grant;

one-third of the Option may be exercised after the second anniversary of the date of grant; and

one-third of the Option may be exercised after the third anniversary of the date of grant.

Notwithstanding such vesting period or that certain vesting period set forth in the Stock Option Agreement, the Committee may, in its sole discretion, by written notice to any Participant, accelerate the vesting of all or any of the Options such that the Options become immediately fully vested. In such circumstances, the Committee may by written notice compel the Participant to exercise the Options within 30 days of the date of such written notice to exercise, failing which the Participant's right to purchase such Option Shares lapses.

The Committee in its discretion may require that the exercise of an Option shall be conditional on the Participant making any representations and warranty to the Company as may be required under applicable laws or regulations.

6. Payment

Except as otherwise provided in this Plan or the instrument evidencing the Option, an Option (or any part or installment thereof) shall be exercised by giving written notice to the Company at its principal office address to the attention of its Corporate Secretary. Such notice shall identify the Option being exercised and specify the number of shares as to which such Option is being exercised, accompanied by full payment of the exercise price therefor, if any, payable as follows (a) in Canadian or United States dollars in cash, check or money order, or (b) at the discretion of the Committee, by delivery of a notice that the grantee has placed a market sell order with a broker with respect to Common Shares then issuable upon exercise of the Option and that the broker has been directed to pay a sufficient portion of the net proceeds of the sale to the Company in satisfaction of the Option exercise price, provided that payment of such proceeds is then made to the Company upon settlement of the sale or (c) at the discretion of the Committee, by any combination of (a) and (b) such other consideration and method of payment for the issuance of shares to the extent permitted by applicable law or the Plan. Notwithstanding, with regard to Options granted before March 18, 2005, such notice shall be in the form attached hereto as Appendix "B." If the Committee exercises its discretion to permit payment of the exercise price of an ISO by means of the methods set forth in clause (b) of the preceding sentence, such discretion shall be exercised in writing at the time of the grant of the ISO in question and such exercise shall also be governed by any terms set forth in the written agreement evidencing the grant of the Option.

7. Share Certificates

Upon exercise of an Option and payment in full of the purchase price, the Company shall cause to be delivered to the Participant within a reasonable period of time a duplicate certificate or certificates in the name of the Participant representing the number of Common Shares the Participant has purchased.

8. Adjustment in Shares

In the event of any subdivision, redivision or change of the Common Shares of the Company at any time prior to the expiration of the Option into a greater number of shares, the Company shall deliver at the time

of any exercise thereafter of the Option such additional number of shares as would have resulted from such subdivision, redivision or change if such exercise of the Option hereby granted had been prior to the date of such subdivision, redivision or change. In the event of any consolidation or change of the Common Shares of the Company at any time prior to the expiration of the Option into a lesser number of shares, the number of shares deliverable by the Company on any exercise thereafter of the Option shall be reduced to such number of shares as would have resulted from such consolidation or change if such exercise of the Option hereby granted had been prior to the date of such consolidation or change. In all such cases, any Option Price shall also be adjusted accordingly. Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares subject to the Option.

In the event of a proposed Change in Control (as defined below) of the Company, the Company shall give written notice thereof to each Participant holding Options under the Plan and such Participants shall be entitled to exercise all or a portion of the Option granted to such Participants, whether or not such Option has previously vested, within the 30 days period following the giving of such notice. To the extent the proposed Change in Control is not completed in a reasonable time, the Company may purchase at the Option Price the Option Shares acquired by the Participant pursuant to Options which would not have vested but for the acceleration of the Vesting Period as set forth in the preceding sentence. Upon the expiration of such 30 day period, all unexercised Options shall terminate and cease to have any further force and effect. “Change of Control” shall mean the acquisition (at one time or over a period of time) of shares of the Company or of securities (“Convertible Securities”) convertible into, exchangeable for or representing the right to acquire shares of the Company as a result of which a person, group of persons or persons acting jointly or in concert, or persons associated or affiliated within the meaning of the *Canada Business Corporation Act* with any such person, group of persons or persons acting jointly or in concert (collectively, the “Acquirors”), beneficially own shares of the Company and/or Convertible Securities that would entitle the holders thereof to cast more than 50% of the votes attaching to all shares in the capital of the Company that may cast to elect directors of the Company (assuming the conversion, exchange or exercise of Convertible Securities beneficially owned by the Acquirors). For the avoidance of doubt, a Change of Control shall not include a reverse takeover or other reorganization whereby the holders of shares and Convertible Securities of the Company immediately prior to such transaction beneficially own, following the completion of the transaction, shares of the parent or surviving corporation that would entitle the holders thereof to cast more than 50% of the votes attaching to all shares in the capital of such parent or surviving corporation that may cast to elect directors of such parent or surviving corporation. In the event of Change in Control of the Company, the Participant irrevocably agrees that any shares owned by him/her at the time of such Change in Control shall be tendered for sale in accordance with the terms of such Change in Control.

In the event of a transaction, including without limitation, a recapitalization or reorganization of the Company (other than a transaction described in the preceding paragraph) pursuant to which securities of the Company or of another corporation are issued with respect to the outstanding Common Shares, an optionee or grantee upon exercising an Options shall be entitled to receive for the purchase price paid upon such exercise the securities he or she would have received if he or she had exercised the Option immediately prior to such recapitalization or reorganization.

In the event of the proposed dissolution or liquidation of the Company, each Option will terminate immediately prior to the consummation of such proposed action or at such other time and subject to such other conditions as shall be determined by the Committee.

9. Termination Of Participant For Any Reason

In the event that a Employee's employment is terminated for any reason, a Director shall cease to be a Director for any reason or a Service Provider ceases to provide services to the Company or a Related Corporation (and such person is a Participant), the Participant or the Participant's legal representative, as the case may be, may elect to exercise any Option held by him or her (to the extent of the number of shares with respect to which he or she could have exercised it on the date of termination) at any time during the 30 day period following the date of such termination of employment or position on the Board or termination of services of a Service Provider (the "Participant Termination Date"), or if specifically approved by the Board, at any time prior to the earlier of (x) the expiration date thereof, or (y) the date that is three (3) years following the Participant Termination Date, provided, however, in the event the grantee exercises any ISO after the date that is three months following the Participant Termination Date, such ISO will automatically be converted into an NSO subject to the terms of the Plan. If the Participant fails to exercise such Option prior to the Participant Termination Date (or such later date as specifically approved by the Board), such Option shall terminate. For the purposes of this Plan, the transfer of the Employee's employment to the Company or to Related Corporation shall not be considered a termination of employment and the Employee's rights under an Option shall be the same as if such transfer had not occurred. For purposes of this Plan, a change in status from Employee to Service Provider, or from Service Provider to Employee, will not constitute a termination of employment, provided that a change in status from an Employee to Service Provider may cause an ISO to become an NSO under the Code.

10. Transfer and Assignment

The Participant's rights under Options granted under the Plan are not assignable or transferable by the Participant or subject to any other alienation, sale, pledge or encumbrance by such Participant during the Participant's lifetime and therefore the Options are exercisable during the Participant's lifetime only by the Participant. The obligations of each Participant shall be binding on his or her heirs, executors and administrators.

11. Employment and Board of Directors Position Non-Contractual

The granting of an Option to a Participant under the Plan does not confer upon the Participant any right to continue in the employment of the Company or any Related Corporation or as a member of the Board or as a Service Provider, as the case may be, nor does it interfere in any way with the rights of the Employee or of the Company's rights to terminate the Employee's employment at any time or of the shareholders' right to elect Directors.

12. Rights As Shareholders

Participants shall not have any rights as a shareholder with respect to Options until exercise and full payment has been made to the Company and a share certificate or share certificates have been duly issued.

13. Administration Of The Plan

The Plan shall be administered by (i) the Board or (ii) the Committee. The appointment of the members of, and the delegation of powers to, the Committee by the Board shall be consistent with applicable laws and regulations (including, without limitation, the Code, Rule 16b-3 promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or any successor rule thereto ("Rule 16b-3"), and any applicable state law (collectively, the "Applicable Laws")). Once appointed, such Committee shall continue to serve in its designated capacity until otherwise directed by the Board. From time to time, the Board may increase the size of the Committee and appoint additional members thereof, remove members (with or without cause) and appoint new members in substitution therefor, fill vacancies,

however caused, and remove all members of the Committee and thereafter directly administer the Plan, all to the extent permitted by the Applicable Laws. Any determination with regard to the Plan by the Committee shall be final and conclusive on all persons affected thereby unless otherwise determined by the Board. The day-to-day administration of the Plan may be delegated to such officers and Employees as the Committee shall determine.

Subject to ratification of the grant or authorization of each Option by the Board (if so required by an Applicable Law), and subject to the terms of the Plan, if applicable,, the Committee, if so appointed, shall have the authority, in its discretion, to:

(i) determine the employees of the Company and Related Corporations (from among the class of employees eligible under Section 3 to receive ISOs) to whom ISOs may be granted, and to determine (from among the classes of individuals and entities eligible under Section 3 to receive NSOs) to whom NSOs may be granted;

(ii) determine the time or times at which Options may be granted (which may be based on performance criteria);

(iii) determine the number of Common Shares subject to any Option granted by the Committee;

(iv) determine the Option Price, which price shall not be less than the minimum price specified in Section 4 hereof, as appropriate;

(v) determine whether each Option granted shall be an ISO or NSO;

(vi) determine (subject to Section 5) the time or times when each Option shall become exercisable and the duration of the exercise period;

(vii) determine whether restrictions such as repurchase options are to be imposed on shares subject to Options and the nature of such restrictions, if any;

(viii) approve forms of agreement for use under the Plan;

(ix) accelerate vesting on any Option or to waive any forfeiture restrictions, or to waive any other limitation or restriction with respect to an Option;

(x) reduce the exercise price of any Option if the fair market value of the Common Shares covered by such Option shall have declined since the date the Option was granted, subject to prior approval of the Exchange, if applicable;

(xi) institute a program whereby outstanding Options can be surrendered in exchange for Options with a lower exercise price, subject to prior approval of the Exchange and/or shareholders of the Company, if applicable;

(xii) modify or amend each Option (subject to Section 5) including the discretionary authority to extend the post-termination exercisability period of Options longer than is otherwise provided for by terms of the Plan or the Option, subject to prior approval of the Exchange and/or shareholders of the Company, if applicable;

(xiii) construe and interpret the Plan and Options granted hereunder and prescribe and rescind rules and regulations relating to the Plan; and

(xiv) make all other determinations necessary or advisable for the administration of the Plan.

If the Committee determines to issue a NSO, it shall take whatever actions it deems necessary, under Section 422 of the Code and the regulations promulgated thereunder, to ensure that such Option is not treated as an ISO. The interpretation and construction by the Committee of any provisions of the Plan or of any Option granted under it shall be final unless otherwise determined by the Board. The Committee may from time to time adopt such rules and regulations for carrying out the Plan as it may deem best. No member of the Board or the Committee shall be liable for any action or determination made in good faith with respect to the Plan or any Option granted under it.

The Committee may select one of its members as its chairman, and shall hold meetings at such times and places as it may determine. Acts by a majority of the Committee, approved in person at a meeting or in writing, shall be the valid acts of the Committee. All references in this Plan to the Committee shall mean the Board if no Committee has been appointed. From time to time the Board may increase the size of the Committee and appoint additional members thereof, remove members (with or without cause) and appoint new members in substitution therefor, fill vacancies however caused, or remove all members thereof and thereafter directly administer the Plan.

Those provisions of the Plan that make express reference to Rule 16b-3 shall apply to the Company only at such time as the Company's Common Shares are registered under the Exchange Act, and then only to such persons as are required to file reports under Section 16(a) of the Exchange Act (a "Reporting Person").

To the extent that Options are to be qualified as "performance-based" compensation within the meaning of Section 162(m) of the Code, the Plan shall be administered by a committee consisting of two or more "outside directors" as determined under Section 162(m) of the Code.

The Committee, with the consent of any Participant, may in its discretion take such actions as may be necessary to convert a Participant's ISOs (or any instalments or portions of instalments thereof) that have not been exercised on the date of conversion into NSOs at any time prior to the expiration of such ISOs. These actions may include, but not be limited to, accelerating the exercisability, extending the exercise period or reducing the exercise price of the appropriate instalments of optionee's Options. At the time of such conversion, the Committee (with the consent of the optionee) may impose these conditions on the exercise of the resulting NSOs as the Committee in its discretion may determine, provided that the conditions shall not be inconsistent with the Plan. Nothing in the Plan shall be deemed to give any Participant the right to have such Participant's ISOs converted into NSOs, and no conversion shall occur until and unless the Committee takes appropriate action.

14. Notices

All written notices to be given by the Participant to the Company may be delivered personally or by registered mail, postage prepaid, addressed as follows:

Adherex Technologies Inc.
4620 Creekstone Drive, Suite 200
Durham, North Carolina 27703 USA
Attention: Corporate Secretary

Any notice given by the Participant pursuant to the terms of the Option shall not be effective until actually received by the Company at the above address. Any notice to be given to the Participant shall be

sufficiently given if delivered personally or by postage prepaid mail to the last address of the Participant on the records of the Company and shall be effective seven days after mailing.

15. Corporate Action

Nothing contained in the Plan or in any agreement evidencing an Option shall be construed so as to prevent the Company or any Related Corporation from taking corporate action which is deemed by the Company or the Related Corporation to be appropriate or in its best interest, whether or not such action would have an adverse effect on the Plan.

16. Amendments

The Board shall have the right, in its sole discretion, to amend, suspend or terminate this Plan or any portion thereof at any time, in accordance with applicable legislation, without obtaining the approval of shareholders; provided that any amendment to any provision of the Plan will be subject to any required regulatory approval and the provisions of applicable law, if any, that require the approval of shareholders. Notwithstanding the foregoing, the Company will be required to obtain the approval of the shareholders of the Company for any amendment related to (i) the maximum number of Common Shares issuable under the Plan; (ii) a reduction in the Option Price for Options held by insiders; and (iii) an extension to the term of Options held by insiders. Subject to compliance with the applicable rules of the Exchange and the American Stock Exchange, no amendment, suspension or termination will alter or impair any Options under the Plan, or any rights pursuant thereto, granted previously to any Participant without the consent of that Participant. The Plan shall expire 10 years after the Effective Date (except as to Options outstanding on that date).

17. Interpretation

In construing this Plan, the singular shall include the plural and the masculine gender shall include the feminine and neuter, unless the context otherwise requires.

18. Government Regulation

The Company's obligation to issue and deliver Common Shares under any Option is subject to:

(a) the satisfaction of all requirements under applicable securities law in respect thereof and obtaining all regulatory approvals as the Company shall determine to be necessary or advisable in connection with the authorization, issuance or sale thereof, including shareholder approval, if required;

(b) the admission of such Common Shares to listing on the Exchange or any other stock exchange on which Common Shares may then be listed; and

(c) the receipt from the Participant of such representations, agreements and undertakings as to future dealings in such Common Shares as the Company determines to be necessary or advisable in order to safeguard against the violation of the securities law of any jurisdiction.

In this connection, the Company shall take all reasonable steps to obtain such approvals and registrations as may be necessary for the issuance of such Common Shares in compliance with applicable securities law and for the listing of such Common Shares on any Exchange on which such Common Shares are then listed.

19. Withholding of Additional Income Taxes

Upon the exercise of an NSO for less than the Fair Market Value of the Common Shares or the making of a Disqualifying Disposition (as defined in Section 20), the Company, in accordance with Section 3402(a) of the Code and any applicable state statute or regulation, may require the Participant to pay to the Company additional withholding taxes in respect of the amount that is considered compensation includable in such person's gross income. With respect to the exercise of an Option, the Committee in its discretion may condition such event on the payment by the Participant of any such additional withholding taxes.

At the sole and absolute discretion of the Committee, the holder of Options may pay all or any part of the total estimated federal and state income tax liability arising out of the exercise or receipt of such Options or the making of a Disqualifying Disposition (each of the foregoing, a "Tax Event") by tendering already-owned Common Shares (except in the case of a Disqualifying Disposition) by directing the Company to withhold Common Shares otherwise to be transferred to the holder of such Options as a result of the exercise or receipt thereof in an amount equal to the estimated federal and state income tax liability arising out of such event, provided that no more shares may be withheld than are necessary to satisfy the holder's actual minimum withholding obligation with respect to the exercise of Options. In such event, the holder of Options must, however, notify the Committee of his or her desire to pay all or any part of the total estimated federal and state income tax liability arising out of a Tax Event by tendering already-owned Common Shares or having Common Shares withheld prior to the date that the amount of federal or state income tax to be withheld is to be determined. For purposes of this Section 19, Common Shares shall be valued at their Fair Market Value on the date that the amount of the tax withholdings is to be determined.

20. Notice to Company of Disqualifying Disposition

Each Employee who receives an ISO must agree to notify the Company in writing immediately after the Employee makes a Disqualifying Disposition (as defined below) of any Common Shares acquired pursuant to the exercise of an ISO. A "Disqualifying Disposition" is any disposition (including any sale) of such Common Shares before either (a) two years after the date the Employee was granted the ISO, or (b) one year after the date the Employee acquired Common Shares by exercising the ISO. If the employee has died before such stock is sold, these holding period requirements do not apply and no Disqualifying Disposition can occur thereafter.

21. Lock-up Agreement

Each recipient of securities hereunder agrees, in connection with the first registration with the United States Securities and Exchange Commission under the Securities Act of 1933, as amended, of the public sale of the Company's Common Shares, not to sell, make any short sale of, loan, grant any option for the purchase of or otherwise dispose of any securities of the Company (other than those included in the registration) without the prior written consent of the Company or such underwriters, as the case may be, for such period of time (not to exceed 180 days) from the effective date of such registration as the Company or the underwriters, as the case may be, shall specify. Each such recipient agrees that the Company may instruct its transfer agent to place stop-transfer notations in its records to enforce this Section 21. Each such recipient agrees to execute a form of agreement reflecting the foregoing restrictions as requested by the underwriters managing such offering.

Appendix "A"
Adherex Technologies Inc.

Stock Option Plan

Stock Option Agreement

Date: _____

Dear _____:

This is to advise you that you have been granted an option (the "option") to purchase _____ Common Shares at a price of $_____ per share under the Adherex Technologies Inc. Stock Option Plan (the "Plan").

This option expires on the later of seven years following the date of grant, which appears on the right hand corner of this Notice, subject to other conditions of the Plan.

Subject to such expiry and the other provisions of the Plan, this option is exercisable in such amounts and at any time on or after:

_____ shares on _____, 200_.

This option is subject to the terms of the Plan.

Please refer to the Plan explanatory document for any additional information regarding the exercise of your option and completion of the Option Exercise Form. Please execute a copy of this grant where indicated below and deliver it to the Corporate Secretary of the Company c/o Adherex Technologies Inc., 4620 Creekstone Drive, Suite 200, Durham, North Carolina 27703, to acknowledge your acceptance of the terms hereof.

Sincerely,
ADHEREX TECHNOLOGIES INC.

Per: _____

I have read, understood and accept the vesting provisions above and each of the terms and conditions described in a document called Adherex Technologies Inc. Stock Option Plan and accept the foregoing grant of options on such basis.

Dated the ____ day of _____, ____.

_____
Signature

Appendix "B"
Adherex Technologies Inc.

Stock Option Plan

Option Exercise Form

Part 1: Identification

Name of Participant	Service
Address	Office Telephone Number
Social Insurance Number	Home Telephone Number

Part 2: Option

I hereby exercise the Option granted to me by letter dated _____ under the Plan.

Total number of option stock exercised:_____

Method of payment:
(a) Cash
(b) Certified Cheque
(c) Bank Draft
(d) Money Order

Amount: _____
Number of shares: _____(value:_____)

I hereby acknowledge that I have read, understood and accepted each and all the terms and conditions described in a document called "Adherex Technologies Inc. Stock Option Plan".

Given at _____, this, _____day of_____

_____
Signature

Appendix "C"
Adherex Technologies Inc.
Stock Option Plan

Adherex Technologies Inc.
AMENDED AND RESTATED STOCK OPTION PLAN
NOTICE OF STOCK OPTION GRANT

(Optionee and address)

Grant Number

You have been granted an option to purchase Common Shares of Adherex Technologies Inc. (the "Company"), as follows:

Date of Grant	
Vesting Commencement Date	
Exercise Price per Share	$
Total Number of Shares Granted	
Total Exercise Price	
Type of Option:	_____ Incentive Stock Option _____ Nonstatutory Stock Option
Term/Expiration Date:	7 Years/____

Vesting Schedule: Subject to accelerated vesting as set forth in the Plan or in the Stock Option Agreement, (i) one-third of the shares subject to this option shall vest and may be exercised after the first anniversary of the Vesting Commencement Date; (ii) one-third of the shares subject to this option shall vest and may be exercised after the second anniversary of the Vesting Commencement Date; and (iii) the remaining shares subject to this option shall vest and may be exercised after the third anniversary of the Vesting Commencement Date.

Termination Period: Option may be exercised for up to 30 days after termination of director, employment or service provider relationship for any reason (unless specifically extended by the Board as set forth in the Plan, but in no event later than the Expiration Date) and will terminate if not exercised prior to the end of such period.

By your signature and the signature of the Company's representative below, you and the Company agree that this option is granted under and governed by the terms and conditions of the Adherex Technologies Inc., Amended and Restated Stock Option Plan (the "Plan") and the Stock Option Agreement, all of which are attached and made a part of this document.

Dated:

OPTIONEE:

Print Name

ADHEREX TECHNOLOGIES INC.

By:
Name:
Title:

STOCK OPTION AGREEMENT

1. Grant of Option. Adherex Technologies Inc., a Canadian corporation (the "Company"), hereby grants to the Optionee named in the Notice of Grant (the "Optionee"), an option (the "Option") to purchase a total number of Common Shares (the "Shares") set forth in the Notice of Grant, at the exercise price per share set forth in the Notice of Grant (the "Exercise Price") subject to the terms, definitions and provisions of the Adherex Technologies Inc., Amended and Restated Stock Option Plan (the "Plan") adopted by the Company, which is incorporated herein by reference. Unless otherwise defined herein, the terms defined in the Plan shall have the same defined meanings in this Option.

If designated an Incentive Stock Option, this Option is intended to qualify as an Incentive Stock Option as defined in Section 422 of the Code, or any successor provision.

2. Exercise of Option. This Option shall be exercisable during its term in accordance with the Vesting Schedule set out in the Notice of Grant and with the provisions of the Plan as follows:

(a) Right to Exercise.

(i) This Option may not be exercised for a fraction of a share.

(ii) In the event of the termination of Optionee's relationship with the Company or any Related Corporations as an Employee, Director or Service Provider (for any reason whatsoever), the exercisability of the Option is governed by Section 9 of the Plan, subject to the limitation contained in subsection 2(a)(iii) of this Stock Option Agreement.

(iii) In no event may this Option be exercised after the Expiration Date set forth in the Notice of Grant.

(b) Method of Exercise. This Option shall be exercisable by written notice (in the form attached hereto as Exhibit A) which shall state the election to exercise the Option, the number of Shares in respect of which the Option is being exercised and such other representations and agreements as may be required by the Company pursuant to the provisions of the Plan. Such written notice shall be signed by the Optionee and shall be delivered in person or by registered mail to the Corporate Secretary of the Company. The written notice shall be accompanied by payment of the Exercise Price. This Option shall be deemed to be exercised upon receipt by the Company of such written notice accompanied by the Exercise Price.

No Shares will be issued pursuant to the exercise of an Option unless such issuance and such exercise shall comply with all relevant provisions of law and the requirements of any Exchange upon which the Shares may then be listed. Assuming such compliance, for income tax purposes the Shares shall be considered transferred to the Optionee on the date on which the Option is exercised with respect to such Shares.

3. Method of Payment. Payment of the Exercise Price shall be made as set forth in Section 6 of the Plan.

4. Restrictions on Exercise. This Option may not be exercised until such time as the Plan and the Shares covered by this Option have been approved by the shareholders of the Company, or if the issuance of such Shares upon such exercise or the method of payment of consideration for such shares would constitute a violation of any applicable federal, provincial or state securities or other applicable law or regulation, including any rule under Part 207 of Title 12 of the Code of Federal Regulations ("Regulation G") as promulgated by the Federal Reserve Board. As a condition to the exercise of this Option, the Company may require Optionee to make any representation and warranty to the Company as may be required by any applicable law or regulation.

5. Nontransferability of Option. This Option may not be transferred in any manner whatsoever and may be exercised during the lifetime of Optionee only by Optionee. The terms of this Option shall be binding upon the executors, administrators, heirs, successors and assigns of the Optionee.

6. Term of Option. This Option may be exercised only within the term set out in the Notice of Grant and the Plan, and may be exercised during such term only in accordance with the Plan and the terms of this Option. The limitations set out in Section 4 of the Plan regarding Options designated as Incentive Stock Options and Options granted to more than ten percent (10%) stockholders shall apply to this Option.

7. Taxation Upon Exercise of Option. Optionee understands that, upon exercising a Nonstatutory Stock Option, he or she may recognize income for tax purposes in an amount equal to the excess of the then Fair Market Value of the Shares over the exercise price. If the Optionee is an employee, the Company may be required to withhold from Optionee's compensation, or collect from Optionee and pay to the applicable taxing authorities an amount equal to a percentage of this compensation income. Additionally, the Optionee may at some point be required to satisfy tax withholding obligations with respect to the Disqualifying Disposition of an ISO. The Optionee shall satisfy his or her tax withholding obligation arising upon the exercise of this Option by one or some combination of the following methods: (i) by cash payment, or (ii) out of Optionee's current employment compensation.

8. Tax Consequences. THERE ARE TAX CONSEQUENCES RESULTING FROM THE EXERCISE OF THIS OPTION OR DISPOSITION OF THE SHARES ACQUIRED PURSUANT TO THIS OPTION. OPTIONEE SHOULD CONSULT A TAX ADVISER BEFORE EXERCISING THIS OPTION OR DISPOSING OF THE SHARES.

9. Successors and Assigns. The Company may assign any of its rights under this Agreement to single or multiple assignees, and this Agreement shall inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer herein set forth, this Agreement shall be binding upon Optionee and his or her heirs, executors, administrators, successors and assigns.

10. Interpretation. Any dispute regarding the interpretation of this Agreement shall be submitted by Optionee or by the Company forthwith to the Committee, which shall review such dispute at its next regular meeting. The resolution of such a dispute by the Committee shall be final and binding on the Company and on Optionee.

11. Severability. Should any provision of this Agreement be determined by a court of law to be illegal or unenforceable, the other provisions shall nevertheless remain effective and shall remain enforceable.

12. Notices. Any notice required or permitted hereunder shall be given in writing and shall be deemed effectively given upon personal delivery or upon deposit in the United States mail by registered mail, with postage and fees prepaid, addressed to the other party at its address as shown below beneath its signature, such address as may be set forth in Section 14 of the Plan or to such other address as such party may designate in writing from time to time to the other party.

13. Further Instruments. The parties agree to execute such further instruments and to take such further action as may be reasonably necessary to carry out the purposes and intent of this Agreement.

14. Stock Plan. Optionee acknowledges receipt of a copy of the Plan and represents that Optionee is familiar with the terms and provisions thereof, and hereby accepts this Option subject to all of the terms and provisions thereof. Optionee has reviewed the Plan and this Option in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Option and fully understands all provisions of the Option. Optionee hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Committee upon any questions arising under the Plan or this Option.

EXHIBIT A

EXERCISE NOTICE

_____

_____

_____

Attention: _____

1. Exercise of Option. Effective as of today, the undersigned ("Optionee") hereby elects to exercise Optionee's option to purchase _____ Common Shares (the "Shares") of Adherex Technologies Inc. (the "Company"), under and pursuant to the Company's Amended and Restated Stock Option Plan, as amended (the "Plan") and the __ Incentive __ Nonstatutory Stock Option Agreement dated _____ __, ____ (the "Option Agreement"). The purchase price for the Shares shall be $____ as required by the Option Agreement. Optionee herewith delivers to the Company the full Exercise Price for the Shares.

2. Representations of Optionee. Optionee acknowledges that Optionee has received, read and understood the Plan and the Option Agreement and agrees to abide by and be bound by their terms and conditions.

3. Compliance with Securities Laws. Optionee understands and acknowledges that, notwithstanding any other provision of the Option Agreement to the contrary, the exercise of any rights to purchase any Shares is expressly conditioned upon compliance with the Securities Act of 1933, as amended (the "Securities Act"), all applicable state, provincial or other federal securities laws and all applicable requirements of any Exchange or over the counter market on which the Common Shares may be listed or traded at the time of exercise and transfer. Optionee agrees to cooperate with the Company to ensure compliance with such laws.

4. Rights as Stockholder. Until the stock certificate evidencing such Shares is issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company), no right to vote or receive dividends or any other rights as a stockholder shall exist with respect to the optioned Shares, notwithstanding the exercise of the Option. The Company shall issue (or cause to be issued) such stock certificate promptly after the Option is exercised. No adjustment will be made for a dividend or other right for which the record date is prior to the date the stock certificate is issued, except as provided in the Plan.

5. Tax Consultation. Optionee understands that Optionee may suffer adverse tax consequences as a result of Optionee's purchase or disposition of the Shares. Optionee represents that Optionee has consulted with any tax consultants Optionee deems advisable in connection with the purchase or disposition of the Shares and that Optionee is not relying on the Company for any tax advice.

6. Entire Agreement. The Plan and Notice of Grant/Option Agreement are incorporated herein by reference. This Exercise Notice, the Plan and the Notice of Grant/Option Agreement executed and delivered to Company by Optionee shall constitute the entire agreement of the parties and supersede in their entirety all prior undertakings and agreements of the Company and Optionee with respect to the subject matter hereof, and is governed by North Carolina law except for that body of law pertaining to conflict of laws.

Submitted by:

OPTIONEE:

_____

Address: _____

_____

Accepted by:

ADHEREX TECHNOLOGIES INC.

By: _____

Name: _____

Title: _____

Exhibit 23

CONSENT OF INDEPENDENT AUDITORS

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-122334, 333-126648 and 333-144241) and the Registration Statement on Form F-3 (No. 333-134732) of our report dated March 28, 2008 relating to the consolidated financial statements of Adherex Technologies Inc. which appear in this Annual Report on Form 10-K.

/s/ PricewaterhouseCoopers LLP
Chartered Accountants, Licensed Public Accountants
Ottawa, Canada
March 28, 2008

Exhibit 31.1

ADHEREX TECHNOLOGIES INC
CERTIFICATION

I, William P. Peters, Chairman and Chief Executive Officer, certify that:

1. I have reviewed this annual report on Form 10-K (the "Report") of Adherex Technologies Inc. (the "Company");
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 Company as of, and for, the periods presented in this Report;
4. The Company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company 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 Company, 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) Evaluated the effectiveness of the Company'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
    (c) Disclosed in this Report any change in the Company's internal control over financial reporting that occurred during the Company's most recent fiscal quarter (the Company's fourth fiscal quarter in the case of an Annual Report) that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and
5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company'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 Company'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 Company's internal control over financial reporting.

Date: March 28, 2008

By: /s/ William P. Peters
William P. Peters
Chairman and Chief Executive Officer

Exhibit 31.2

ADHEREX TECHNOLOGIES INC.
CERTIFICATION

I, James A. Klein, Jr., Chief Financial Officer, certify that:

1. I have reviewed this annual report on Form 10-K (the "Report") of Adherex Technologies Inc. (the "Company");
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 Company as of, and for, the periods presented in this Report;
4. The Company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over the financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15(d)-15(f) for the Company 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 Company, 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) Evaluated the effectiveness of the Company'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 Company's internal control over financial reporting that occurred during the Company's most recent fiscal quarter (the Company's fourth fiscal quarter in the case of an Annual Report) that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and
5. The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company'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 Company'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 Company's internal control over financial reporting.

Date: March 28, 2008

By: /s/ James A. Klein, Jr.
James A. Klein, Jr.
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, 2007 (the "Report"), each of the undersigned, William P. Peters, Chairman and Chief Executive Officer of the Company, and James A. Klein, Jr., 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 28, 2008

By: /s/ William P. Peters
William P. Peters
Chairman and Chief Executive Officer

Date: March 28, 2008

By: /s/ James A. Klein, Jr.
James A. Klein, Jr.
Chief Financial Officer