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Registration No. 333-134732

10,543,882 SHARES

ADHEREX TECHNOLOGIES INC.

COMMON STOCK

This is a resale prospectus for the sale of up to 10,543,882 shares of common stock of Adherex Technologies Inc. by the selling stockholders listed herein.

Our common stock is traded on the American Stock Exchange under the symbol “ADH” and the Toronto Stock Exchange under the symbol “AHX.” On June 19, 2006, the last sale price of our common stock on the American Stock Exchange was $0.74 per share and on the Toronto Stock Exchange was CAD$0.83 per share.

The selling stockholders may offer the shares through public or private transactions, on or off the American Stock Exchange, at prevailing market prices or at privately negotiated prices. See “Plan of Distribution.”

Investing in our common stock involves risks. See “ Risk Factors” beginning on page 4.

Neither the SEC nor any state securities commission has approved or disapproved our securities or determined that this prospectus is truthful or complete. It is illegal for anyone to tell you otherwise.

The date of this prospectus is June 21, 2006.

PROSPECTUS SUMMARY

The following summary does not contain all the information you should consider before investing in our common stock. You should read this entire prospectus, including "Risk Factors" and the financial information incorporated by reference in this prospectus, before making an investment decision.

About Adherex

We are a biopharmaceutical company dedicated to the discovery and development of novel cancer therapeutics using both our innovative cadherin-based biotechnology platform and more traditional pharmaceutical development. We have multiple product candidates in the clinical stage of development:

- ADH-1, a molecularly-targeted compound directed against N-cadherin, a protein present on certain tumor cells and the established blood vessels that feed solid tumors. As of June 19, 2006, 73 patients have been enrolled in Phase I studies with ADH-1. ADH-1 has been shown to be generally well tolerated and has demonstrated evidence of anti-tumor activity as a single agent in seven patients in our Phase I studies. ADH-1 is currently in Phase II trials in Canada and the United States and Phase Ib/II trials in Europe. In 2006, we seek to optimize the dose and schedule of ADH-1, evaluate single agent activity in select tumor types and explore ADH-1 clinically in combination with other cancer therapies.
- Eniluracil, an irreversible inhibitor of the enzyme dihydropyrimidine dehydrogenase, or DPD, that was formerly under development by GlaxoSmithKline, or GSK. Eniluracil is being developed to enhance the therapeutic value and effectiveness of 5-fluorouracil, or 5-FU, one of the most widely-used oncology drugs in the world. In 2006, we expect to complete a series of clinical studies to optimize our proprietary method of administration for the combination of eniluracil and 5-FU, with the goal of returning eniluracil to Phase III trials as early as 2007.
- Sodium thiosulfate, or 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, both adults and children, treated with platinum-based anticancer agents. We are designing a randomized study with the Children's Oncology Group, or COG, to test STS as a hearing protectant for hearing loss due to platinum-based anticancer agents.
- N-Acetylcysteine, or NAC, a bone marrow protectant that is the subject of ongoing Phase I investigation at OHSU for use as a bone marrow protectant in the context of platinum-based chemotherapy.

We also have a preclinical program which includes (1) backup peptides and small chemical molecule successors to ADH-1, (2) molecules targeted to inhibiting the metastatic spread of some cancers, and (3) peptides that combine both angiolytic (breaking up or disrupting established blood vessels) and antiangiogenic (inhibiting the growth of new blood vessels) properties. We have synthesized peptide antagonists and agonists for a wide array of cadherin adhesion molecules, which we believe will facilitate our efforts to select other drug candidates to move into clinical development, particularly in the following three areas:

- 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, these molecules are not peptides but are smaller and simpler in structure. Small chemical molecules are often active after oral administration, are more stable and have different potency and toxicity profiles than peptides. In 2006, we plan to advance our lead candidate from this program through the preclinical development and toxicology studies required for an investigational new drug application, or IND, that we expect to file with the U.S. Food and Drug Administration, or FDA, in the first half of 2007.

- OB-cadherins. Another family of cadherins, OB-cadherins, 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 a patient's survival and quality-of-life. We are developing OB-cadherin peptide and small molecule antagonists 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 designed peptide VE-cadherin antagonists that are under preclinical investigation as vascular targeting agents in cancer. We believe that the development of VE-cadherin antagonists may be synergistic with 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 these and other cadherin agonist and antagonist molecules. Our drug discovery and development efforts are supported by more than 40 issued U.S. patents and more than 50 pending patents worldwide that we either own or have exclusively licensed.

We have not received any revenues to date through the sale of products and do not expect to have significant revenues until we either are able to sell our product candidates after obtaining applicable regulatory approvals or we establish collaborations that provide us with funding, such as licensing fees, milestone payments, royalties, upfront payments or otherwise. As of March 31, 2006, we had a deficit accumulated during development stage of $55.9 million.

Our principal executive offices are located at 4620 Creekstone Drive, Suite 200, Research Triangle Park, Durham, North Carolina 27703, and our telephone number at that address is (919) 484-8484. Information contained on our website, www.adherex.com, is not part of this prospectus.

In the prospectus, unless otherwise indicated, all dollar amounts and references to "$" are to U.S. dollars and "CAD$" refers to Canadian dollars.

In the prospectus, unless the context otherwise requires, references to "we," "us," "our" or similar terms, as well as references to "Adherex," refer to Adherex Technologies Inc. either alone or together with our subsidiaries.

The name Adherex is our trademark. All other trademarks, product names and company names used in this prospectus are the property of their respective owners.

THE OFFERING

Shares of common stock offered by us	None
Shares of common stock that may be sold by the selling stockholders	10,543,882[(1)]
Use of proceeds	We will not receive any proceeds from the resale of the shares offered hereby, all of which proceeds will be paid to the selling stockholders.
Risk factors	The purchase of our common stock involves a high degree of risk. You should carefully review and consider “Risk Factors” beginning on page 4.
American Stock Exchange Trading Symbol	ADH
Toronto Stock Exchange Trading Symbol	AHX

(1) Consists of 7,752,854 shares of common stock and 2,791,028 shares of common stock issued or issuable upon exercise of outstanding warrants.

RISK FACTORS

You should be aware that there are various risks to an investment in our common stock, including those described below. You should carefully consider these risk factors, together with all of the other information included and incorporated by reference in this prospectus, before you decide to invest in shares of our common stock.

If any of the following risks, or other risks not presently known to us or that we currently believe to not be significant, develop into actual events, then our business, financial condition, results of operations or prospects could be materially adversely affected. If that happens, the market price of our common stock could decline, and you may lose all or part of your investment.

Risks Related to Our Business

We have a history of significant losses and have had no revenues to date through the sale of 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. As of March 31, 2006, we have had no revenues through the sale of products, and we do not expect to have significant revenues until we either are able to sell our product candidates after obtaining applicable regulatory approvals or current or future collaborations provide us with funding, such as licensing fees, milestone payments, royalties, upfront payments or otherwise. We have incurred significant operating losses every year since our inception on September 3, 1996. We experienced net losses of approximately $19.2 million for the fiscal year ended December 31, 2005 and approximately $3.5 million for the three months ended March 31, 2006. As of March 31, 2006, we had a deficit accumulated during development stage of approximately $55.9 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 that support our company, among other factors. We have not commercially introduced any product and our product candidates are in varying early 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. We may never achieve or sustain profitability on an ongoing basis.

Our product candidates are at an early stage of 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 the early stage of clinical development and 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 therapeutic products and procedures based on innovative technologies. For example, our product candidates might be ineffective or toxic, or otherwise might fail to receive 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. Also 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 will 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 a laboratory dish, 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 significant delays with the trial planned with STS as discussed in more detail below under the heading "The Children's Oncology Group may not conduct clinical trials with STS as planned," 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.

We will need additional capital to fund our operations, which may not be available at all or on acceptable terms. If we do not have or cannot raise additional funding when needed, we will not be able to develop and commercialize our product candidates successfully and we may not be able to continue operations.

We will need substantial additional funding to develop and potentially commercialize our product candidates. Since inception in 1996 and through March 31, 2006, we utilized approximately $42.2 million in cash, cash equivalents and short-term investments to fund our activities. We have not generated any revenues to date through the sale of products and we expect to incur substantial expenses in connection with preclinical studies, clinical trials, regulatory review, manufacturing and potentially sales and marketing. Under our current operating plan and forecast, we believe that our existing cash, cash equivalents and capital are sufficient to fund our anticipated operations into April 2007. However, due to anticipated expenses to further advance the development of our product candidates, we might need to raise additional funds prior to that date. In addition, any one of the following factors, among others, could cause us to require additional funds sooner or otherwise cause our cash requirements in the future to materially increase:

- results of research and development activities;
- progress or lack of progress of our preclinical studies or clinical trials;
- our drug substance requirements to support clinical programs;
- our ability to maintain or establish corporate collaborations and licensing arrangements;
- changes in the focus, direction, or costs of our research and development programs;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims;
- competitive and technological advances;
- the potential need to develop, acquire or license new technologies and products;

- our business development activities;
- current and new regulatory requirements imposed by regulatory authorities, including the Sarbanes Oxley Act of 2002;
- the timing and outcome of the regulatory review process; or
- commercialization activities, if any.

Accordingly, we cannot guarantee that our current cash, cash equivalents and capital will be sufficient to fund operations for the period described above. In any event, after that period, we will require substantial additional funds to develop our product candidates and to otherwise meet our business objectives. The capital markets are unpredictable but if we are able to consummate a financing, the amount raised may not be sufficient to meet our future needs, and even if adequate funds are raised, stockholders may experience significant dilution. Additional financing may not be available on acceptable terms when needed, if at all. If adequate funds are not available on acceptable terms when needed, we would be required to delay, scale back or eliminate one or more of our product development programs or to seek to obtain funds through arrangements with collaborative partners or others, which may include a requirement that we relinquish rights to technologies or products that we would not otherwise relinquish. Any failure to obtain funding when and in the amounts needed would have a material adverse effect on our financial position and results of operations.

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 have scientific and research collaboration arrangements with academic institutions and other collaborators, including a development and license agreement for eniluracil and ADH-1 with GSK as discussed in more detail below under the heading “GSK might not exercise any of their options under our development and license agreement with them, which might hinder development of two of our most important drug candidates,” a general collaboration agreement with McGill University for ADH-1 and other related compounds, an exclusive worldwide license from OHSU for NAC and STS, and an exclusive worldwide license from Rutgers University for mesna.

The agreements with McGill, Rutgers and OHSU are terminable by either party in the event of an uncured breach by the other party. We are also able to terminate our agreement with McGill after September 2006 and our agreements with Rutgers 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 Drug Development Group, or DDG, of the U.S. National Cancer Institute, 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 the collaboration, in April 2006, we executed a clinical trial agreement with the NCI to support additional preclinical studies of ADH-1 in preparation of 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 in patients with advanced resistant cancers that express the molecular marker, N-cadherin. We also have entered into a standard form screening agreement with the NCI under which the NCI has been screening and testing compounds supplied by us for their anti-cancer properties in various preclinical anti-cancer assays and tumor models. The NCI has no obligation to sponsor clinical trials of ADH-1 or to continue to perform preclinical or screening work for us and may terminate the above agreements at any time, as may we. In the event that we or the NCI terminate the above agreements, we may seek another third party to conduct similar work for us, which may result in increased costs for us.

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, upfront payments or otherwise. We may not be successful in maintaining current collaborations or establishing any further collaborations, and any collaborations we have or 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. Any future 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 also affect our ability to maintain current collaborations or establish new collaborators. There is also 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.

GSK might not exercise any of their options under our development and license agreement with them, which might hinder development of two of our most important drug candidates.

In July 2005, we entered into a development and license agreement with GSK covering two drugs, eniluracil and ADH-1. The agreement included the in-license by us of GSK's oncology product, eniluracil, and an option for GSK to license our lead biotechnology compound, ADH-1. Under the agreement, GSK retained options to buy back eniluracil at various points in its development. Under the terms of the agreement, should GSK not exercise any options to buy-back its rights relating to eniluracil, we would be free to develop eniluracil alone or with other partners. If we file a new drug application, or NDA, with the FDA, we may be required to pay milestones 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 initially approved indication, plus double digit royalties based on annual net sales. If we pursue other indications, we may be required to pay up to an additional $15.0 million to GSK per FDA-approved indication. We do not presently have the financial or human resources internally to complete Phase III trials for either of these product candidates. We therefore intend to seek a licensing or funding partner if GSK should decide not to exercise its options to either buy back eniluracil or to license ADH-1. If a partner for these technologies is not found, we may not be able to advance these products. If a partner is found, the financial terms that they propose may not be acceptable to us.

The Children's Oncology Group may not conduct clinical trials with STS as planned.

We intend to continue the development of STS as a hearing loss protectant for children undergoing platinum-based chemotherapy by initiating a prospective, randomized clinical trial with the assistance of COG. We have experienced significant delays in getting the trial fully approved and started at COG. Such delays may prove to be costly for us, both in terms of additional clinical expenses as well as any effect such delays may have on the market price of our stock. We might not be able to commence or complete these planned clinical trials on schedule, or at all.

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. At June 19, 2006, we had 30 full-time employees. We could add up to five additional employees in 2006. 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 our 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 additional 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 of Directors, the loss of whose services might significantly delay or prevent the achievement of our scientific or business objectives. We have entered into an employment agreement with Dr. Peters that had an initial term ending on March 12, 2008, which has now been extended by the Board until March 2010. If we terminate Dr. Peters without "cause," or if Dr. Peters terminates his employment for "good reason" or a "change of control" (as such terms are defined in the agreement), we will be obligated to pay Dr. Peters severance compensation equal to 24 months salary and certain other benefits. Although we have entered into employment agreements with each of our key personnel, we cannot be certain that any individual will continue in such capacity for any particular period of time. The loss of 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, Rutgers or 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.

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 may 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. Alternatively, we could find that the development, manufacture or sale of 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 may 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. Therefore, we require our employees, consultants, advisors and collaborators to enter into confidentiality agreements. However, such agreements may 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, NAC and mesna, 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 uses 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 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. Our contract manufacturers 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 12 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.

To date, 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 and Europe 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 there can be no assurance that we will 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.

We will likely face foreign currency exchange risks which may expose us to increased costs and decreased revenue.

We may face exposure to adverse movements in foreign currency exchange rates when our product candidates are commercialized, if at all. We expect that any products we may develop would generate international revenues and expenses, denominated in U.S., Canadian and other currencies. In such an event, we will likely face differing tax structures, foreign regulations and restrictions, and general foreign exchange rate volatility. To date, we have not instituted a hedging program against the risks associated with foreign exchange exposure. We may implement hedging techniques in the future, which may not be successful. To date, we have experienced no significant negative consequences resulting from fluctuations in foreign currency exchange rates.

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. In the United States, our product candidates are regulated by federal, state and local governmental authorities, including the FDA. In Canada, our product candidates are regulated by federal, provincial and local governmental authorities, including the Therapeutic Products Directorate of Health Canada. 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. 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 and any 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 good manufacturing practices, or 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 will be limited 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, the medical community or patients may not accept or utilize any products we may develop.

We face a strong competitive environment. Other companies might develop or commercialize more effective or cheaper products, which could 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, AstraZeneca, Bayer, Bristol-Myers Squibb, EntreMed, Genentech, Merck & Co., NeoPharm, Novartis, Johnson & Johnson, OXiGENE, Peregrine Pharmaceuticals, Pfizer, Roche 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 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. To date, our development and license agreement with GSK is the only such collaboration we have, but it does not provide any ongoing funding or direct support for our current clinical programs, but rather milestones and royalties upon the exercise of options by GSK. 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 may develop.

We might 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 disease or result in other adverse effects. These claims could be made by health care institutions, contract laboratories, patients or others using our product candidates. 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 will 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 safety procedures for handling and disposing of such materials will comply with the standards prescribed by federal, state, local and/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, which carries a policy limit of $2.0 million. In addition, we have a $2.0 million umbrella policy. 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 achieves regulatory approval, we may be materially adversely affected by the continuing efforts of governmental and third-party payers 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 effect 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 payers 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 and Canada and 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 could 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. In particular, there have been a number of rule changes and proposed legislative initiatives following recent corporate bankruptcies and accounting scandals. 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 Our Common Stock

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

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 are adverse tax consequences to U.S. holders of shares of our common stock. A number of mitigating elections may be available to U.S. holders. Absent one of these elections, a U.S. holder whose holding period for our shares includes a period during which we are classified as a PFIC generally will 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 will 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 will not receive a "stepped-up" basis upon a transfer at death. These PFIC tax rules will 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 will 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 will not qualify for the reduced long-term capital gains rates.

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

Historically, the market price of our common stock has been highly volatile and the market for our common stock has from time to time experienced significant price and volume fluctuations, some of which are unrelated to our operating performance. From November 12, 2004 to June 19, 2006, the trading price of our stock fluctuated from a high closing price of CAD$2.60 per share to a low closing price of CAD$0.83 per share on the Toronto Stock Exchange, and from a high closing price of $2.20 per share to a low closing price of $0.74 per share on the American Stock Exchange. Historically, our common stock has had a low trading volume, and likely will continue to have a low trading volume in the future. This low volume may contribute to the volatility of the market price of our common stock. It is likely that the market price of our common stock will continue to fluctuate significantly in the future.

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

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

Sale or issuance of a substantial number of shares of our common stock in the future could cause the market price of our common stock to decline. It may also impair our ability to obtain additional financing. As of June 19, 2006, we had outstanding warrants to purchase approximately 11.1 million shares of our common stock at exercise prices ranging from CAD$2.05 to CAD$3.59 per share and a weighted average exercise price of CAD$2.51, and warrants to purchase approximately 4.7 million shares of our common stock with exercise prices ranging from $0.97 to $1.75 and a weighted average exercise price of $1.29. In addition, there were approximately 3.7 million shares of common stock issuable upon exercise of stock options granted by us with a weighted average exercise price of CAD$2.39 and approximately 1.6 million options with a weighted average exercise price of $1.14. We may also issue further warrants as part of any future financings as well as the currently remaining options under our stock option plan to purchase up to an additional 1.0 million shares of common stock.

If we were to lose our foreign private issuer status, we would likely incur additional expenses associated with compliance with the U.S. securities laws applicable to U.S. domestic issuers.

As a foreign private issuer, we are exempt from certain of the provisions of U.S. securities laws. For example, the U.S. proxy solicitation rules, Regulation FD and the Section 16 short swing profit rules do not apply to foreign private issuers. However, if we were to lose our status as a foreign private issuer, these regulations would immediately apply and we would also be required to commence reporting on forms required of U.S. companies, such as Forms l0-K, 10-Q and 8-K, rather than the forms currently available to us, such as Forms 20-F and 6-K. In addition, if we were to lose our foreign private issuer status, we would be subject to additional restrictions on offers and sales of securities outside the United States, including in Canada. Compliance with these additional securities laws would likely result in increased expenses. Further, to the extent that we were to offer or sell our securities outside of the United States, we would have to comply with the generally more restrictive Regulation S requirements that apply to U.S. companies, and we would no longer be able to utilize certain of the forms available for registered offerings by Canadian companies in the U.S, which could limit our ability to access the capital markets in the future.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form F-3 with the SEC for the shares being offered pursuant to this prospectus. This prospectus does not include all of the information contained in the registration statement. You should refer to the registration statement and its exhibits for additional information. Whenever we make reference in this prospectus to any of our agreements or other documents, the references are not necessarily complete and you should refer to the exhibits attached to the registration statement for copies of the actual agreement or other document.

We are subject to certain of the informational requirements of the Securities Exchange Act of 1934, as amended, and we file annual reports and other information with the SEC. You may read and copy any of our reports and other information at, and obtain copies upon payment of prescribed fees from, the Public Reference Room maintained by the SEC at 450 Fifth Street, N.W., Room 1024, Washington, D.C. 20549 and at the SEC's regional offices at Northwestern Atrium Center, 500 West Madison Street, Suite 1400, Chicago, IL 60661. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains a Web site that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC at http://www.sec.gov.

We are required to file reports and other information with the securities commissions in each of the Canadian provinces. You are invited to read and copy any reports, statements or other information, other than confidential filings, that we file with such provincial securities commissions. These filings are also electronically available from the Canadian System for Electronic Document Analysis and Retrieval (SEDAR) (http://www.sedar.com), the Canadian equivalent of the SEC's electronic document gathering and retrieval system.

As a foreign private issuer, we are exempt from the rules under the Securities Exchange Act of 1934, as amended, prescribing the furnishing and content of proxy statements to shareholders, and our officers, directors and principal shareholders are exempt from the reporting and "short-swing" profit recovery provisions contained in section 16 of the Exchange Act, with respect to their purchases and sales of shares. In addition, we are not required to file quarterly reports or to file annual and current reports and financial statements with the SEC as frequently or as promptly as U.S. companies whose securities are registered under the Exchange Act.

INCORPORATION BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings we will make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including all subsequent annual reports on Form 20-F, Form 40-F, or Form 10-K and all subsequent filings by us on Form 6-K, Form 10-Q, or 8-K, prior to termination of this offering:

1. Annual Report on Form 20-F for the year ended December 31, 2005, filed on March 31, 2006;

2. Current Reports on Form 6-K filed on March 31, May 9, and May 16, 2006;

3. The description of our stock contained in Item 10.B. of our registration statement on Form 20-F filed on September 17, 2004, as amended from time to time.

We will provide without charge to each person, including any beneficial owner, on the written or oral request of such person, a copy of any or all documents referred to above which have been or may be incorporated by reference in this prospectus (not including exhibits to such incorporated information that are not specifically incorporated by reference into such information). Requests for such copies should be directed to us at the following address:

Adherex Technologies Inc.
Attention: Corporate Secretary
4620 Creekstone Drive, Suite 200
Research Triangle Park
Durham, North Carolina 27703
(919) 484-8484

This prospectus is part of a registration statement we filed with the SEC. You should rely only on the information or representations provided in this prospectus. We have authorized no one to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front of this prospectus.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains and incorporates by reference forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. These forward-looking statements involve substantial risks and uncertainties. Words such as “may,” “believe,” “anticipate,” “intend,” “could,” “estimate,” “project,” “plan,” or other similar words are one way to identify forward-looking statements. Forward-looking statements in this prospectus include, but are not limited to, statements with respect to:

- our anticipated commencement dates, completion dates and results of clinical trials;
- goals and anticipated progress in and costs of our clinical and preclinical research and development programs;
- our strategies and goals;
- our expected results of operations;
- our anticipated levels of expenditures;
- our ability to protect our intellectual property;
- the anticipated applications of our drug candidates;
- our efforts to pursue collaborations with other companies;
- the nature and scope of potential markets for our drug candidates; and
- our anticipated sources and uses of cash, cash equivalents and short-term investments.

We include forward-looking statements because we believe 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 factors and uncertainties that could cause actual results to differ materially from those described or implied in the forward-looking statements.

There are many factors, including those discussed above in “Risk Factors,” that could cause actual results to differ materially from those described or implied in the forward-looking statements. 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.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of shares of the common stock offered by the selling stockholders. We are registering the shares for sale to provide the selling stockholders with freely tradable securities, but the registration of the shares does not necessarily mean that any of them will actually be offered or sold.

DESCRIPTION OF SHARE CAPITAL

Our authorized share capital consists of an unlimited number of common shares and no preferred shares. At December 31, 2005, we had issued and outstanding 42,628,933 common shares. In addition, we had outstanding warrants to purchase approximately 11.1 million shares of our common stock at exercise prices ranging from CAD$2.05 to CAD$3.59 per share and warrants to purchase approximately 1.9 million shares of our common stock with an exercise price of $1.75. In addition, there were approximately 3.7 million shares of common stock issuable upon exercise of stock options granted by us with a weighted average exercise price of CAD$2.39 and approximately 1.6 million with a weighted average exercise price of $1.14. At December 31, 2005, we had 1.0 million shares of common stock remaining under our stock option plan for future grants.

At June 19, 2006, we had issued and outstanding 50,381,787 common shares. In addition, we had outstanding warrants to purchase approximately 11.1 million shares of our common stock at exercise prices ranging from CAD$2.05 to CAD$3.59 per share and a weighted average exercise price of CAD$2.51, and warrants to purchase approximately 4.7 million shares of our common stock with exercise prices ranging from $0.97 to $1.75 and a weighted average exercise price of $1.29. In addition, there were approximately 3.7 million shares of common stock issuable upon exercise of stock options granted by us with a weighted average exercise price of CAD$2.39 and approximately 1.6 million options with a weighted average exercise price of $1.14. At June 19, 2006, we had 1.0 million shares of common stock remaining under our stock option plan for future grants.

All of the common shares are of the same class and, once issued, rank equally as to entitlement to dividends, voting powers (one vote per share) and participation in assets upon dissolution or winding-up. No common shares have been issued subject to call or assessment. The common shares contain no pre-emptive or conversion rights and have no provisions for redemption or purchase for cancellation, surrender, or sinking or purchase funds. Provisions as to the modification, amendment or variation of such rights or provisions are contained in our articles and bylaws and in the *Canada Business Corporations Act*, or CBCA.

SELLING STOCKHOLDERS

The shares of our common stock offered under this prospectus may be sold from time to time for the account of the selling stockholders named in the following table. These shares were issued or are issuable in connection with our May 2006 private placement in which we issued 7,752,854 shares and warrants to purchase 2,791,028 additional shares, or a warrant for 0.30 of a share for every share issued. The table below contains information regarding each selling stockholder's beneficial ownership of shares of our common stock as of June 19, 2006 and as adjusted to give effect to the sale of the shares offered hereby. Percentages are based on 50,381,787 shares outstanding on June 19, 2006, plus in each case the shares issuable upon exercise of warrants held by the individual holder but not the others.

	Beneficial Ownership Prior to Offering			Beneficial Ownership After Offering[1]	
Name	Number of Shares[2]	Percent of Class	Number of Shares To Be Sold[2]	Number of Shares	Percent of Class
Atlas Master Fund, Ltd.[3]	265,796	*	65,796	200,000	*
BH Capital Investments, L.P.[4]	156,000	*	156,000	0	—
Bristol Investment Fund, Ltd.[5]	386,905	*	386,905	0	—
Catalytix, LDC[6]	77,381	*	77,381	0	—
Catalytix LDC Life Science Hedge AC[6]	77,381	*	77,381	0	—
Cranshire Capital, L.P.[7]	154,762	*	154,762	0	—
Crescent International Ltd.[8]	546,000	1.1%	546,000	0	—
Diamond Opportunity Fund, LLC[9]	154,762	*	154,762	0	—
Excalibur Limited Partnership[10]	619,047	1.2%	619,047	0	—
FGO Master Fund, Ltd.[11]	281,385	*	281,385	0	—
Fore Convertible Master Fund, Ltd.[11]	703,464	1.4%	703,464	0	—
Fore ERISA Fund, Ltd.[11]	70,343	*	70,343	0	—
Fore Multi Strategy Master Fund, Ltd.[11]	492,427	1.0%	492,427	0	—
Icon Capital Partners LP[12]	154,762	*	154,762	0	—
Man MAC Todi 17B Limited[13]	655,726	1.3%	655,726	0	—
Nisswa Master Fund Ltd.[14]	232,142	*	232,142	0	—
Nite Capital LP[15]	541,667	1.1%	541,667	0	—
Panacea Fund, LLC[16]	464,282	*	464,282	0	—
Panacea Capital, L.P.[17]	32,191	*	32,191	0	—
Panacea Capital Offshore LTD[19]	712,833	1.4%	712,833	0	—
Panacea Capital QP L.P.[17]	146,869	*	146,869	0	—
Paragon Capital LP[18]	546,000	1.1%	546,000	0	—
PharmaBio Development Inc.[19]	773,809	1.5%	773,809	0	—
R&R Biotech Partners, LLC[20]	309,524	*	309,524	0	—
Rodman & Renshaw[21]	465,171	*	465,171	0	—
Stellar Capital Fund LLC[22]	390,000	*	390,000	0	—
Stratford Partners, L.P.[23]	619,047	1.2%	619,047	0	—
Visium Balanced Fund, LP[24]	184,062	*	184,062	0	—
Visium Balanced Offshore Fund, LTD[24]	286,835	*	286,835	0	—
Visium Long Bias Fund, LP[24]	56,739	*	56,739	0	—
Visium Long Bias Offshore Fund, LTD[24]	186,570	*	186,570	0	—
Total:	10,743,882	20.2%	10,543,882	200,000	*

* Less than 1%

(1) Assumes the sale of all the shares offered hereby. This prospectus also shall cover any additional shares of common stock which become issuable in connection with the shares registered for resale hereby by reason

of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration which results in an increase in the outstanding shares of our common stock.

(2) Includes shares issuable upon the exercise of the warrants issued in our May 2006 private placement, which are exercisable beginning on November 8, 2006.
(3) The address of this shareholder is 650 Madison Avenue, 19th Floor, New York, NY 10022.
(4) The address of this shareholder is 175 Bloor Street East, South Tower, Suite 705, Toronto, Ontario H4W 3R8.
(5) The address of this shareholder is Caledonian Fund Services (Cayman) Limited, 69 Dr. Roy's Drive, George Town, Grand Cayman, Cayman Islands, B.W.I.
(6) The address of this shareholder is CIBC Financial Centre, 11 Dr. Roy's Drive, P.O. Box 694, George Town, Grand Cayman, Cayman Islands, B.W.I.
(7) The address of this shareholder is 3100 Dundee Road, Suite 703, Northbrook, IL 60062. Mitchell P. Kopin, President of Downsview Capital, Inc., the general partner of Cranshire Capital, LP, has sole voting control and dispositive powers of the securities. Mr. Kopin disclaims all beneficial ownership of the securities.
(8) The address of this shareholder is c/o Cantara (Switzerland) S.A., 84, Avenue Louis-Casai, CH 1216 Cointrin, Geneva, Switzerland.
(9) The address of this shareholder is 500 Skokie Boulevard, Suite 300, Northbrook, IL 60062.
(10) The address of this shareholder is 33 Prince Arthur Avenue, Toronto, Ontario, Canada M5R1B2.
(11) The address of this shareholder is P.O. Box 908 GT, Walker House, 87 Mary Street, George Town, Grand Cayman, Cayman Islands, B.W.I.
(12) The address of this shareholder is 1050 Crown Pointe Parkway, Suite 200, Atlanta, GA 30338.
(13) The address of this shareholder is 5 Park Road, Hamilton, HM09, Bermuda.
(14) The address of this shareholder is 800 Nicollet Mall, Suite 2850, Minneapolis, MN 55402.
(15) The address of this shareholder is 100 East Cook Avenue, Suite 201, Libertyville, IL 60048. Keith Goodman, Manager of the General Partner of Nite Capital, LP, has voting control over the securities held by Nite Capital, LP. Mr. Goodman disclaims beneficial ownership in the securities owned by Nite Capital, LP.
(16) The address of this shareholder is 191 N. Wacker Drive, Suite 1500, Chicago, IL 60606.
(17) The address of this shareholder is c/o Panacea Asset Management LLC, 1251 Avenue of the Americas, Suite 2370, New York, NY 10020.
(18) The address of this shareholder is 110 East 59th Street, 29th Floor, New York, NY 10022.
(19) The address of this shareholder is Quintiles, 4709 Creekstone Drive, Durham, NC 27713.
(20) The address of this shareholder is 1270 Avenue of the Americas, New York, NY 10020.
(21) Consists solely of shares of common stock issuable upon exercise of a warrant issued as payment of a placement agent fee in connection with our May 2006 private placement. The address of this stockholder is 330 Madison Avenue, New York, NY 10017.
(22) The address of this shareholder is 5633 Strand Boulevard, Suite 318, Naples, FL 34110.
(23) The address of this shareholder is 237 Park Ave, Suite 900, New York, NY 10017.
(24) The address of this shareholder is 650 Madison Avenue, 20th Floor, New York, NY 10022.

In connection with a private placement we conducted in May 2006, we sold 7,752,854 units to investors. Each unit consisted of one share of common stock and a warrant to purchase 0.30 of a share of common stock. As a result, we sold an aggregate of 7,752,854 shares of our common stock and warrants to purchase a total of 2,791,028 shares of our common stock. In connection with the May 2006 private placement, we also issued a warrant to purchase 465,171 shares of common stock to Rodman & Renshaw as part of its placement agent fee. We agreed to register for resale all of the foregoing shares, and to pay substantially all of the expenses of offering them under this prospectus.

PLAN OF DISTRIBUTION

Each selling stockholder, referred to as the Selling Stockholders, of the common stock and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their shares of our common stock on the AMEX or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;
- broker-dealers may agree with the Selling Stockholders to sell a specified number of such shares at a stipulated price per share;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell shares under Rule 144 under the Securities Act of 1933, as amended, or the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the Selling Stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with NASDR Rule 2440, and in the case of a principal transaction a markup or markdown in compliance with NASDR IM-2440.

In connection with the sale of the common stock or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The Selling Stockholders may also sell shares of the common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions for the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholders and any broker-dealers or agents that are involved in selling the shares may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the common stock. In no event shall any broker-dealer receive fees, commissions and markups which, in the aggregate, would exceed 8%.

We are required to pay certain fees and expenses incurred by us incident to the registration of the shares. We have agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

Because Selling Stockholders may be deemed to be "underwriters" within the meaning of the Securities Act, they will be subject to the prospectus delivery requirements of the Securities Act including Rule 172 thereunder. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than under this prospectus. There is no underwriter or coordinating broker acting in connection with the proposed sale of the resale shares by the Selling Stockholders.

We agreed to keep this prospectus effective until the earlier of (i) the date on which the shares may be resold by the Selling Stockholders without registration and without regard to any volume limitations of Rule 144(e) under the Securities Act or any other rule of similar effect or (ii) all of the shares have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale shares may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of the common stock by the Selling Stockholders or any other person. We will make copies of this prospectus available to the Selling Stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale.

EXPENSES

We are required to pay all fees and expenses incident to the registration of the common shares, including the registration fees. Selling shareholders will pay any underwriting commissions and expenses, brokerage fees, transfer taxes and the fees and expenses of their attorneys and other experts. We expect to pay approximately $22,000 in aggregate expenses in connection with the resale of the shares being offered pursuant to this prospectus, which we estimate to consist of the following:

- SEC registration fee of $953;
- accounting fees and expenses of $10,000;
- legal fees and expenses of $10,000; and
- miscellaneous fees of $1,047.

EXPERTS

PricewaterhouseCoopers LLP, independent registered public accounting firm, have audited our consolidated financial statements included in our Annual Report on Form 20-F for the year ended December 31, 2005, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our consolidated financial statements are incorporated by reference in reliance upon PricewaterhouseCoopers LLP's report, given on their authority as experts in auditing and accounting.

LEGAL MATTERS

The validity of the issuance of the shares of common stock offered hereby will be passed upon for us by LaBarge Weinstein Professional Corporation, Kanata, Ontario, Canada.

No one (including any salesman or broker) is authorized to provide oral or written information about this offering that is not included in this prospectus.

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10,543,882 SHARES

ADHEREX TECHNOLOGIES INC.

Common Stock

PROSPECTUS

June 21, 2006