Altus Pharmaceuticals Inc.
Form 10-K
March 11, 2009

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

FORM 10-K

þ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2008

OR

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

Commission File No. 000-51711

ALTUS PHARMACEUTICALS INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**04-3573277**
(State or Other Jurisdiction of Incorporation or Organization)	*(I.R.S. Employer Identification No.)*
333 Wyman Street, Waltham, Massachusetts	**02451**
(Address of Principal Executive Offices)	*(Zip Code)*

Registrant s telephone number, including area code:
(781) 373-6000

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

Title of Each Class	**Name of Each Exchange on Which Registered**
Common Stock, $.01 par value	The NASDAQ Stock Market LLC

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

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

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 o NO þ

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 þ NO o

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. þ

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 o Accelerated filer þ Non-accelerated filer o Smaller reporting company o
(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). YES o NO þ

The aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold on The Nasdaq Global Market on June 30, 2008 was $137,373,943.

The number of shares outstanding of the registrant s common stock as of March 6, 2009 was 31,131,056.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information required in Part III of this Annual Report on Form 10-K will be incorporated either from the registrant s definitive Proxy Statement for the registrant s Annual Meeting of Stockholders to be held on June 17, 2009, or from a future amendment to this Form 10-K, to be filed with the Securities and Exchange Commission not later than 120 days after the end of the fiscal year covered by this Form 10-K.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. The forward-looking statements are contained principally in, but not limited to, the sections entitled Business, Risk Factors and Management s Discussion and Analysis of Financial Condition and Results of Operations. These statements involve known and unknown risks, uncertainties and other important factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- the expected timing, progress or success of our preclinical research and development and clinical programs;
- the anticipated effects and expected costs of the strategic realignment we have announced, including the workforce reductions;
- the amount of time that our existing cash resources will fund operating expenses, the transition of the Trizytek program to the Cystic Fibrosis Foundation Therapeutics, Inc., or CFFTI, and the future of the Trizytek program;
- our ability to raise sufficient capital to fund our operations;
- our ability to successfully obtain sufficient supplies of our product candidates for use in clinical trials and toxicology studies and secure sufficient commercial supplies of our product candidates;
- the timing, costs and other limitations involved in obtaining regulatory approval for any of our product candidates;
- the potential benefits of our product candidates over other therapies;
- our ability to market, commercialize and achieve market acceptance for any of our product candidates that we are developing or may develop in the future;
- our estimate of market sizes and anticipated uses of our product candidates;
- our ability to enter into and maintain collaboration agreements with respect to our product candidates and the performance of our collaborative partners under such agreements;
- our ability to protect our intellectual property and operate our business without infringing upon the intellectual property rights of others;
- our estimates of future performance; and
- our estimates regarding anticipated operating losses, future revenue, expenses, capital requirements and our needs for additional financing.

In some cases, you can identify forward-looking statements by terms such as anticipate, assume, believe, could, estimate, expect, intend, may, plan, potential, predict, project, should, will, would and similar identify forward-looking statements. Forward-looking statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Because of these risks and uncertainties,

the forward-looking events and circumstances discussed in this Annual Report on Form 10-K may not transpire. We discuss many of these risks in Item 1A of this Annual Report on Form 10-K under the heading Risk Factors beginning on page 27.

Given these uncertainties, you should not place undue reliance on these forward-looking statements. Also, forward-looking statements represent our estimates and assumptions only as of the date of this document. You should read this document and the documents that we reference in this Annual Report on Form 10-K with the understanding that our actual future results may be materially different from what we expect. Except as required by law, we do not undertake any obligation to update or revise any forward-looking statements contained in this Annual Report on Form 10-K, whether as a result of new information, future events or otherwise.

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PART I

ITEM 1. *BUSINESS*

Our Corporate Information

We were incorporated in Massachusetts in October 1992 as a wholly-owned subsidiary of Vertex Pharmaceuticals Incorporated, or Vertex, from whom we exclusively license specified patents underlying some of our product candidates. In February 1999, we were reorganized as an independent company, and in August 2001 we reincorporated in Delaware. Prior to May 2004, we were named Altus Biologics Inc. We have one subsidiary, Altus Pharmaceuticals Securities Corp., a Massachusetts corporation. Unless the context requires otherwise, references to Altus, we, our , us and the Registrant in this report refer to Altus Pharmaceuticals Inc. and our subsidiary.

Altus is a trademark of Altus Pharmaceuticals Inc. Trizytek™ [liprotamase] is a trademark that we have assigned to CFFTI. Each of the other trademarks, trade names or service marks appearing in this report belongs to its respective holder.

Business Overview

We are a biopharmaceutical company focused on the development of oral and injectable protein therapeutics. We have used our proprietary protein crystallization technology to develop protein therapies that we believe will have significant advantages over existing products and will address unmet medical needs. Our product candidates are designed to either substitute a protein that is in short supply in the body or degrade toxic metabolites in the gut and remove them from the blood stream.

On January 26, 2009, we announced a strategic realignment to focus on the advancement of our long-acting, recombinant human growth hormone candidate, ALTU-238, as a once-per-week treatment for adult and pediatric patients with growth hormone deficiency. To conserve capital resources, we are discontinuing our activities in support of Trizytek, an orally delivered enzyme replacement therapy for patients suffering from malabsorption due to exocrine pancreatic insufficiency. In addition, we are evaluating the feasibility of moving forward our early-stage clinical and pre-clinical programs and will make future decisions on these programs subject to the availability of resources. In connection with the realignment, we implemented a workforce reduction of approximately 75%, primarily in functions related to the Trizytek program as well as certain general and administrative positions.

On February 20, 2009, CFFTI and we entered into a letter agreement, or the Letter Agreement, and a license agreement, or the License Agreement, terminating our strategic alliance agreement. Under the terms of the License Agreement, we assigned the Trizytek trademark and certain patent rights to CFFTI and granted CFFTI an exclusive, worldwide, royalty-bearing license to use certain other intellectual property owned or controlled by us to develop, manufacture and commercialize any product using, in any combination, the three active pharmaceutical ingredients, or APIs, which comprise Trizytek. In these agreements, we also agreed to assist CFFTI with a transition of our on-going development and regulatory activities and clinical trials through March 27, 2009, after which CFFTI will be responsible for future development activities. In exchange, CFFTI agreed to release us from all obligations and liabilities resulting from the original strategic alliance agreement, and to pay us a percentage of any proceeds CFFTI realizes associated with respect to any rights licensed or assigned to CFFTI under the License Agreement.

Our product candidates are based on our proprietary technology, which enables the large-scale crystallization of proteins for use as therapeutic drugs. We apply our technology to improve known protein drugs, as well as to develop

other proteins into protein therapeutics. For example, we are developing our product candidate, ALTU-238, by applying our proprietary crystallization technology with the goal of offering an improved version of an approved drug. We believe that, by using our technology, we are able to overcome many of the limitations of existing protein therapies and deliver proteins in capsule and alternative dosage forms, such as a liquid oral form, and extended-release injectable formulations. Our product candidates are designed to offer improvements over existing products, such as greater convenience, better safety and efficacy

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and longer shelf life. In addition, we believe that we may be able to reduce the development risk and time to market for our drug candidates because we apply our technology to existing, well-understood proteins with well-defined mechanisms of action. We believe that our technology is broadly applicable to different classes of proteins, including enzymes, hormones, antibodies, cytokines and peptides. To date, we have crystallized more than 70 proteins for use in our research and development programs.

ALTU-238 for Growth Hormone Deficiency and Related Disorders

ALTU-238 is a crystallized formulation of human growth hormone, or hGH, that is designed to be injected once-weekly with a fine gauge needle for the treatment of growth hormone deficiency in children and adults as well as other growth disorders. Based on reported revenues of existing products, global sales of hGH products exceeded $2.8 billion in 2007. We are developing ALTU-238 for both adult and pediatric populations as an alternative to current therapies. Current medical guidelines for clinical practice generally recommend daily administration of existing therapies by subcutaneous injection. In March 2009, we plan to initiate a Phase II clinical trial for ALTU-238 in children for the treatment of growth hormone deficiency, and we have successfully completed a Phase II clinical trial of ALTU-238 in adults for the treatment of growth hormone deficiency.

In our clinical trials completed to date, ALTU-238 demonstrated pharmacokinetic and pharmacodynamic profiles that are consistent with once-weekly administration. In our completed Phase II clinical trial in growth hormone deficient adults, we identified doses of ALTU-238 that maintained insulin-like growth factor 1, or IGF-1, levels within the normal range for age and gender over the course of the study. IGF-1 is a naturally occurring hormone that stimulates the growth of bone, muscle and other body tissues in response to hGH and, in turn, regulates hGH, release from the pituitary gland. In addition, once-per-week dosing of ALTU-238 also appeared to result in a consistent, linear dose response of hGH and IGF-1 levels in the blood, which we believe will enable physicians and patients to correlate a given dose of ALTU-238 to desired levels of hGH and IGF-1 in the blood. We believe that the convenience of once-weekly administration of ALTU-238, if approved, would improve patient acceptance and compliance, and thereby effectiveness.

ALTU-237 for Treatment of Hyperoxalurias and Kidney Stones

ALTU-237 is a treatment for hyperoxalurias, a series of conditions in which excess oxalate is present in the body, resulting in an increased risk of developing kidney stones and, in rare instances, crystal formations in other organs. Increased oxalate in the body can be the result of a variety of factors including excess dietary intake of oxalate, genetic metabolite disorders, and disease states such as inflammatory bowel disease. The oxalate combines with calcium in the urine causing formations of calcium oxalate crystals, which can grow into kidney stones. Kidney stones can be a serious medical condition. Kidney stones occur in 10% of adult men and 3% of adult women during their lifetimes. There are a variety of types of kidney stones, but calcium oxalate stones are the most common type in people who have kidney stone disease. We have completed a Phase I clinical trial for ALTU-237 but further development of this product is on hold until sufficient additional funding can be secured.

Preclinical Pipeline

We also have a pipeline of product candidates in preclinical research and development that we are designing to address other areas of unmet need in gastrointestinal and metabolic disorders.

We have tested our product candidate ALTU-236 in animal models for the treatment of phenylketonuria, or PKU. PKU is a rare, inherited, metabolic disorder that results from an enzyme deficiency that causes the accumulation of the amino acid phenylalanine in the body. If left untreated, PKU can result in mental retardation, swelling of the brain, delayed speech, seizures and behavior abnormalities.

We also tested our product candidate ALTU-242 in animal models for the treatment of gout, a condition which we believe is in need of improved pharmaceutical therapies. Gout is caused by excess levels of urate in the body which can precipitate and form crystals in joints causing a painful and erosive arthritis. Gout is a common disorder that affects at least 1% of the population in Western countries and is the most common

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inflammatory joint disease in men over 40 years of age. Data suggests that there are more than 1.6 million diagnoses of gout in the United States annually.

Further development of ALTU-236 and ALTU-242 is on hold until sufficient additional funding can be secured.

Our Strategy

Our goal is to become a leading biopharmaceutical company focused on developing and commercializing protein therapies to address unmet medical needs. Our strategy to achieve this objective includes the following elements:

Focus on advancing ALTU-238. We are developing ALTU-238 as a once-per-week treatment for adult and pediatric patients with growth hormone deficiency. We believe that ALTU-238 represents a very promising opportunity to make a major impact on the multi-billion dollar market for growth hormone replacement products. As a mid-stage program with what we believe to be a relatively straight-forward path toward regulatory approval, we believe narrowing our focus to ALTU-238 will enable Altus to preserve capital and minimize clinical and regulatory risk. We believe that this product candidate, if approved, will offer significant advantages over existing therapies.

Establish collaborations with leading pharmaceutical and biotechnology companies. We intend to explore and evaluate collaborations for our product candidates with other companies with the goal of achieving several objectives including gaining greater access to a market or funding and/or accelerating the development of a product candidate. In addition, we believe that our technology has broad applicability to many classes of therapeutic proteins and can be used to enhance protein therapeutics developed by other parties. In the future we may derive value from our technology by selectively collaborating with biotechnology and pharmaceutical companies that will use our technology for products that they are either currently marketing or developing.

Our Product Candidates

ALTU-238 for Growth Hormone Deficiency and Related Disorders

ALTU-238 is a crystallized formulation of hGH that is designed to be administered once weekly through a fine-gauge needle for the treatment of hGH deficiency and related disorders in both pediatric and adult populations. Based on reported revenues of existing products, these indications generated approximately $2.8 billion in worldwide sales of hGH in 2007. We are developing ALTU-238 as a long-acting, growth hormone product that can allow patients to avoid the inconvenience of the daily injections recommended by current medical guidelines for existing products. We have used our proprietary protein crystallization technology and formulation expertise to develop ALTU-238 without altering the underlying molecule or requiring polymer encapsulation. Since hGH is a known protein therapeutic with an established record of long-term safety and efficacy, we believe that ALTU-238 may have less development risk than most pharmaceutical product candidates at a similar stage of development.

We have successfully completed four clinical trials of ALTU-238: three Phase I trials in healthy adults and a Phase II trial in growth hormone deficient adults. These trials were designed to determine the safety, pharmacokinetics and pharmacodynamics of ALTU-238. Pharmacokinetics refers to the process by which a drug is absorbed, distributed, metabolized and eliminated by the body. Pharmacodynamics refers to the process by which a drug exerts its biological effect. In our clinical trials completed to date, ALTU-238 demonstrated pharmacokinetic and pharmacodynamic parameters that are consistent with once-weekly administration.

In the adult Phase II trial, ALTU-238 demonstrated a pharmacokinetic and pharmacodynamic profile that we believe is supportive of a once-per-week dosing regimen for growth hormone deficient adults. The study identified doses of

ALTU-238 that maintained IGF-1 levels within the normal range for age and gender over the course of the study. IGF-1 is a naturally occurring hormone that stimulates the growth of bone, muscle and other body tissues in response to hGH and, in turn, regulates hGH release from the pituitary gland. The study also indicated that once-per-week dosing of ALTU-238 appeared to result in a consistent, linear dose response

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of hGH and IGF-1 levels in the blood. ALTU-238 was generally well tolerated, and there were no serious adverse events reported in either study. In March 2009, we plan to initiate a Phase II trial in growth hormone deficient pediatric patients that is designed to determine the safety, tolerability and clinical activity of ALTU-238 in this patient population.

In December 2006, we entered into a collaboration and license agreement with Genentech relating to the development, manufacture and commercialization of ALTU-238 and other pharmaceutical products containing crystallized hGH using our proprietary technology. In connection with the agreement, Genentech also purchased 794,575 shares of our common stock on February 27, 2007 for an aggregate purchase price of $15.0 million. On December 19, 2007, Genentech and we entered into an agreement terminating the collaboration effective December 31, 2007. Under the termination agreement, we reacquired the North American development and commercialization rights to ALTU-238.

Disease Background, Market Opportunity and Limitations of Existing Products

Growth hormone, which is secreted by the pituitary gland, is the major regulator of growth in the body. Growth hormone directly stimulates the areas of bones known as epiphyseal growth plates, which are responsible for bone elongation and growth. Growth hormone also causes growth indirectly by triggering the release of insulin-like growth factor 1, or IGF-1, from tissues throughout the body. In addition, growth hormone contributes to proper bone density and plays an important role in various metabolic functions, including lipid breakdown, protein synthesis and insulin regulation.

Growth hormone deficiency typically results from an abnormality within or near the hypothalamus or pituitary gland that impairs the ability of the pituitary to produce or secrete growth hormone. A deficiency of growth hormone can result in reduced growth in children and lead to short stature. Because the growth plates in the long bones fuse and additional cartilage and bone growth can no longer occur after puberty, hGH replacement therapy does not cause growth in adults. However, low levels of hGH in adults are associated with other metabolic disorders, including lipid abnormalities, decreased bone density, decreased cardiac performance and decreased muscle mass. These disorders typically become increasingly apparent after a prolonged period of hGH deficiency.

Children and adults with growth hormone deficiency are typically treated with growth hormone replacement therapy. Growth hormone is also FDA-approved and prescribed for many patients suffering from a range of other diseases or disorders, including pediatric growth hormone deficiency, adult growth hormone deficiency, being small for gestational age and idiopathic short stature in children. According to industry estimates:

- 1 in 3,500 children suffer from growth hormone deficiency;
- 1 in 10,000 adults suffer from growth hormone deficiency;
- between 3% and 10% of births annually are small for gestational age; and
- between 2% and 3% of children are affected by idiopathic short stature.

Growth hormone is also used to treat Turner syndrome, Prader Willi syndrome, Noonan syndrome, chronic renal insufficiency, AIDS wasting and short bowel syndrome. The percentage of patients for whom hGH is prescribed varies significantly by indication. We believe that a once-weekly formulation of hGH, such as ALTU-238, may result in increased use in a number of these indications.

Currently, many of the FDA-approved hGH products are also in clinical development for additional indications, including Crohn s disease, female infertility, bone regeneration and a variety of other genetic and metabolic disorders.

There are currently ten FDA-approved hGH products on the market in the United States from eight manufacturers, all of which use essentially the same underlying hGH molecule. Current medical guidelines for clinical practice generally recommend daily administration of existing products by subcutaneous injection. We believe that the primary differences between these products relate to their formulation and the devices employed for their delivery.

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We believe that the burden of frequent injections significantly impacts quality of life for both adults and children being treated with hGH therapy and often leads to reduced compliance or a reluctance to initiate therapy. For example, we estimate that a standard course of treatment for pediatric growth hormone deficient patients typically lasts approximately six years and requires more than 1,800 injections. Faced with this protracted treatment regime, pediatric patients often take days off and miss treatment. For adults with growth hormone deficiency, the benefits of hGH treatment are more subtle and relate to metabolic function and organ health instead of increased height. As a consequence, and in contrast to hGH deficient children, many adults with growth hormone deficiency do not initiate hGH therapy, and of those who do, many fail to continue treatment.

Anticipated Advantages of ALTU-238

We expect that ALTU-238, if approved, will offer patients a more convenient and effective long-term therapy because of the following features:

Convenience of once-weekly dosing. Based on the results of our Phase I and Phase II clinical trials, we believe that ALTU-238 will offer growth hormone deficient patients the convenience of a once-weekly injection. We believe this will improve acceptance and compliance and thereby increase long-term effectiveness of therapy and potentially expand the market.

Administration with a fine gauge needle. ALTU-238 is designed to provide extended release without changing the chemical structure of the hGH molecules or using polymers to encapsulate the component hGH molecules. To date, there has not been an hGH therapy approved by the FDA for administration once per week. The only hGH therapy approved by the FDA for administration less frequently than once per week was withdrawn from the market and required polymeric encapsulation for its extended release formulation. This necessitated the use of a substantially larger needle and was associated with pain and skin reactions at the injection site. We have designed ALTU-238 using our protein crystallization technology so that, as the crystals dissolve, the hGH is released over an extended period. This allows ALTU-238 to be administered with a 29 or 30 gauge, insulin-like needle.

In addition, we have designed ALTU-238 to be manufactured using well-established equipment and processes consistent with other injectable protein products. We believe this will provide flexibility in the scale-up and commercial production of ALTU-238, if approved.

ALTU-238 Development Activities and Strategy

We have completed three Phase I clinical trials of ALTU-238 in healthy adults and a Phase II clinical trial in adults with growth hormone deficiency. The pharmacokinetic and pharmacodynamic results from these trials support our view as to the appropriateness of once-weekly dosing of ALTU-238, and we believe that ALTU-238, if approved, can be administered once weekly. The results of our Phase Ic trial in healthy adults and Phase II trial in growth hormone deficient adults are summarized in the tables below. Furthermore, based on the results of these trials, we plan to initiate a Phase II trial in growth hormone deficient pediatric patients in March 2009, which is designed to determine the safety, tolerability and clinical activity of ALTU-238 in this patient population.

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Phase Ic Clinical Trial

ALTU-238 Phase Ic Clinical Trial Summary

Title	A Randomized, Open Label, Single Center Study to Assess the Pharmacokinetics, Pharmacodynamics, and Safety of ALTU-238 (Somatropin) in Normal Healthy Adult Males
Design	Thirty-six subjects received one of the following treatment regimens:
Administration	a single injection of ALTU-238 at a dose of 8.8 mg, 16.9 mg or 25.0 mg of hGH, administered to 9 subjects at each dose; 7 daily injections of Nutropin AQ, a daily, FDA-approved hGH product, at a dose of 2.4 mg of hGH, administered to 9 subjects; Each regimen was administered to patients as a subcutaneous injection.
Safety Results	ALTU-238 was generally well tolerated. There were no serious adverse events reported in the clinical trial, and the percentage of subjects who experienced adverse events was comparable among treatment groups. Subjects across all treatment groups, including subjects receiving Nutropin AQ, experienced injection site reactions, the most common of which were redness, hardening of the skin and swelling.
Clinical Activity Results	The Phase Ic pharmacokinetic and pharmacodynamic data is consistent with prior ALTU-238 clinical studies that supported an ALTU-238 once-per-week dosing regimen. The Phase 1c trial results also confirm that the ALTU-238 material, produced at the current increased manufacturing scale, performs similar to the material used in previous ALTU-238 studies.

Phase II Clinical Trial

In our Phase II clinical trial, we evaluated ALTU-238 in adults with growth hormone deficiency. The primary objective of the trial was to determine the safety and tolerability of ALTU-238, as well as its pharmacokinetic and pharmacodynamic profile, when administered over a three-week period. The goal of the

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pharmacokinetic and pharmacodynamic analyses was to confirm the once weekly dosing profile of ALTU-238 in growth hormone deficient adults. The following is a summary of our Phase II clinical trial:

ALTU-238 Phase II Clinical Trial Summary

Title	A Phase II, Multi-Center, Multi-Dose, Randomized, Open-Label, Parallel Group Study of Extended Release Crystalline Formulation of Recombinant Human Growth Hormone
Design	Growth hormone deficient men and women between the ages of 16 and 60 were randomized to receive either 5.6 mg of ALTU-238 or 11.2 mg of ALTU-238 administered in three weekly subcutaneous injections. Enrollment for the study was planned for a minimum of 12 patients with a maximum of 20 patients, including at least 4 patients in the 5.6 mg dose group and at least 6 patients in the 11.2 mg dose group. A total of 13 patients were enrolled and analyzed for safety (6 patients in the 5.6 mg group and 7 patients in the 11.2 mg group); and 11 of these patients were analyzed for the pharmacokinetics and pharmacodynamics of ALTU-238 at the end of the first week, and 10 of these patients were analyzed for the pharmacokinetics and pharmacodynamics of ALTU-238 at the end of the third week. The patients who were enrolled but not analyzed were disqualified due to documentation issues.
Administration	For each dose level, three injections of ALTU-238 were administered as subcutaneous injections one week apart.
Safety Results	ALTU-238 was generally well tolerated. There were no serious adverse events, and no patients were discontinued due to an adverse event. The majority of adverse events were considered mild or moderate in severity. There was no apparent dose-related difference between the treatment groups for the overall reporting of adverse events. Mild to moderate injection site reactions were common. We also observed changes in serum insulin and glucose, which were expected following administration of growth hormone.
Clinical Activity Results	ALTU-238, administered through a subcutaneous injection, produced hGH and IGF-1 concentrations in the blood that support a once-per-week dosing regimen. A dose response was observed for both the maximum concentration and the total concentration for hGH and IGF-1 in the blood between the 5.6 mg and 11.2 mg dose levels. As a result, we believe the dose to patients can be adjusted to achieve desired blood levels of either hGH or IGF-1. In addition, the IGF-1 profiles of the patients were reproducible following 3 weekly injections and suggest that IGF-1 concentration levels can be maintained within the normal range following repeated weekly dosing with ALTU-238.

Future Clinical Development

We have met with the FDA and EMEA to discuss the results of our Phase I and II clinical trials and future clinical development of ALTU-238 in growth hormone deficient adult and pediatric patients. After the completion of our Phase II pediatric trial discussed below, we plan to advance ALTU-238 into a Phase III clinical trial in growth hormone deficient children, as well as a Phase III clinical trial in growth hormone deficient adults.

ALTU-238 Phase II Clinical Trial in Growth Hormone Deficient Pediatric Patients

The ALTU-238 Phase II clinical trial in growth hormone deficient pediatric patients, which we plan to initiate in March 2009, is a 12-month, Phase II, randomized, open-label, multi-center, dose-ranging, parallel group study examining weekly injections of three dose levels of ALTU-238 and daily injections of one dose level of Nutropin AQ in prepubertal, rhGH-naïve children with growth hormone deficiency. The primary

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efficacy analysis is the change in annualized height velocity and will be performed after 26 weeks of treatment. This study will be divided into three periods:

Screening Period (up to 4 weeks prior to Baseline): during which eligibility will be determined.

Treatment Period: during which subjects will be randomized to one of four treatment groups and receive either weekly injections of one of three dose levels of ALTU-238 or daily injections of one dose level of Nutropin AQ for 52 weeks.

Follow-up Period (2 weeks following the End-of-Treatment visit): during which a final safety assessment will be conducted.

This study will be conducted in the target population of children with growth hormone deficiency. Subjects determined to be eligible for this study, based on screening results, will receive baseline assessments and be randomized to one of four treatment arms in a 1:1:1:1 ratio stratified by age and height standard deviation score (SDS, z-score). Only prepubertal children will be included due to the confounding effect of the pubertal growth spurt on the primary endpoint of annualized height velocity. The dosage range for ALTU-238 was selected to encompass the likely optimal dose to be used in a pivotal Phase III study. The dosage for the Nutropin AQ group is the recognized dose for the current standard of care in prepubertal children with growth hormone deficiency.

An interim efficacy analysis and the main pharmacokinetic and pharmacodynamic analysis will be performed after 14 weeks of treatment to assist in planning for a Phase III study. The primary efficacy analysis will be performed after 26 weeks of treatment, a duration which was selected to provide annualized height velocity data for use in designing a Phase III study. The entire treatment duration of 52 weeks was selected to provide definitive first year height velocity data (the primary Phase III endpoint) and other efficacy data, as well as long-term safety data.

ALTU-237 for Treatment of Hyperoxalurias and Kidney Stones

ALTU-237 is an orally-administered crystalline formulation of an oxalate-degrading enzyme which we have designed for the treatment of hyperoxalurias including primary hyperoxaluria, enteric hyperoxaluria and kidney stones in individuals with a risk or history of recurrent kidney stones. Currently, there are limited effective pharmacological treatments for primary hyperoxaluria, enteric hyperoxaluria or recurrent kidney stones.

Hyperoxalurias are a series of conditions where too much oxalate is present in the body resulting in an increased risk of kidney stones and, in rare instances, crystal formations in other organs. Increased oxalate in the body can result from eating foods that are high in oxalate, over-absorption of oxalate from the intestinal tract, and abnormalities of oxalate production by the body. Oxalate is a natural end-product of metabolism, does not appear to be needed for any human body process and is normally more than 90% excreted by the kidney. Since calcium is also continuously excreted by the kidney into the urine, oxalate can combine with calcium, causing formations of calcium-oxalate crystals which can grow into a kidney stone. In preclinical studies using rodent models, ALTU-237, delivered orally, demonstrated an ability to reduce oxalate levels in urine. We believe that reducing oxalate levels in urine may be indicative of a reduction of oxalate in the body and therefore may result in a decrease in kidney stones.

Over-absorption of oxalate from the intestinal tract, or enteric hyperoxaluria, is often associated with intestinal diseases such as inflammatory bowel disease and cystic fibrosis, or may occur in patients following gastric bypass surgery.

Primary hyperoxaluria is a rare, inherited and, if left untreated, fatal metabolic disease that results in the accumulation of oxalate in the body. Although there are variations in the disease, primary hyperoxaluria is characterized by the

shortage of an enzyme in the liver, which results in excess levels of oxalate production in the body. Based on prevalence data from an industry article, we estimate that between 1-in-60,000 and 1-in-120,000 children in North America and Europe are born with primary hyperoxaluria.

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According to the National Kidney Foundation, kidney stone disease is a common disorder of the urinary tract affecting approximately 20 million Americans. According to Disease Management, between 70% and 75% of kidney stones are composed of calcium oxalate crystals and up to 50% of patients who do not follow recommended guidelines will suffer from a repeated kidney stone incident within five years of their initial incident. According to the National Kidney and Urologic Diseases Information Clearinghouse, in 2000, kidney stones led to approximately 600,000 emergency room visits.

Preclinical Results

In a series of preclinical studies using rodent models, ALTU-237, delivered orally, demonstrated an ability to reduce oxalate levels in urine. One such study was designed to measure the impact of ALTU-237 on the reduction of hyperoxaluria in a genetic mouse model for primary hyperoxaluria. In this study, the mice were further challenged with ethylene glycol to mimic the human disease, which involves nephrocalcinosis, renal failure and potentially death. The four week study included 44 mice that received one of the following treatment regimens:

5mg, 25mg, or 80mg of ALTU-237 was orally administered to 11 mice at each dose

11 mice received no treatment and served as a control group

In the study, ALTU-237 therapy resulted in a sustained reduction of urinary oxalate levels as evidenced by a reduction in urinary oxalate of 30 to 50 percent in all treatment groups as compared to the control group. In addition, a reduction in nephrocalcinosis and an increase in survival rate were observed in mice in the two lower dose groups and there was no nephrocalcinosis, renal failure or death in any mouse in the high dose group.

Phase I Clinical Trial

In the second quarter of 2008, we reported results from a Phase I clinical trial of ALTU-237. The primary objective of this trial was to determine the safety and tolerability of escalating dose levels of ALTU-237 in normal healthy adults.

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The study enrolled 58 normal healthy adults that were randomized into four cohorts. During a baseline period, subjects in each cohort consumed a low oxalate, high calcium diet to establish a consistent, low urinary oxalate baseline level prior to treatment. After the baseline period, subjects were randomized to receive either ALTU-237 or placebo during a seven day, double blind treatment period. During this treatment period, subjects consumed a high oxalate, low calcium diet. Safety assessments were performed throughout the study. Results of this trial are summarized in the table below.

ALTU-237 Phase I Clinical Trial Summary

Title	A Phase I, Single-Center, Double-blind, Placebo-Controlled, Dose Escalating Study Evaluating the Safety and Clinical Activity of ALTU-237 in Normal Healthy Adults on a Controlled, High Oxalate Diet
Design	Double-blind, dose escalation, placebo-controlled study to evaluate the safety and clinical activity of ALTU-237 in normal, healthy adult males and females consuming a controlled, high oxalate diet. Four groups of up to 32 subjects were enrolled in the low oxalate diet period. Up to sixteen of these subjects were randomized to receive either escalating doses of ALTU-237 of approximately 900, 3600, 10,800, and 18,000 units/day or placebo. The remaining subjects were alternates. ALTU-237 (and placebo) were administered orally as capsules with meals three times a day. This study was conducted on an inpatient basis. During a five-day baseline period, each cohort consumed a low oxalate, high calcium diet to establish a consistent, low urinary oxalate baseline level prior to treatment. Subjects were then be randomized at a 3:1 ratio (three ALTU-237 subjects to every one placebo subject) to receive either ALTU-237 or placebo during a seven-day, double-blind treatment period. During this double-blind treatment period, subjects consumed a high oxalate, low calcium diet. The treatment period lasted seven days.
Administration	ALTU-237 was administered orally with meals during the treatment period.
Safety Results	All doses were well-tolerated and no severe adverse events were reported.

The ALTU-237 development program is on hold until we are able to secure additional funding.

Our Preclinical Research and Development Programs

We have a pipeline of preclinical product candidates that are designed to either substitute protein that is in short supply in the body or degrade toxic metabolites in the gut and remove them from the blood stream. We have designed all of these product candidates for oral delivery to address areas of unmet need in gastrointestinal and metabolic disorders, including an enzyme that degrades phenylalanine for the treatment of phenylketonuria and an enzyme that degrades urate for the treatment of gout. We believe that our proprietary, crystallized formulations of these product candidates will represent novel or improved therapies for the treatment of these disorders. Our two most advanced preclinical product candidates are described below.

ALTU-236 for Treatment of Hyperphenylalanemia

ALTU-236 is an orally-administered enzyme replacement therapy product candidate designed to reduce the long-term effects associated with excess levels of phenylalanine, also known as hyperphenylalanemia. According to the National Institutes of Health, phenylketonuria, or PKU, which is the most severe form of hyperphenylalanemia, affects approximately 1-in-15,000 newborns in the United States. PKU is a rare, inherited, metabolic disorder that results from an enzyme deficiency that causes the accumulation of the amino acid phenylalanine in the body. If left untreated, PKU can result in mental retardation, swelling of the brain, delayed speech, seizures and behavior abnormalities. Virtually all newborns in the United States and in many other countries are screened prior to leaving the hospital for

PKU. There is currently one approved drug to treat certain patients with PKU. However, the majority of patients suffering from PKU and hyperphenylalanemia are currently treated with a phenylalanine restricted diet. This diet is expensive and difficult to maintain and does not avoid many of the long-term effects of PKU.

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ALTU-242 for Treatment of Gout

ALTU-242 is an orally-administered enzyme product candidate designed to reduce the long-term effects associated with excess levels of urate, the cause of gout. Excess levels of urate can precipitate and form crystals in joints causing a painful erosive arthritis commonly referred to as gout. Gout is a common disorder that affects at least 1% of the population in Western countries and is the most common inflammatory joint disease in men over 40 years of age. Data suggest that there are more than 1.6 million diagnoses of gout in the United States annually.

The ALTU-236 and ALTU-242 development programs are on hold until we are able to secure additional funding.

Trizytek for Exocrine Pancreatic Insufficiency

Pancreatic insufficiency is a deficiency of the digestive enzymes normally produced by the pancreas and can result from a number of disease conditions, including cystic fibrosis, chronic pancreatitis and pancreatic cancer. Patients with exocrine pancreatic insufficiency are currently treated with enzyme replacement products containing enzymes derived from pig pancreases. Trizytek is a non-porcine pancreatic enzyme replacement therapy for the treatment of malabsorption due to exocrine pancreatic insufficiency consisting of three APIs; lipase, protease and amylase, which aid in the digestion of fat, proteins and carbohydrates.

On January 26, 2009, we announced a strategic realignment and the discontinuation of our activities in support of Trizytek. On February 20, 2009, CFFTI and we entered into a series of agreements to terminate our strategic alliance agreement. As part of these agreements, we will assist CFFTI with a transition of our on-going development and regulatory activities and clinical trials through March 27, 2009, after which CFFTI will be responsible for future development activities.

We have completed five clinical trials of Trizytek, four of which were in cystic fibrosis patients and one of which was in healthy volunteers. The following table summarizes the clinical trials of Trizytek that we have completed to date:

Trial	Number of Subjects	Primary Study Objective
Phase Ia	20 healthy volunteers	Safety and tolerability over 7 days of dosing
Phase Ib	23 cystic fibrosis patients	Safety, tolerability and clinical activity over 3 days of dosing
Phase Ic	8 cystic fibrosis patients	Safety, tolerability and clinical activity over 14 days of dosing
Phase II	129 cystic fibrosis patients	Safety, tolerability and efficacy over 28 days of dosing
Phase III	163 cystic fibrosis patients	Safety, tolerability and efficacy over approximately 2 months of dosing

Our clinical trials with cystic fibrosis patients assessed a number of different measures, or endpoints, of digestion and absorption. We assessed fat absorption by measuring a patient s fat intake over a specified period of time and comparing that to the amount of fat in their stool during the same period. This comparison enabled us to calculate the amount of fat a patient absorbed, using a metric known as the coefficient of fat absorption, or CFA. The same process was applied to determine protein absorption, using a metric called the coefficient of nitrogen absorption, or CNA. We measured carbohydrate absorption by analyzing a patient s blood glucose levels after a starch meal, using a test we refer to as the starch challenge test. In our Phase Ib, Phase II and Phase III clinical trials, we also measured the number and weight of the patients stools.

Phase III Clinical Trial in Cystic Fibrosis Patients

We designed our pivotal Phase III clinical trial of Trizytek to be a multicenter, randomized, double-blind, placebo-controlled clinical study to determine, as the primary endpoint, the efficacy of Trizytek in the treatment of fat malabsorption in cystic fibrosis patients with exocrine pancreatic insufficiency through measurement of CFA. The trial also included secondary efficacy endpoints, including the evaluation of

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Trizytek in the treatment of protein absorption through measurement of CNA and carbohydrate absorption through the use of the starch challenge test. We also assessed the ability of Trizytek to decrease the weight and frequency of stools in patients. In the trial, we also evaluated the safety and tolerability of Trizytek over an approximate two month dosing period.

At the beginning of the Phase III trial, we obtained baseline measurements of fat, protein and carbohydrate absorption during a hospital stay of up to one week. After the baseline period was complete, patients were released from the hospital and placed on open-label therapy with Trizytek. All of the patients in the trial had one capsule of Trizytek with each meal or snack for approximately four weeks. The selected dose of lipase, protease and amylase was consistent with the middle dose in our Phase II clinical trial. After this four-week period, patients returned to the hospital for up to one week for a second in-hospital stay. During this hospital stay, patients were randomized on a one-to-one basis, and stratified based on whether their baseline measurements of CFA place them in the subgroup of patients having absorption of less than 40% or the subgroup of patients having absorption of greater than or equal to 40% but not more than 80% to receive either Trizytek or placebo. Fat, protein and carbohydrate absorption were measured using the same process that was used to establish the baseline level during the first in-hospital stay. A comparison of each patient s measurements during the two in-hospital periods was performed in the analysis of the endpoints for the trial. After the second in-hospital stay, patients returned to open-label therapy with Trizytek for one week to complete the study. We reported the results of this trial in the third quarter of 2008.

Long-Term Safety Studies

Before our strategic realignment, we initiated two clinical studies evaluating the long-term safety of Trizytek. One study is being conducted in cystic fibrosis patients and one study is being conducted in chronic pancreatitis patients with exocrine pancreatic insufficiency. The studies are designed to evaluate the safety of Trizytek following one year of open-label treatment in order to provide the necessary six-month and 12-month exposure data for approval of a new drug application, or NDA. We enrolled a total of approximately 256 patients with pancreatic insufficiency into the two studies, which included some of the eligible patients from our Phase III efficacy trial of Trizytek. CFFTI has assumed responsibility for the safety study in cystic fibrosis patients and we have discontinued the study in chronic pancreatitis patients.

Phase III Efficacy Results

The trial met its primary efficacy endpoint with statistical significance. In cystic fibrosis patients with exocrine pancreatic insufficiency, Trizytek demonstrated a statistically significant improvement of fat absorption over placebo through the measurement of the CFA. The primary efficacy analysis was an intent to treat, or ITT, analysis in the sub-group of patients with severe malabsorption (patients with baseline CFAs below 40). In addition, data were analyzed for the overall group, which included all patients with baseline CFA below 80.

Primary Endpoint CFA Results

	Trizytek		Placebo			
Baseline CFA Group	**Baseline**	**Improvement from Baseline**	**Baseline**	**Improvement from Baseline**	**Mean Difference Between Groups**	**P-Value**
<40	30.0	20.2 points or 79.6%	28.1	5.1 points or 24.4%	15.1	0.001

Overall	46.9	11.3 points or 35.8%	49.5	0.2 points or 4.3%	10.6	<0.001

Of the 138 patients in the ITT analysis, 68 patients were at cystic fibrosis centers within the United States and 70 patients were at sites outside of the United States. A strong country effect was seen that impacted the overall outcome. For U.S. patients in the Trizytek CFA<40 group, there was an improvement in the mean CFA of 28.4 (115% change from baseline). In the placebo CFA<40 group, there was an increase in mean CFA of 3.4 (23% change from baseline). The mean difference between groups for the change in CFA was 25.1 (p =0.001). In contrast, the mean difference in the CFA<40 group in countries outside of the U.S. was 5.0.

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For U.S. patients in the overall group who received Trizytek, there was an improvement in the mean CFA of 15.7 (48% change from baseline). For U.S. patients on placebo in the overall group, there was a decrease in the mean CFA of -2.1 (1% change from baseline). The mean difference between groups for the change in CFA was 17.5 (p=<0.001). In contrast, the mean difference in the overall group in countries outside of the U.S. was 4.3. The U.S. results are summarized in the table below.

Primary Endpoint CFA Results US Sites

	Trizytek		Placebo			
Baseline CFA Group	**Baseline**	**Improvement from Baseline**	**Baseline**	**Improvement from Baseline**	**Mean Difference Between Groups**	**P-Value**
<40	27.0	28.4 points or 115.4%	23.6	3.4 points or 22.6%	25.1	0.001
Overall	46.3	15.7 points or 48.3%	43.7	−2.1 points or 0.7%	17.5	<0.001

The trial also evaluated secondary efficacy endpoints. Patients treated with Trizytek had a statistically significant improvement in CNA compared to placebo (p =<0.001). The Phase III CNA results paralleled the Phase III CFA results. There was not a statistically significant improvement in carbohydrate absorption compared to placebo on the starch challenge test. Importantly, there was a significant decrease in stool weight in Trizytek treated patients compared to placebo (p=0.001). Trizytek was well-tolerated and had a favorable safety profile in the trial. There were no serious adverse events attributed to the Trizytek treatment.

Our Protein Crystallization Technology and Approach

Historically, scientists have crystallized proteins primarily for use in x-ray crystallography to examine the structure of proteins in small batches. In contrast, we are using our technology to crystallize proteins in significantly larger amounts for use as therapeutic drugs. This requires the crystallization process to be both reproducible and scalable, and our technology is designed to enable large scale crystallization with batch-to-batch consistency.

Crystallized proteins are more stable, pure and concentrated than proteins in solution. For example, one protein crystal may contain several billion molecules of the underlying protein. We believe that these characteristics will enable improved storage and delivery, permitting delivery of the protein molecules with fewer capsules or smaller injection volumes.

Once a protein is in the crystallized state, we formulate it for either oral or injectable delivery. For our product candidates that will be delivered orally, we use our crystallization technology to deliver proteins to the gastrointestinal tract, where they can exert their therapeutic effect locally. In situations where we need to confer a higher level of stability to a protein, such as in the lipase component of Trizytek, we cross-link protein molecules in crystals together using multi-functional cross-linking agents. For our product candidates that are injected, we use our crystallization technology to develop highly concentrated and stable proteins that can be formulated for extended release.

Our approach to developing therapeutic product candidates using crystallized proteins is comprised of the following general elements:

Establish initial crystallization conditions. Once we choose a target protein, we rapidly screen hundreds of crystallization conditions both manually and using robotics. We define the conditions under which a soluble protein could crystallize, including protein concentration, pH and temperature of crystallization.

Identify key crystallization conditions and initial crystallization scale up. After we identify the initial conditions, we focus on the critical crystallization conditions to define a robust and reproducible crystallization process. We then scale the process from single drops, to microliter scale, to milliliter scale, and finally, to liter scale.

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Select crystallization process and crystal. If there is more than one successful crystallization process and resulting crystals, we use our target product profile to choose the best protein crystal for the given application based on crystal size, shape and other characteristics.

We apply our proprietary protein crystallization technology to existing, well understood proteins in the development of our product candidates. We believe our technology is broadly applicable to all classes of proteins, including enzymes, hormones, antibodies, cytokines and peptides. To date, we have crystallized more than 70 proteins for evaluation in our product candidates and preclinical research and development programs.

Collaborations

Cystic Fibrosis Foundation Therapeutics, Inc.

In February 2001, we entered into a strategic alliance agreement with CFFTI, an affiliate of the Cystic Fibrosis Foundation. Under this agreement, which was amended in 2001 and 2003, we and CFFTI agreed to collaborate for the development of Trizytek and specified derivatives of Trizytek in North America for the treatment of malabsorption due to exocrine pancreatic insufficiency in patients with cystic fibrosis and other indications. The agreement, in general terms, provided us with funding from CFFTI for a portion of the development costs of Trizytek upon the achievement of specified development and regulatory milestones, up to a total of $25.0 million, in return for specified payment obligations described below and our obligation to use commercially reasonable efforts to develop and bring Trizytek to market in North America for the treatment of malabsorption due to exocrine pancreatic insufficiency in patients with cystic fibrosis and other indications. CFFTI also agreed to provide us with reasonable access to its network of medical providers, patients, researchers and others involved in the care and treatment of cystic fibrosis patients, and to use reasonable efforts to promote the involvement of these parties in the development of Trizytek. In connection with the agreement, we also issued CFFTI warrants to purchase a total of 261,664 shares of common stock at an exercise price of $0.02 per share. As of December 31, 2008, we had received a total of $18.4 million of the $25.0 million available under the agreement.

Under the terms of the agreement, we granted CFFTI an exclusive license under our intellectual property rights covering Trizytek and specified derivatives for use in all applications and indications in North America, and CFFTI granted us back an exclusive sublicense of the same scope, including the right to grant further sublicenses.

To conserve capital resources, we discontinued our Trizytek program activities in January 2009. On February 20, 2009, CFFTI and we entered into the Letter Agreement and the License Agreement terminating our strategic alliance agreement. Under the terms of the License Agreement, we assigned the Trizytek trademark and certain patent rights to CFFTI and granted CFFTI an exclusive, worldwide, royalty-bearing license to use certain other intellectual property owned or controlled by us to develop, manufacture and commercialize any product using, in any combination, the three APIs which comprise Trizytek. In these agreements, we also agreed to assist CFFTI with a transition of our on-going development and regulatory activities and clinical trials through March 27, 2009, after which CFFTI will be responsible for future development activities. In exchange, CFFTI agreed to release us from all obligations and liabilities resulting from the original strategic alliance agreement, and to pay us a percentage of any proceeds CFFTI realizes associated with respect to any rights licensed or assigned to CFFTI under the License Agreement.

Dr. Falk Pharma GmbH

In December 2002, we entered into a development, commercialization and marketing agreement with Dr. Falk Pharma GmbH, or Dr. Falk, for the development by us of Trizytek and the commercialization by Dr. Falk of Trizytek, if approved, in Europe, the countries of the former Soviet Union, Israel and Egypt. Under the agreement, we granted

Dr. Falk an exclusive, sublicensable license under specified patents that cover Trizytek to commercialize Trizytek for the treatment of symptoms caused by exocrine pancreatic insufficiency.

In June 2007, we reacquired from Dr. Falk the development and commercialization rights to Trizytek and ended the development and commercialization collaboration in Europe and countries of the former Soviet

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Union, Israel and Egypt. Dr. Falk and we had differing views regarding the optimal development and commercialization path for Trizytek and ultimately concluded that acquisition of the development and commercialization rights by us would be in the best interest of both parties.

Under the termination agreement, we regained control of all of the assets created in the collaboration. In addition, Dr. Falk has agreed to transfer the July 2004 Orphan Medicinal Product Designation granted to Dr. Falk by the European Agency for the Evaluation of Medicinal Products. In exchange, we agreed to pay Dr. Falk 12.0 million over three years. As of the termination of the collaboration agreement, we had received a total of 11 million in milestone payments from Dr. Falk.

Manufacturing

We do not own or operate manufacturing facilities for the production of clinical or commercial quantities of any of our product candidates. We currently have no plans to build our own clinical- or commercial-scale manufacturing capabilities, and we expect for the foreseeable future to rely on contract manufacturers for both clinical and commercial supplies of our products. Although we rely on contract manufacturers, we have personnel with manufacturing experience to oversee the relationships with our contract manufacturers.

ALTU-238

We entered into a drug production and clinical supply agreement with Althea Technologies, Inc., or Althea, in August 2006. Under this agreement, Althea agreed to modify an existing production facility, and test and validate its manufacturing operations for the production of ALTU-238. Althea completed these activities and produced ALTU-238 for the Phase Ic trial and Phase II pediatric trial. The agreement terminates following the production of a defined number of manufacturing runs of ALTU-238, from which we intend to supply planned clinical trials. The agreement is subject to early termination by either party in the event of an uncured material breach by or bankruptcy of the other party. Althea s liability to us for any breach of the agreement is limited to an obligation to replace those products which do not conform to requirements.

In addition, we and Althea have agreed to negotiate an agreement under which Althea will provide ALTU-238 for commercial supply. Alternatively, if within one year after the termination or expiration of the agreement, other than a termination due to Althea s uncured breach, we enter into an agreement with a third party to provide commercial supply of ALTU-238, we must make a one-time payment to Althea.

In July 2008, we signed a long-term agreement to purchase recombinant human growth hormone, or hGH, for ALTU-238 for development and commercialization. The agreement was signed with Sandoz GmbH, a Novartis company. Sandoz supplied hGH for Altus completed Phase Ic clinical trial in healthy adults and the Phase 2 clinical trial in adults with growth hormone deficiency. In connection with this agreement, we are required to provide Sandoz with a forecast of our hGH requirements for the next three calendar years. Under the terms of the agreement, we are obligated to purchase all of the hGH forecasted for the first calendar year and 50% of the hGH forecasted for the second calendar year. We are not obligated to purchase any of the hGH forecasted for the third calendar year. As of December 31, 2008 our minimum contractual obligation to Sandoz under the terms of the agreement was $4.8 million and $2.4 million for 2009 and 2010, respectively, based on the foreign currency exchange rate at December 31, 2008.

Trizytek

Amano

Amano Enzyme, Inc., or Amano, manufactured the clinical supplies of the crystallized and cross-linked lipase, the crystallized protease, and the amylase enzymes that comprise the APIs for Trizytek.

Amano has built a plant near Nagoya, Japan to produce the enzymes for Trizytek in large-scale batches using microbial fermentation. The plant has not been inspected or approved by the FDA, EMEA or the Japanese Ministry of Health, Labour and Welfare. Amano supplied the APIs for Trizytek for the non-clinical and clinical trials to date. We used a third party, Patheon Inc., to perform fill, finish and packaging services for Trizytek.

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Under the terms of our original agreement with Amano, each party contributed technology used for the production of the APIs in Trizytek. Each party owns intellectual property created solely by it, and jointly owns any intellectual property created jointly. In connection with our entry into the agreement with Lonza Ltd., or Lonza, described below, Amano has agreed to transfer technology relating to Trizytek to Lonza. On December 20, 2007, we and Amano entered into an additional agreement. Under this agreement, Amano granted to us a royalty-bearing license to technology owned by Amano to manufacture proteins in bulk form for use by us in preparing the supply of Trizytek for clinical and commercial purposes. We sublicensed this technology to CFFTI as part of the License Agreement we entered into with CFFTI on February 20, 2009.

Lonza

In November 2006, we entered into a six-year manufacturing and supply agreement with Lonza for the manufacturing and supply of commercial quantities of the crystallized and cross-linked lipase, the crystallized protease and the amylase enzymes that comprise the APIs for Trizytek. This agreement provides for the transfer of manufacturing technology to Lonza, the installation of specialized manufacturing equipment for the manufacturing process, the validation of the manufacturing facility, and the supply of these enzymes for commercial purposes. We planned to continue to use a third party to perform fill, finish and packaging services for the commercial supply of Trizytek.

Under the agreement, Lonza agreed to manufacture the APIs in accordance with defined specifications and applicable cGMP and international regulatory requirements. Subject to customary notice, reservation and forecasting procedures, Lonza agreed to reserve capacity at its facility for supply of the APIs that we believed would meet our needs for APIs for use in the commercial launch of Trizytek. We were to provide binding purchase orders to Lonza annually, and we have committed to purchase a specified number of batches, and a specified percentage of our requirements, from Lonza during specified periods. As of December 31, 2008, our total commitment to Lonza related to our binding purchase order is approximately $4.5 million. However, if Lonza was unable to meet specified production and delivery requirements, we would have the right to reduce payments or engage third-party suppliers, depending on the extent of the shortfall. If Lonza built or acquired more capacity for the manufacture of the APIs, we agreed to use commercially reasonable efforts to purchase additional batches of the APIs from Lonza.

The agreement is subject to automatic renewal at the expiration of its six-year term for successive two year terms unless we provide Lonza with notice prior to expiration of each term of our decision to terminate. Each party has the right to terminate the agreement upon the occurrence of an uncured material breach or the bankruptcy of the other party. We have the right to terminate the agreement in the event that we cease development or commercialization of Trizytek due to toxicity, efficacy or other technical or business considerations, in which case we must make a payment to Lonza if we have not already purchased from Lonza a specified value of APIs. Lonza has the right to terminate the agreement in the event that we do not order a defined quantity of enzymes for delivery from the capacity reserved for us by Lonza for the production of Trizytek. Lonza also has the right to terminate the agreement if we fail to arrange for the delivery of certain materials and technology that are necessary for Lonza to manufacture the enzymes in accordance with the specifications for production.

As a result of our discontinuation of the Trizytek program, we are evaluating our options regarding the agreement with Lonza.

Competition

Our major competitors are pharmaceutical and biotechnology companies in the United States and abroad that are actively engaged in the discovery, development and commercialization of products to treat gastrointestinal and metabolic disorders. Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future.

Many of the entities developing and marketing potentially competing products have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing than we do. These entities also compete with us in

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recruiting and retaining qualified scientific and management personnel, as well as in acquiring technologies complementary to our programs.

Our commercial opportunity will be reduced or eliminated if our competitors develop and commercialize products that are more effective, have fewer side effects, are more convenient or are less expensive than any products that we may develop. In addition, our ability to compete may be affected because in some cases insurers and other third-party payors seek to encourage the use of generic products. This may have the effect of making branded products less attractive, from a cost perspective, to buyers.

If our clinical-stage product candidates are approved for commercial sale, they will compete with currently marketed drugs and potentially with drug candidates currently in development for the same indications, including the following:

ALTU-238. If approved, ALTU-238, the product candidate we are developing as a once-weekly treatment for hGH deficiency and related disorders, will compete with approved hGH therapies from companies such as BioPartners, Eli Lilly, Genentech, Novo Nordisk, Pfizer, Sandoz, Serono and Teva Pharmaceutical Industries. In addition, we understand that ALTU-238 may compete with product candidates in clinical development from some of these companies and from others, including LG Life Sciences, which is developing a long-acting hGH therapy based on an encapsulated microparticle technology, and Ambrx Inc., which is also developing a long-acting hGH therapy in conjunction with Serono.

ALTU-237. If approved, ALTU-237, the product candidate we are developing for the treatment of hyperoxalurias, may compete with products in development at companies such as Amsterdam Molecular Therapeutics, Medix, NephroGenex, and OxThera.

We believe that the key differentiating elements affecting the success of our product candidates are likely to be their convenience of use and efficacy and safety profile compared to other therapies.

Intellectual Property

We actively seek patent protection for the proprietary technology that we consider important to our business, including compounds, compositions and formulations, their methods of use and processes for their manufacture. In addition to seeking patent protection in the United States, we generally file patent applications in Canada, Europe, Japan and additional countries on a selective basis in order to further protect the inventions that we consider important to the development of our business worldwide. We also rely on trade secrets, know-how, continuing technological innovation and in-licensing opportunities to develop and maintain our proprietary position. Our success depends in part on our ability to obtain and maintain proprietary protection for our product candidates, technology and know-how, to operate without infringing the proprietary rights of others, and to prevent others from infringing our proprietary rights.

Our patent portfolio includes patents and patent applications with claims relating to protein crystals, both cross-linked and non-cross-linked, as well as compositions of specific protein crystals, such as lipase and hGH, and methods of making and using these compositions. In addition, we currently have patent applications relating to compositions and formulations containing both cross-linked and non-cross-linked protein crystals and patent applications relating to some of our later stage pipeline products.

As of December 31, 2008, our patent estate on a worldwide basis includes 14 patents issued in the United States and 43 issued in other countries, many of which are foreign counterparts of our United States patents, as well as more than 100 pending patent applications, with claims covering all of our product candidates.

We have pending United States patent applications relating to ALTU-238, which if issued as patents, would expire between 2019 and 2027, and include claims relating to hGH crystals with an extended release profile and methods of treating hGH deficiency associated disorders using such hGH crystals. We also have pending foreign patent applications relating to ALTU-238, which if issued as patents, would expire between 2019 and 2027.

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Five of our United States patents, which have claims covering cross-linked protein or enzyme crystals and methods of using those crystals in enzyme and oral protein therapy and methods of making cross-linked crystals with controlled dissolution properties, also relate to ALTU-237. These patents expire between 2014 and 2017. Additionally, we have two pending United States patent applications relating to ALTU-237, which if issued as patents, would expire between 2026 and 2027. Some of these applications include claims covering specific oxalate degrading enzyme formulations, methods of making formulations, and methods of treatment using these formulations.

Four of our issued United States patents, expiring between 2014 and 2016, relate to Trizytek and have claims covering cross-linked protein crystals, cross-linked enzyme crystals and methods of using those crystals in enzyme and oral protein therapy. We also have five pending United States patent applications relating to Trizytek, which if issued as patents, would expire between 2017 and 2025. Some of these applications include claims covering a combination of lipase, protease and amylase in specific formulations and methods of treatment using these formulations. We also have 38 issued foreign patents, expiring between 2011 and 2021, relating to Trizytek and pending foreign patent applications, which if issued as patents, would expire between 2011 and 2025. Our U.S. patents and patent applications and foreign counterparts solely relating to lipase, amylase and protease, including Trizytek, have been assigned to CFFTI and certain other patents have been licensed to CFFTI.

Our patent estate includes patent applications relating to some of our other product candidates. These patent applications, assuming they issue as patents, would expire between 2021 and 2024. We also have eight other issued United States patents and various foreign counterparts that relate to cross-linked protein crystal biosensors, methods of using cross-linked crystals of thermolysin as a catalyst, stabilized protein crystals, protein crystal formulations as catalysts in organic solvents and cross-linked glycoprotein crystals.

We hold an exclusive, royalty-free, fully-paid license from Vertex to patents relating to cross-linked enzyme crystals, including the four issued United States patents relating to Trizytek and ALTU-237 and two other issued United States patents relating to biosensors and thermolysin, as well as to a number of corresponding foreign patents and patent applications and know-how, including improvements developed by Vertex or its collaborators through February 2004. Under this license, Vertex retains non-exclusive rights to use the licensed Vertex patents and know-how to develop and commercialize small molecule drugs for human or animal therapeutic uses. We also granted to Vertex a non-exclusive, royalty-free, fully-paid license, under our patents and know-how with respect to cross-linked protein crystals that we have acquired, developed or licensed through February 2004, for Vertex s use in small molecule drug development and commercialization for human or animal therapeutic uses. The licenses with respect to patents, unless otherwise terminated earlier for cause, terminate on a country-by-country basis upon the expiration of each patent covered by the license.

We also have rights to specified technology developed by Amano under our cooperative development agreement with Amano, as described above under the section entitled Manufacturing.

Individual patents extend for varying periods depending on the effective date of filing of the patent application or the date of patent issuance, and the legal term of the patents in the countries in which they are obtained. Generally, patents issued in the United States are effective for:

- the longer of 17 years from the issue date or 20 years from the earliest effective filing date, if the patent application was filed prior to June 8, 1995; and
- 20 years from the earliest effective filing date, if the patent application was filed on or after June 8, 1995.

The term of foreign patents varies in accordance with provisions of applicable local law, but typically is 20 years from the earliest effective filing date. In addition, in some instances, a patent term in the United States and outside of the

United States can be extended to recapture a portion of the term effectively lost as a result of the health authority regulatory review period. These extensions, which may be as long as five years, are directed to the approved product and its approved indications. We intend to seek such extensions as appropriate.

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The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. Our ability to maintain and solidify our proprietary position for our technology will depend on our success in obtaining effective claims and enforcing those claims once granted. We do not know whether any of our patent applications or those patent applications that are licensed to us will result in the issuance of any patents or if issued will assist our business. Our issued patents and those that may issue in the future, or those licensed to us, may be challenged, invalidated or circumvented. This could limit our ability to stop competitors from marketing related products and reduce the length of term of patent protection that we may have for our products. In addition, the rights granted under any of our issued patents may not provide us with proprietary protection or competitive advantages against competitors with similar technology. Our competitors may develop similar technologies, duplicate any technology developed by us, or use their patent rights to block us from taking the full advantage of the market. Because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that a related patent may remain in force for a short period following commercialization, thereby reducing the advantage of the patent to our business and products.

In addition to patents, we may rely, in some circumstances, on trade secrets to protect our technology. However, trade secrets are difficult to protect. We seek to protect the trade secrets in our proprietary technology and processes, in part, by entering into confidentiality agreements with commercial partners, collaborators, employees, consultants, scientific advisors and other contractors and into invention assignment agreements with our employees and some of our commercial partners and consultants. These agreements are designed to protect our proprietary information and, in the case of the invention assignment agreements, to grant us ownership of the technologies that are developed. These agreements may be breached, and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors.

Many of our employees, consultants and contractors have worked for others in the biotechnology or pharmaceutical industries. We try to ensure that, in their work for us, they do not use the proprietary information or know-how of others. To the extent that our employees, consultants or contractors use proprietary information owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

Government Regulation and Product Approval

Government authorities in the United States, at the federal, state and local level, and other countries extensively regulate, among other things, the research, development, testing, manufacture, labeling, packaging, promotion, storage, advertising, distribution, marketing and export and import of products such as those we are developing.

United States Government Regulation

In the United States, the information that must be submitted to the FDA in order to obtain approval to market a new drug varies depending on whether the drug is a new product whose safety and effectiveness has not previously been demonstrated in humans or a drug whose active ingredients and some other properties are the same as those of a previously approved drug. A new drug will follow the NDA route and a new biologic will follow the biologic license application, or BLA, route.

NDA and BLA Approval Processes

In the United States, the FDA regulates drugs and some biologics under the FDCA, and in the case of the remaining biologics, also under the Public Health Service Act, and implementing regulations. Failure to comply with the applicable United States requirements at any time during the product development process, approval process or after approval, may subject an applicant to administrative or judicial sanctions. These sanctions could include:

the FDA s refusal to approve pending applications;

license suspension or revocation;

withdrawal of an approval;

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a clinical hold;

warning letters;

product recalls;

product seizures;

total or partial suspension of production or distribution; or

injunctions, fines, civil penalties or criminal prosecution.

Any agency or judicial enforcement action could have a material adverse effect on us. The process of obtaining regulatory approvals and the subsequent substantial compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources.

The process required by the FDA before a drug or biologic may be marketed in the United States generally involves the following:

completion of nonclinical laboratory tests according to good laboratory practice regulations, or GLP;

submission of an investigational new drug application, or IND, which must become effective before human clinical trials may begin;

performance of adequate and well-controlled human clinical trials according to good clinical practices, or GCP, to establish the safety and efficacy of the proposed drug for its intended use;

submission to the FDA of an NDA or BLA;

satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with cGMP to assure that the facilities, methods and controls are adequate to preserve the drug s identity, strength, quality and purity or to meet standards designed to ensure the biologic s continued safety, purity and potency; and

FDA review and approval of the NDA or BLA.

Once a pharmaceutical candidate is identified for development, it enters the preclinical testing stage. Preclinical tests include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information and analytical data, to the FDA as part of the IND. Some preclinical or non-clinical testing may continue even after the IND is submitted. In addition to including the results of the preclinical studies, the IND will also include a protocol detailing, among other things, the objectives of the first phase of the clinical trial, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated if the first phase lends itself to an efficacy determination. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, specifically places the clinical trial on clinical hold. The FDA can also place a trial on clinical hold at any time after it commences. In these cases, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin or resume.

All clinical trials must be conducted under the supervision of one or more qualified investigators in accordance with GCP regulations. These regulations include the requirement that all research subjects provide informed consent. Further, an Institutional Review Board, or IRB, at each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution. Each new clinical protocol must be submitted to the FDA as part of the IND. Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur.

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Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

Phase I: The drug is initially introduced into healthy human subjects or patients with the disease and tested for safety, dosage tolerance, pharmacokinetics, pharmacodynamics, absorption, metabolism, distribution and excretion. In the case of some products for severe or life-threatening diseases, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.

Phase II: Involves studies in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.

Phase III: Clinical trials are undertaken to further evaluate dosage, clinical efficacy and safety in an expanded patient population at geographically dispersed clinical study sites. These studies are intended to establish the overall risk-benefit ratio of the product and provide, if appropriate, an adequate basis for product labeling.

Phase I, Phase II and Phase III testing may not be completed successfully within any specified period, if at all. The FDA or an IRB or the sponsor may suspend or terminate a clinical trial at any time for various reasons, including a finding that the research subjects or patients are being exposed to an unacceptable health risk.

Concurrent with clinical trials, companies usually complete additional animal studies and must also must develop additional information about the chemistry and physical characteristics of the drug and finalize a process for manufacturing the product in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and the manufacturer must develop methods for testing the quality, purity and potency of the final drugs. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf-life.

The results of product development, preclinical studies and clinical studies, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, results of chemical studies and other relevant information are submitted to the FDA as part of an NDA or BLA requesting approval to market the product. The submission of an NDA or BLA is subject to the payment of user fees, but a waiver of such fees may be obtained under specified circumstances. The FDA reviews all NDAs and BLAs submitted before it accepts them for filing. It may request additional information rather than accept an NDA or BLA for filing. In this event, the NDA or BLA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing.

Once the submission is accepted for filing, the FDA begins an in-depth review. The FDA may refuse to approve an NDA or BLA if the applicable regulatory criteria are not satisfied or may require additional clinical or other data. Even if such data is submitted, the FDA may ultimately decide that the NDA or BLA does not satisfy the criteria for approval. The FDA reviews an NDA to determine, among other things, whether a product is safe and effective for its intended use and whether its manufacture is cGMP-compliant to assure and preserve the product s identity, strength, quality and purity. The FDA reviews a BLA to determine, among other things whether the product is safe, pure and potent and the facility in which it is manufactured, processed, packaged or held meets standards designed to assure the product s continued safety, purity and potency. Before approving an NDA or BLA, the FDA will inspect the facility or facilities where the product is manufactured and tested.

Satisfaction of FDA requirements or similar requirements of state, local and foreign regulatory authorities typically takes at least several years and the actual time required may vary substantially, based upon, among other things, the

type, complexity and novelty of the product or disease. Government regulation may delay or prevent marketing of potential products for a considerable period of time and impose costly procedures upon our activities. Success in early stage clinical trials does not assure success in later stage clinical trials. Data obtained from clinical activities are not always conclusive and may be susceptible to varying interpretations, which could delay, limit or prevent regulatory approval. The FDA may not grant approval on a timely basis, or

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at all. Even if a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited which could restrict the commercial application of the products. Further, even after regulatory approval is obtained, later discovery of previously unknown problems with a product may result in restrictions on the product or even complete withdrawal of the product from the market. Delays in obtaining, or failures to obtain regulatory approvals for any drug candidate could substantially harm our business and cause our stock price to drop significantly. In addition, we cannot predict what adverse governmental regulations may arise from future United States or foreign governmental action.

Expedited Review and Approval

The FDA has various programs, including fast track, priority review and accelerated approval, that are intended to expedite or simplify the process for reviewing drugs and provide for approval on the basis of surrogate endpoints. Even if a drug qualifies for one or more of these programs, the FDA may later decide that the drug no longer meets the conditions for qualification or that the time period for FDA review or approval will be shortened. Generally, drugs that may be eligible for these programs are those for serious or life-threatening conditions, those with the potential to address unmet medical needs, and those that offer meaningful benefits over existing treatments. Fast track designation applies to the combination of the product and the specific indication for which it is being studied. Although fast track and priority review do not affect the standards for approval, the FDA will attempt to facilitate early and frequent meetings with a sponsor of a fast-track designated drug and expedite review of the application for a drug designated for priority review. Drugs that receive an accelerated approval may be approved on the basis of adequate and well-controlled clinical trials establishing that the drug product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit or on the basis of an effect on a clinical endpoint other than survival or irreversible morbidity. As a condition of approval, the FDA may require that a sponsor of a drug receiving accelerated approval perform post-marketing clinical trials.

Pediatric Exclusivity

The FDA Modernization Act of 1997 included a pediatric exclusivity provision that was extended by the Best Pharmaceuticals for Children Act of 2002. Pediatric exclusivity is designed to provide an incentive to manufacturers for conducting research about the safety of their products in children. Pediatric exclusivity, if granted, provides an additional six months of market exclusivity in the United States for new or currently marketed drugs. Under Section 505A of the FDCA, six months of market exclusivity may be granted in exchange for the voluntary completion of pediatric studies in accordance with an FDA-issued Written Request. The FDA may not issue a Written Request for studies on unapproved or approved indications where it determines that information relating to the use of a drug in a pediatric population, or part of the pediatric population, may not produce health benefits in that population.

We have not requested or received a Written Request for such pediatric studies, although we may ask the FDA to issue a Written Request for such studies in the future. To receive the six-month pediatric market exclusivity, we would have to receive a Written Request from the FDA, conduct the requested studies, and submit reports of the studies in accordance with a written agreement with the FDA or, if there is no written agreement, in accordance with commonly accepted scientific principles. The FDA may not issue a Written Request for such studies if we ask for one, and it may not accept the reports of the studies. The current pediatric exclusivity provision is scheduled to end on October 1, 2012, and it may not be reauthorized, or may be reauthorized in a more limited form.

Post-Approval Requirements

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory standards is not maintained or if problems occur after the product reaches the market. After approval, some types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject

to further FDA review and approval. In addition, the FDA may require testing and surveillance programs to monitor the effect of approved products that have been commercialized, and the FDA

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has the power to prevent or limit further marketing of a product based on the results of these post-marketing programs.

Any drug products manufactured or distributed by us pursuant to FDA approvals are subject to continuing regulation by the FDA, including, among other things:

- record-keeping requirements;
- reporting of adverse experiences with the drug;
- implementation of risk management plans and providing the FDA with updated safety and efficacy information;
- drug sampling and distribution requirements;
- notifying the FDA and gaining its approval of specified manufacturing or labeling changes;
- complying with certain electronic records and signature requirements; and
- complying with FDA promotion and advertising requirements.

Drug manufacturers and their subcontractors are required to register their manufacturing facilities with the FDA and some state agencies, and are subject to periodic unannounced inspections by the FDA and some state agencies for compliance with cGMP and other laws.

We rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of our products. Future FDA and state inspections may identify compliance issues at the facilities of our contract manufacturers that may disrupt production or distribution, or require substantial resources to correct.

From time to time, legislation is passed in Congress that could significantly change the statutory provisions governing the approval, manufacturing and marketing of products regulated by the FDA. In addition, FDA regulations and guidance are often revised or reinterpreted by the agency in ways that may significantly affect our business and our products. It is impossible to predict whether legislative changes will be enacted, or FDA regulations, guidance or interpretations changed or what the impact of such changes, if any, may be.

Foreign Regulation

In addition to regulations in the United States, we will be subject to a variety of foreign regulations governing clinical trials and commercial sale and distribution of our products. Whether or not we obtain FDA approval for a product, we must obtain approval by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the product in those countries. The approval process varies from country to country and the time may be longer or shorter than that required for FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country.

Under European Union regulatory systems, we may submit marketing authorization applications either under a centralized or decentralized procedure. The centralized procedure, which is compulsory for medicines produced by biotechnology and optional for those which are highly innovative, provides for the grant of a single marketing authorization that is valid for all European Union member states. The decentralized procedure provides for mutual recognition of national approval decisions. Under this procedure, the holder of a national marketing authorization may submit an application to the remaining member states. Within 90 days of receiving the applications and assessments

report each member state must decide whether to recognize approval. If a member state does not recognize the marketing authorization, the disputed points are eventually referred to the European Commission, whose decision is binding on all member states.

As in the United States, we may apply for designation of our products as orphan drugs for the treatment of specific indications in the European Union before the application for marketing authorization is made. Orphan drugs in the European Union enjoy economic and marketing benefits, including a 10-year market

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exclusivity period for the approved indication for the same or similar drug, unless another applicant can show that its product is safer, more effective or otherwise clinically superior to the orphan-designated product. For example, the EMEA has granted Trizytek orphan drug designation.

Reimbursement

Sales of biopharmaceutical products depend in significant part on the availability of coverage through third-party payment systems. We anticipate third-party payors will provide coverage and reimbursement for our products. It will be time consuming and expensive for us to seek coverage from third-party payors for newly-approved drugs, and the scope of such coverage might be more limited than the purposes for which the FDA approves the drug. Eligibility for coverage does not imply that any drug will be reimbursed in all cases or at a rate that would be sufficient to allow us to sell our products on a competitive and profitable basis. Interim payments for new drugs, if applicable, might not be sufficient to cover our costs, and such payment might not be made permanent. Reimbursement rates vary according to the use of the drug, the clinical setting in which it is used, and whether it is administered by a physician in connection with a specific service or procedure. Reimbursement rates may be based upon payments allowed for lower-cost products that are already covered; may be incorporated into unprofitable composite rates for other services; and may reflect budgetary constraints, political considerations, and imperfections in data affecting government-funded health care programs. Drug prices may be reduced by mandatory discounts or rebates imposed by third party payors. Third party payors often follow the coverage and reimbursement policies established by government-funded health care programs such as Medicare. As a result, Medicare coverage and reimbursement policies may affect the pricing and profitability of drugs whether or not Medicare beneficiaries are expected to comprise a significant portion of the patients using the drug.

The levels of revenues and profitability of biopharmaceutical companies may also be affected by the continuing efforts of government and third party payors to contain or reduce the costs of health care through various means. For example, in some foreign markets, pricing reimbursement or profitability of therapeutic and other pharmaceutical products is subject to governmental control. In Canada, this practice has led to lower priced drugs than in the United States. As a result, importation of drugs from Canada into the United States may result in reduced product revenues.

In the United States there have been, and we expect that there will continue to be, a number of federal and state proposals to implement governmental pricing reimbursement controls. The Medicare Prescription Drug and Modernization Act of 2003 imposed new requirements for the distribution and pricing of prescription drugs that may affect the marketing of our products, if we obtain FDA approval for those products. Under this law, Medicare was extended to cover a wide range of prescription drugs other than those directly administered by physicians in a hospital or medical office. Competitive regional private drug plans were authorized to establish lists of approved drugs, or formularies, and to negotiate rebates and other price control arrangements with drug companies. Proposals to allow the government to directly negotiate Medicare drug prices with drug companies, if enacted, might further constrain drug prices, leading to reduced revenues and profitability. While we cannot predict whether any future legislative or regulatory proposals will be adopted, the adoption of such proposals could have a material adverse effect on our business, financial condition and profitability.

In addition, in some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market.

Employees

We believe that our success will depend greatly on our ability to identify, attract and retain capable employees. As of December 31, 2008, we had 145 employees, of whom 30 held Ph.D. or M.D. degrees. The

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realignment that we announced on January 26, 2009 included a workforce reduction of approximately 75%, primarily in functions related to the Trizytek program as well as certain general and administrative positions. After the realignment, which we expect to be completed by the end of the first half of 2009, we will have approximately 34 employees, including approximately 22 in research and development positions and approximately 12 administrative and support positions. We believe that relations with our employees are good. None of our employees is represented under a collective bargaining agreement.

Available Information

Our principal executive offices are located at 333 Wyman Street, Waltham, MA 02451, and our telephone number is (781) 373-6000. Our website address is *www.altus.com*. The information contained on, or that can be accessed through, our website is not incorporated by reference into this report. We have included our website address as a factual reference and do not intend it to be an active link to our website. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports, are available to you free of charge through the Investor Relations section of our website as soon as reasonably practicable after such materials have been electronically filed with, or furnished to, the Securities and Exchange Commission, or the SEC. The public may read and copy any materials that we file with the SEC at the SEC s Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site (http://www.sec.gov) that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC.

ITEM 1A. *RISK FACTORS*

Our business is subject to numerous risks. We cannot assure investors that our assumptions and expectations about our business will prove to have been correct. Important factors could cause our actual results to differ materially from those indicated or implied by forward-looking statements. Such factors that could cause or contribute to such differences include those factors discussed below.

Our existing and potential stockholders should consider carefully the risks described below and the other information in this Annual Report, including under the heading Forward-Looking Statements and Risk Factors , our Management s Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and the related notes. We may be unable, for many reasons, including those that are beyond our control, to implement our current business strategy. The following risks may result in material harm to our business, our financial condition and our results of operations. In that event, the market price of our common stock could decline.

Except as required by law, we do not undertake any obligation to update or revise any forward-looking statements contained in this Annual Report, whether as a result of new information, future events, or otherwise.

Risks Related to Our Business and Strategy

If we fail to obtain the additional capital necessary to fund our operations, we will be unable either to successfully develop and commercialize our product candidates or to finance the discovery and development of our next generation of product candidates.

Due to financial constraints, we recently discontinued development of Trizytek, our late-stage clinical candidate. We will require substantial future capital in order to complete the development and commercialization of our remaining clinical-stage product candidates, ALTU-238 and ALTU-237, and to conduct the research and development and clinical and regulatory activities necessary to bring our early stage research products and product candidates into clinical development. At this time, we have made a decision to allocate our financial, capital and human resources to

ALTU-238, are evaluating the feasibility of moving forward our

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early-stage clinical and pre-clinical programs and will make future decisions on these programs depending upon the availability of resources. Our future capital requirements will depend on many factors, including:

- the results of our Phase II pediatric clinical trial for ALTU-238 that we plan to begin in March 2009 and the results and costs of future clinical trials for ALTU-238 that we may initiate;
- any further non-clinical or clinical studies we may initiate based on the results of our Phase I clinical trial for ALTU-237 or discussions with regulatory authorities;
- the actual expenses of discontinuing the Trizytek program, including any contractual termination payments we are required to make;
- the timing, progress and results of ongoing manufacturing development work for ALTU-238;
- the results of our preclinical studies and testing for our early stage research products and product candidates, and any decisions to initiate clinical trials;
- the costs, timing and outcome of regulatory review of our product candidates in clinical development, and any of our preclinical product candidates that progress to clinical trials;
- the cost of obtaining clinical and commercial supplies of active pharmaceutical ingredients, or APIs, and finished drug product in sufficient quantities for clinical development and any commercial launch;
- the costs of establishing commercial operations, including commercial manufacturing and distribution arrangements and sales, marketing and medical affairs functions, should any of our product candidates be approved and we participate in the launch;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our issued patents, seeking freedom to operate under any third party intellectual property rights, and defending intellectual property-related claims;
- our ability to establish and maintain collaborative or financing arrangements and obtain milestone, royalty and other payments from collaborators or third parties;
- the costs associated with our realignment plan, including termination of contractual obligations and facility-related costs; and
- the extent to which we acquire or invest in new businesses, products or technologies.

Additional funds may not be available when we need them on terms that are acceptable to us, or at all. If adequate funds are not available to us on a timely basis, or we decide it is necessary to preserve existing resources, we may find it necessary or appropriate to:

- stage, terminate or delay preclinical studies, clinical trials or other development activities for one or more of our product candidates; or
- delay our establishment of sales, marketing, medical affairs and commercial operations capabilities or other activities that may be necessary to commercialize our product candidates.

Our independent registered public accounting firm has included a going concern explanatory paragraph in its report for fiscal year ended December 31, 2008. This indicates that our recurring losses from operations and current lack of sufficient funds to sustain operations through the end of the following fiscal year raise substantial doubt about our ability to continue as a going concern. Our consolidated financial statements have been prepared on the basis of a going concern, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. If we became unable to continue as a going concern, we would have to liquidate our assets and might receive significantly less than the values at which they are carried on our consolidated financial statements. Any shortfall in the proceeds from the liquidation of our assets would directly reduce the amounts, if any, that holders of our common stock could receive in liquidation.

To remain a going concern, significant funding would be required. Our available funds will not be sufficient to fund the completion of the development and commercialization of any of our product candidates,

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including ALTU-238. We currently expect that our existing capital resources will be sufficient to maintain our current and planned operations into the fourth quarter of 2009. In addition, our operating plan may change as a result of many factors, including factors currently unknown to us, and we may need additional funds sooner than the end of 2009 and may seek such funds prior to that time. We are funding all costs related to the development ALTU-238 and cannot defer or avoid such expenses unless we delay or curtail the program, or we enter into a new collaboration agreement or secure alternative funding to support the development of ALTU-238. The failure to obtain additional financing or enter into a new collaboration could lead to a delay in or discontinuation of further development of ALTU-238. The inclusion of a going concern explanatory paragraph in the audit report of our registered public accounting firm for fiscal 2008 may materially and adversely affect our ability to raise new capital.

We are obligated under the terms of our redeemable preferred stock held by Vertex Pharmaceuticals Incorporated to make a significant payment upon the occurrence of a specified event. We may not have sufficient resources to make this payment when it becomes due.

If Vertex Pharmaceuticals Incorporated, or Vertex, the holder of our redeemable preferred stock, elects to redeem those shares on or after December 31, 2010, we will be required to pay an aggregate of $7.2 million plus dividends accrued after that date. We may require additional funding to make this payment. Funds for this purpose may not be available to us on favorable terms, or at all.

We may have contractual liabilities in connection with our discontinuation of the Trizytek program.

We have significant contractual obligations that we entered into with third parties for the Trizytek program. In connection with our discontinuation of this program and our new License Agreement with CFFTI, CFFTI may assume certain, but not all, of these obligations. In the case where CFFTI does not assume these obligations, we will need to negotiate a termination of these obligations with the third parties, which may involve the payment of termination fees or costs. For example, we have the right to terminate our agreement with Lonza in the event that we cease development or commercialization of Trizytek due to toxicity, efficacy or other technical or business considerations, in which case we must make a payment to Lonza if we have not already purchased from Lonza a specified value of APIs, which payment could be substantial.

We have a history of net losses, which we expect to continue for at least several years and, as a result, we are unable to predict the extent of any future losses or when, if ever, we will achieve, or be able to maintain, profitability.

We have incurred significant losses since 1999, when we were reorganized as a company independent from Vertex. At December 31, 2008, our accumulated deficit was $335.7 million, and we expect to continue to incur losses for at least the next several years. We have only been able to generate limited amounts of revenue from license and milestone payments under collaboration agreements, and payments for funded research and development, as well as revenue from products we no longer sell. Although our realignment of operations to focus on the development of ALTU-238 will result in a reduction in our annual research and development spending, we expect to continue to incur net operating losses for the next several years.

We must generate significant revenue to achieve and maintain profitability. All of our product candidates are still in development. Even if we succeed in developing and commercializing one or more of our product candidates, we may not be able to generate sufficient revenue to achieve or maintain profitability. Our failure to become and remain profitable would depress the market price of our common stock and could impair our ability to raise capital, expand our business, diversify our product offerings or continue our operations.

Raising additional capital by issuing securities or through collaboration and licensing arrangements may cause dilution to existing stockholders, restrict our operations or require us to relinquish proprietary rights.

We may seek the additional capital necessary to fund our operations through public or private equity offerings, debt financings, or collaboration and licensing arrangements. To the extent that we raise additional

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capital through the sale of equity or convertible debt securities, existing stock ownership interests will be diluted, such dilution will in all likelihood be substantial, and the terms of such securities may include liquidation or other preferences that adversely affect the rights of our existing stockholders. In addition, many of the warrants that we have issued contain provisions that result in the reduction of the exercise price per share of such warrants to the extent we issue or are deemed to issue equity at a per share price less than the current exercise price of the warrants. At December 31, 2008, we had 3,095,606 such warrants outstanding, of which 1,962,494 warrants expired unexercised on February 1, 2009. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take actions such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaboration and licensing arrangements with third parties, we may have to relinquish valuable development and commercialization rights to our technologies or product candidates, or grant licenses on terms that are not favorable to us.

In order to fund our operations in the future, we may need to comply with NASDAQ Marketplace Rules that require stockholder approval of certain financings, which may limit our ability to raise sufficient capital.

The NASDAQ Marketplace Rules require us to obtain stockholder approval under certain circumstances if we issue outstanding equity securities that would comprise more than 20% of our total shares of common stock outstanding before the issuance of the securities. In order to fund our operations in the future, we may need to obtain stockholder approval in order to comply with these rules, and we may not be successful in obtaining any such stockholder approval. If we failed to obtain such an approval prior to a financing, our funding options would be limited, which would adversely affect our ability to successfully develop and commercialize our product candidates or to finance the discovery and development of our next generation of product candidates.

Our competitors may develop products that are less expensive, safer or more effective, which may diminish or prevent the commercial success of any product candidate that we bring to market.

Competition in the pharmaceutical and biotechnology industries is intense. We face competition from pharmaceutical and biotechnology companies, as well as numerous academic and research institutions and governmental agencies engaged in drug discovery activities, both in the United States and abroad. Some of these competitors have greater financial resources than we do, greater experience in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing than we do, and have products or are pursuing the development of product candidates that target the same diseases and conditions that are the focus of our drug development programs, including those set forth below.

ALTU-238. If approved, ALTU-238, the product candidate we are developing as a once-weekly treatment for human growth hormone, or hGH, deficiency and related disorders, will compete with existing approved hGH therapies from companies such as BioPartners, Eli Lilly, Genentech, Merck Serono, Novo Nordisk, Pfizer, Sandoz, and Teva Pharmaceutical Industries. In addition, we understand that ALTU-238 may compete with product candidates in clinical development from some of these companies and others, including LG Life Sciences, which is developing a long-acting hGH therapy based on an encapsulated microparticle technology, and Ambrx Inc., which is also developing a long-acting hGH therapy in conjunction with Serono.

*ALTU-*237. If approved, ALTU-237, the product candidate we may further develop for the treatment of hyperoxalurias, depending on the availability of funding, may compete with product candidates in development at companies such as Amsterdam Molecular Therapeutics, Medix, NephroGenex, and OxThera.

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We may not be successful in establishing and maintaining collaborations on acceptable terms, which could adversely affect our ability to develop and commercialize our products.

An element of our business strategy is to establish collaborative arrangements with third parties with regard to development, regulatory approval, sales, marketing and distribution of our products. We may collaborate with other companies to accelerate the development of some of our early-stage product candidates, to develop and commercialize or co-commercialize our more mature product candidates or to advance other business objectives. The process of establishing new collaborative relationships is difficult, time-consuming and involves significant uncertainty. We face, and will continue to face, significant competition in seeking appropriate collaborators. Moreover, if we do establish collaborative relationships, our collaborators may fail to fulfill their responsibilities or seek to renegotiate or terminate their relationships with us due to unsatisfactory clinical results, a change in business strategy, a change of control or other reasons. In the event of a termination, we may incur termination payments or other expenses in connection with any reacquisition of rights. For example, in connection with the termination of our collaboration with Genentech for ALTU-238, we became solely responsible for all expenses in connection with the ALTU-238 program. If we are unable to establish and maintain collaborative relationships on acceptable terms, we may have to delay or discontinue further development of one or more of our product candidates, undertake development and commercialization activities at our own expense or find alternative sources of funding.

If we enter into new collaborative agreements, our collaborators and we may not achieve our projected research and development goals in the time frames we announce and expect, which could have an adverse impact on our business and could cause our stock price to decline.

If we enter into new collaborative agreements for our product candidates, we expect to set goals for and make public statements regarding the timing of activities, such as the commencement and completion of preclinical studies and clinical trials, anticipated regulatory approval dates and developments and milestones under those collaboration agreements. The actual timing of such events can vary dramatically due to a number of factors such as delays or failures in our or our collaborators preclinical studies or clinical trials, delays or failures in manufacturing process development activities or in manufacturing product candidates, the amount of time, effort and resources to be committed to our programs by our future collaborators, delays in filing for regulatory approval, and the uncertainties inherent in the regulatory approval process, including delays in obtaining regulatory approval. We cannot be certain that our or our collaborators preclinical studies and clinical trials will advance or be completed in the time frames we announce or expect, that our collaborators or we will make regulatory submissions or receive regulatory approvals as planned or that our collaborators or we will be able to adhere to our current schedule for the achievement of key milestones under any of our internal or collaborative programs. If our collaborators or we fail to achieve one or more of these milestones as planned, our business will be materially adversely affected and the price of our common stock could decline.

Risks Related to Development of Our Product Candidates

If we, or if we enter into future collaborative agreements, our collaborators, are unable to commercialize our lead product candidates, or experience significant delays in doing so, our business will be materially harmed.

We have invested a significant portion of our time and financial resources to date in the development of oral and injectable crystallized protein therapies, including Trizytek (for which we have discontinued development), ALTU-238 and ALTU-237 (the development of which is on hold until sufficient additional funding can be secured), for the treatment of gastrointestinal and metabolic disorders. Our ability and the ability of a collaborative partner to develop and commercialize our current product candidates successfully, and therefore our ability to generate revenues, will depend on numerous factors, including:

successfully scaling up the manufacturing processes for our product candidates, successfully completing stability testing and release of our product candidates, and obtaining sufficient supplies of, our product candidates, in order to complete our clinical trials and toxicology studies on a timely basis;

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receiving marketing approvals from the FDA and foreign regulatory authorities;

arranging for commercial-scale supplies of our product candidates with contract manufacturers whose manufacturing facilities operate in compliance with current good manufacturing practice regulations, or cGMPs, including the need to scale up the manufacturing process for commercial scale supplies;

establishing sales, marketing and distribution capabilities on our own, through collaborative agreements or through third parties;

obtaining commercial acceptance of our product candidates, if approved, in the medical community and by third-party payors and government pricing authorities; and

establishing favorable pricing from foreign regulatory authorities.

If we are not successful in commercializing ALTU-238 or are significantly delayed in doing so, our business will be materially harmed.

Because our product candidates are in clinical development, there is a significant risk of failure.

Of the large number of drugs in development, only a small percentage result in the submission of an NDA to the FDA, and even fewer are approved for commercialization. We will only receive regulatory approval to commercialize a product candidate if we can demonstrate to the satisfaction of the FDA or the applicable foreign regulatory authority, in well-designed and controlled clinical trials, that the product candidate is safe and effective and otherwise meets the appropriate standards required for approval for a particular indication. Clinical trials are lengthy, complex and extremely expensive programs with uncertain results. A failure of one or more of our clinical trials may occur at any stage of testing. We have limited experience in conducting and managing the clinical trials necessary to obtain regulatory approvals, including approval by the FDA.

A number of events or factors, including any of the following, could delay the completion of our ongoing and planned clinical trials and negatively impact our ability to submit an NDA and obtain regulatory approval for, and to market and sell, a particular product candidate, including our clinical-stage product candidates:

conditions imposed by us or imposed on us by the FDA or any foreign regulatory authority regarding the scope or design of our clinical trials;

delays in obtaining, or our inability to obtain or maintain, required approvals from institutional review boards, or IRBs, or other reviewing entities at clinical sites selected for participation in our clinical trials;

negative or inconclusive results from clinical trials, or results that are inconsistent with earlier results, that necessitate additional clinical studies;

delays in the completion of manufacturing development work for our product candidates, and in collecting the necessary manufacturing information for submission of our marketing approval applications for our product candidates;

any dispute that arises under our current or future collaborative agreements or our agreements with third parties;

insufficient supply or deficient quality of our product candidates or other materials necessary to conduct our clinical trials;

difficulties enrolling subjects in our clinical trials, including, for example, finding pediatric subjects with hGH deficiency who have not previously received hGH therapy for our pediatric trials of ALTU-238;

serious or unexpected side effects experienced by subjects in clinical trials; or

failure of our third-party contractors or our investigators to comply with regulatory requirements or otherwise meet their contractual obligations to us in a timely manner.

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Delays in or inconclusive results from our clinical trials may result in increased development costs for our product candidates and corresponding delays in the filing of an NDA for product candidates and the receipt of marketing approval for the product candidate or discontinuation of a program, which could cause our stock price to decline and could limit our ability to obtain additional financing. For example, our stock price declined significantly following the announcement of the results of our Phase III clinical trial for Trizytek. In addition, we were unable to secure a corporate partnership for Trizytek following the announcement of such results and consequently decided to discontinue the Trizytek program. In addition, if one or more of our product candidates are delayed, our competitors may be able to bring products to market before we do, and the commercial advantage, profitability or viability of our product candidates, including our clinical-stage product candidates, could be significantly reduced.

We have not yet completed a full Phase III program for any of our product candidates in clinical development, other than for the Trizytek program, which was discontinued in January 2009, and we have not advanced, and may never advance, our product candidates that are currently in preclinical testing into clinical trials. Even if our trials are successful, we may still be required or may determine it is desirable to perform additional studies for approval or in order to achieve a broad indication for the labeling of the drug.

For the ALTU-238 program, we have completed Phase I clinical trials in healthy adults and a Phase II clinical trial in adults with hGH deficiency and have commenced a Phase II clinical trial in children with hGH deficiency. The efficacy of ALTU-238 has not yet been tested in a human clinical trial, and ALTU-238 may prove not to be clinically effective as an extended-release formulation of hGH. In addition, it is possible that patients receiving ALTU-238 will suffer additional or more severe side effects than we observed in our earlier Phase I and Phase II clinical trials, which could delay or preclude regulatory approval of ALTU-238 or limit its commercial use.

If we observe serious or other adverse events during the time our product candidates are in development or after our products are approved and on the market, we may be required to perform lengthy additional clinical trials, may be denied regulatory approval of such products, may be forced to change the labeling of such products or may be required to withdraw any such products from the market, any of which would hinder or preclude our ability to generate revenues.

As our clinical trials progress or increase in size or the medical conditions of the population in which we are testing our products vary, the potential for serious or other adverse events related or unrelated to our product candidates could vary and possibly increase. If the incidence of these events increases in number or severity, if a regulatory authority believes that these events constitute an adverse effect caused by the drug, or if other effects are identified either during future clinical trials or after any of our drug candidates are approved and on the market:

- we may be required to conduct additional preclinical or clinical trials, make changes in clinical trial brochures or, if a product is approved, make changes to the labeling of any such products, reformulate any such products, or implement changes to or obtain new approvals of our or our contractors or collaborators manufacturing facilities or processes;
- regulatory authorities may be unwilling to approve our product candidates or may withdraw approval of our products;
- we may experience a significant drop in the sales of the affected products;
- our reputation in the marketplace may suffer; and
- we may become the target of lawsuits, including class action suits.

Any of these events could prevent approval or harm sales of the affected products or could substantially increase the costs and expenses of commercializing and marketing any such products.

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We may fail to select or capitalize on the most scientifically, clinically or commercially promising or profitable indications or therapeutic areas for our product candidates.

We have limited technical, managerial and financial resources to determine the indications on which we should focus the development efforts related to our product candidates. We may make incorrect determinations. Our decisions to allocate our research, management and financial resources toward particular indications or therapeutic areas for our product candidates may not lead to the development of viable commercial products and may divert resources from better opportunities. Similarly, our decisions to delay or terminate drug development programs may also be incorrect and could cause us to miss valuable opportunities. For example, we have made a decision to allocate substantially all of our existing financial, capital and human resources to ALTU-238, and are evaluating the feasibility of moving forward our early-stage clinical and pre-clinical programs and will make future decisions on these programs depending upon the availability of resources. If we invest in the advancement of a candidate that proves not to be viable, we will have fewer resources available for potentially more promising candidates.

Risks Related to Regulatory Approval of Our Product Candidates and Other Government Regulations

If we or our future collaborators do not obtain required regulatory approvals, we will be unable to commercialize our product candidates, and our ability to generate revenue will be materially impaired.

ALTU-238, ALTU-237 and any other product candidates we may discover or acquire and seek to commercialize, either alone or in conjunction with a collaborator, are subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries relating to the testing, manufacture, safety, efficacy, recordkeeping, labeling, packaging, storage, approval, advertising, promotion, sale and distribution of drugs. In the United States and in many foreign jurisdictions, we must successfully complete rigorous preclinical testing and clinical trials and an extensive regulatory review process before a new drug can be sold. We have not obtained regulatory approval for any product. Satisfaction of these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays.

The time required to obtain approval by the FDA is unpredictable but typically takes many years following the commencement of clinical trials, depending upon numerous factors, including the complexity of the product candidate and the disease to be treated. Our product candidates may fail to receive regulatory approval for many reasons, including:

a failure to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a product candidate is safe and effective for a particular indication;

the results of clinical trials may not meet the level of statistical significance required by the FDA or other regulatory authorities for approval;

an inability to demonstrate that a product candidate s benefits outweigh its risks;

an inability to demonstrate that the product candidate presents an advantage over existing therapies;

the FDA s or comparable foreign regulatory authorities disagreement with the manner in which our collaborators or we interpret the data from preclinical studies or clinical trials;

the FDA s or comparable foreign regulatory authorities failure to approve the manufacturing processes or facilities of third-party contract manufacturers of clinical and commercial supplies; and

a change in the approval policies or regulations of, or the specific advice provided to us by, the FDA or comparable foreign regulatory authorities or a change in the laws governing the approval process.

The FDA or comparable foreign regulatory authorities might decide that the data are insufficient for approval and require additional clinical trials or other studies. Furthermore, even if we do receive regulatory approval to market a commercial product, any such approval may be subject to limitations on the indicated uses for which our collaborative partner or we may market the product or may be subject to post-approval commitments to conduct Phase IV studies, patient monitoring or other risk management measures that could

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require significant financial resources. It is possible that none of our existing or future product candidates will ever obtain the appropriate regulatory approvals necessary for us or our collaborators to begin selling them.

Failure to obtain regulatory approvals or to comply with regulatory requirements in foreign jurisdictions would prevent us or any collaborator from marketing our products internationally.

We intend to have our product candidates marketed outside the United States. In order to market products in the European Union and many other non-United States jurisdictions, our collaborators or we must obtain separate regulatory approvals and comply with numerous and varying regulatory requirements. We have no experience in obtaining foreign regulatory approvals for our product candidates. The approval procedures vary among countries and can involve additional and costly preclinical and clinical testing and data review. The time required to obtain approval in other countries may differ from that required to obtain FDA approval. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. We also face challenges arising from the different regulatory requirements imposed by United States and foreign regulators with respect to clinical trials. The EMEA often imposes different requirements than the FDA with respect to the design of a pivotal Phase III clinical trial. Our future collaborators or we may not receive necessary approvals to commercialize our products in any market. The failure to obtain these approvals could harm our business and result in decreased revenues from the sale of products or from milestones or royalties associated with any collaboration agreements we may enter into in the future.

Our product candidates will remain subject to ongoing regulatory requirements even if they receive marketing approval, and if we fail to comply with these requirements, we could lose these approvals, and the sales of any approved commercial products could be suspended.

Even if we receive regulatory approval to market a particular product candidate, the product will remain subject to extensive regulatory requirements, including requirements relating to manufacturing, labeling, packaging, adverse event reporting, storage, advertising, promotion, distribution and record keeping. In addition, the approval may be subject to limitations on the uses for which the product may be marketed or to the conditions of approval, or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product, which could reduce our revenues, increase our expenses and render the approved product candidate not commercially viable.

In addition, as clinical experience with a drug increases after approval because it is typically used by a larger and more diverse group of patients after approval than during clinical trials, side effects and other problems may be observed after approval that were not seen or anticipated during pre-approval clinical trials or other studies. Any adverse effects observed after the approval and marketing of a product candidate could result in limitations on the use of or withdrawal of any approved products from the marketplace. Absence of long-term safety data may also limit the approved uses of our products, if any. If we fail to comply with the regulatory requirements of the FDA and other applicable United States and foreign regulatory authorities, or previously unknown problems with any approved commercial products, manufacturers or manufacturing processes are discovered, we could be subject to administrative or judicially imposed sanctions or other setbacks, including:

- restrictions on the products, manufacturers or manufacturing processes;
- warning letters;
- civil or criminal penalties;
- fines;

injunctions;

product seizures or detentions;

import or export bans or restrictions;

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voluntary or mandatory product recalls and related publicity requirements;

suspension or withdrawal of regulatory approvals;

total or partial suspension of production; and

refusal to approve pending applications for marketing approval of new products or supplements to approved applications.

If we are slow to adapt, or are unable to adapt, to changes in existing regulatory requirements or adoption of new regulatory requirements or policies, we may lose marketing approval for our products when and if any of them are approved, resulting in decreased revenue from milestones, product sales or royalties. Moreover, even when a manufacturer has fully complied with applicable regulatory standards, products manufactured and distributed may ultimately fail to comply with applicable specifications, leading to product withdrawals or recalls.

We deal with hazardous materials and must comply with environmental laws and regulations, which can be expensive and restrict how we do business.

Our activities and those of our third-party manufacturers on our behalf involve the controlled storage, use and disposal of hazardous materials, including microbial agents, corrosive, explosive and flammable chemicals and other hazardous compounds. Our manufacturers and we are subject to federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of these hazardous materials. Although we believe that the safety procedures for handling and disposing of these materials comply with the standards prescribed by these laws and regulations, we cannot eliminate the risk of accidental contamination or injury from these materials.

In the event of an accident, state or federal authorities may curtail our use of these materials and interrupt our business operations. In addition, we could be liable for any resulting civil damages which may exceed our financial resources and may seriously harm our business. While we believe that the amount of insurance we currently carry, providing coverage of $1.0 million, should be sufficient for typical risks regarding our handling of these materials, it may not be sufficient to cover pollution conditions or other extraordinary or unanticipated events. Furthermore, an accident could damage, or force us to shut down, our operations. In addition, if we develop manufacturing capability, we may incur substantial costs to comply with environmental regulations and would be subject to the risk of accidental contamination or injury from the use of hazardous materials in our manufacturing process.

Risks Related to Our Dependence on Third Parties

We have no manufacturing capacity, and we have relied and expect to continue to rely on third-party manufacturers to produce our product candidates.

We do not own or operate manufacturing facilities for the production of clinical or commercial quantities of our product candidates or any of the compounds that we are testing in our preclinical programs, and we lack the internal resources and the capabilities to do so. As a result, we currently rely, and we expect to rely in the future, on third-party manufacturers to supply the APIs for our product candidates and to produce and package final drug products, if and when they are approved for marketing. Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates or products ourselves, including:

reliance on the third party for manufacturing process development, sourcing of key raw materials and specialized manufacturing equipment, regulatory compliance and quality assurance;

limitations on supply availability resulting from capacity and scheduling constraints of the third party;

the possible breach of the manufacturing agreement by the third party because of factors beyond our control; and

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the possible termination or non-renewal of the agreement by the third party, based on its own business priorities, at a time that is costly or inconvenient for us.

Our current and anticipated future dependence upon others for the manufacture of our product candidates may adversely affect our future profit margins and our ability to develop our product candidates and commercialize any products that receive regulatory approval on a timely basis.

We currently rely on a limited number of manufacturers for the clinical and commercial supply of each of our product candidates, which could delay or prevent the clinical development and commercialization of our product candidates.

We currently depend on single source suppliers for ALTU-238. Any disruption in production, inability of a supplier to produce adequate quantities of clinical and other material to meet our needs or other impediments could adversely affect our ability to successfully complete the clinical trials and other studies of our product candidates, delay submissions of our regulatory applications or adversely affect our ability to commercialize our product candidates in a timely manner, or at all.

We have purchased the hGH, the API in ALTU-238, for our prior and ongoing clinical trials from Sandoz GmbH, or Sandoz. We have also produced ALTU-238 for these trials and believe that the current scale of manufacturing is sufficient to support the planned Phase III program for ALTU-238 in both adult and pediatric growth hormone deficient patients. In July 2008, Sandoz and we entered into a long term supply agreement, which has an initial term expiring in 2012, with an optional two year extension period. Because we do not have another long term supplier of hGH in place, any disruption in Sandoz ability to supply us with hGH as needed would adversely affect the ALTU-238 program.

We have an agreement with Althea for Althea to use the hGH supplied to it to produce the clinical supplies for our planned clinical trials of ALTU-238. Any delay in the production, testing and release of ALTU-238 could delay our planned clinical trials and result in additional unforeseen expenses.

Our agreement with Althea covers only the manufacture of ALTU-238 for the planned clinical trials of ALTU-238. We will need to negotiate an additional agreement under which Althea would provide the commercial supply of ALTU-238 or find an alternative commercial manufacturer. Switching manufacturers would require cooperation with Althea, technology transfers, training, and validation of the alternative manufacturer s processes, and, under some circumstances, will require us to make a specified payment to Althea. Changes in manufacturing processes or procedures, including a change in the location where the drug is manufactured or a change of a third-party manufacturer, may require prior review and approval from the FDA and satisfaction of comparable foreign requirements. This review may be costly and time-consuming and could delay or prevent the launch of a product. If we are unable to secure another contract manufacturer for ALTU-238 at an acceptable cost, the commercialization of ALTU-238 could be delayed, prevented or impaired, and the costs related to ALTU-238 may increase. Any dispute over the terms of, or decisions regarding, our collaboration with Althea or other adverse developments in our relationship would materially harm our business and might accelerate our need for additional capital.

Our contract manufacturers may encounter difficulties or unforeseen expenses in connection with the commercial scale-up of manufacturing activities for our product candidates

We do not have any agreements in place to manufacture our product candidates, other than the API for ALTU-238, on a commercial scale. In order to commercialize ALTU-238, we, in conjunction with Althea, will need to scale up the manufacturing of ALTU-238 drug product. We may be required to fund capital improvements to support scale-up of

manufacturing and related activities. Althea may not be able to increase its manufacturing capacity and we may need to find an alternative supplier. In addition, Sandoz may discontinue its manufacturing of hGH, in which case we would need to find an alternative source. It may be difficult for us to enter into additional supply arrangements on a timely basis or on acceptable terms, which could delay or prevent our ability to commercialize ALTU-238.

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Any performance failure on the part of a contract manufacturer could delay clinical development or regulatory approval of our product candidates or commercialization of any approved products.

The failure of a contract manufacturer to achieve and maintain high manufacturing standards could result in patient injury or death, product liability claims, product recalls, product seizures or withdrawals, delays or failures in testing or delivery, cost overruns, failure of regulatory authorities to grant marketing approvals, delays, suspensions or withdrawals of approvals, injunctions, fines, civil or criminal penalties, or other problems that could seriously harm our business. Contract manufacturers may encounter difficulties involving production yields, quality control and quality assurance. These manufacturers are subject to ongoing periodic unannounced inspection by the FDA and corresponding state and foreign agencies which audit strict compliance with cGMP and other applicable government regulations and corresponding foreign standards. However, we or a future collaborator may have limited control over third-party manufacturers compliance with these regulations and standards. Present or future manufacturers might not be able to comply with cGMP and other FDA or international regulatory requirements.

We rely on third parties to conduct, supervise and monitor our clinical trials, and those third parties may not perform satisfactorily, including failing to meet established deadlines for the completion of such trials.

We rely on third parties such as contract research organizations, medical institutions and clinical investigators to enroll qualified patients and conduct, supervise and monitor our clinical trials. Our reliance on these third parties for clinical development activities reduces our control over these activities. Our reliance on these third parties, however, does not relieve us of our regulatory responsibilities, including ensuring that our clinical trials are conducted in accordance with good clinical practice regulations and the investigational plan and protocols contained in the IND. Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. In addition, they may not complete activities on schedule, or may not conduct our preclinical studies or clinical trials in accordance with regulatory requirements or our trial design. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, our efforts to obtain regulatory approvals for, and commercialize, our product candidates may be delayed or prevented.

Because we may enter into in the future sales or collaboration transactions, we may be dependent upon our collaborators, and we may be unable to prevent them from taking actions that may be harmful to our business or inconsistent with our business strategy.

Any future licensing and collaboration agreements that we may enter into with respect to our product development candidates may reduce or eliminate the control we have over the development and commercialization of our product candidates. Our future collaborators may decide to terminate a development program under circumstances where we might have continued such a program, or may be unable or unwilling to pursue ongoing development and commercialization activities as quickly as we would prefer. A collaborator may follow a different strategy for product development and commercialization that could delay or alter development and commercial timelines and likelihood of success. A collaborator may also be unwilling or unable to fulfill its obligations to us, including its development and commercialization responsibilities. Any future collaborators will likely have significant discretion in determining the efforts and level of resources that they dedicate to the development and commercialization of our product candidates. In addition, although we seek to structure our agreements with potential collaborators to prevent the collaborator from developing and commercializing a competitive product, we are not always able to negotiate such terms and the possibility exists that our collaborators may develop and commercialize, either alone, or with others or through an in-license or acquisition, products that are similar to or competitive with the products that are the subject of the collaboration with us. If any collaborator terminates its collaboration with us or fails to perform or satisfy its obligations to us, the development, regulatory approval or commercialization of our product candidate would be delayed or may not occur and our business and prospects could be materially and adversely affected. Likewise, if we fail to fulfill our obligations under a collaboration and license agreement, our collaborator

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may be entitled to damages, to terminate the agreement, or terminate or reduce its financial payment obligations to us under our collaborative agreement.

Our collaborations with outside scientists and consultants may be subject to restriction and change.

We work with chemists, biologists and other scientists at academic and other institutions, and consultants who assist us in our research, development, regulatory and commercial efforts. These scientists and consultants have provided, and we expect that they will continue to provide, valuable advice on our programs. These scientists and consultants are not our employees, may have other commitments that would limit their future availability to us and typically will not enter into non-compete agreements with us. If a conflict of interest arises between their work for us and their work for another entity, we may lose their services. In addition, we will be unable to prevent them from establishing competing businesses or developing competing products. For example, if a key principal investigator identifies a potential product or compound that is more scientifically interesting to his or her professional interests, his or her availability could be restricted or eliminated.

Risks Related to Commercialization of Our Product Candidates

If physicians and patients do not accept our future products, we may be unable to generate significant revenue, if any.

Even if we or a future collaborator receives regulatory approval for our product candidates, these product candidates may not gain market acceptance among physicians, healthcare payors, government pricing agencies, patients or the medical community. Physicians may elect not to recommend or patients may elect not to use these products for a variety of reasons, including:

- prevalence and severity of adverse side effects;
- ineffective marketing and distribution support;
- timing of market introduction of competitive products;
- lack of availability of, or inadequate reimbursement from managed care plans and other third-party or government payors;
- lower demonstrated clinical safety and efficacy compared to other products;
- other potential advantages of alternative treatment methods; and
- lack of cost-effectiveness or less competitive pricing.

If our approved drugs fail to achieve market acceptance, we will not be able to generate significant revenue, if any.

If the government and third-party payors fail to provide coverage and adequate payment rates for our future products, if any, our revenue and prospects for profitability will be harmed.

In both domestic and foreign markets, our sales of any future products will depend in part upon the availability of reimbursement from third-party payors. Such third-party payors include government health programs such as Medicare and Medicaid, managed care providers, private health insurers and other organizations. These third-party payors are increasingly attempting to contain healthcare costs by demanding price discounts or rebates and limiting

both coverage on which drugs they will pay for and the amounts that they will pay for new drugs. As a result, they may not cover or provide adequate payment for our drugs.

In the United States there have been, and we expect that there will continue to be, a number of federal and state proposals to implement governmental pricing reimbursement controls. The Medicare Prescription Drug and Modernization Act of 2003 imposed new requirements for the distribution and pricing of prescription drugs that may affect the marketing of our products, if we obtain FDA approval for those products. Under this law, Medicare was extended to cover a wide range of prescription drugs other than those directly administered by physicians in a hospital or medical office. Competitive regional private drug plans were authorized to

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establish lists of approved drugs, or formularies, and to negotiate rebates and other price control arrangements with drug companies. Proposals to allow the government to negotiate Medicare drug prices with drug companies directly, if enacted, might further constrain drug prices, leading to reduced revenues and profitability. While we cannot predict whether any future legislative or regulatory proposals will be adopted, the adoption of such proposals could have a material adverse effect on our business, financial condition and profitability.

Foreign governments tend to impose strict price controls on pharmaceutical products, which may adversely affect our revenues, if any.

In some foreign countries, particularly the countries of the European Union, Canada and Japan, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidate to other available therapies. In some countries, the pricing is limited by the pricing of existing or comparable therapies. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our ability to enter into collaborative development and commercialization agreements and our revenues from these agreements could be adversely affected.

There is a substantial risk of product liability claims in our business. If we are unable to obtain sufficient insurance, a product liability claim against us could adversely affect our business.

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and will face even greater risks upon any commercialization by us of our product candidates. We have product liability insurance covering our clinical trials in the amount of $10 million, which we believe is adequate to cover any current product liability exposure we may have. However, liabilities may exceed the extent of our coverage, resulting in material losses. Clinical trial and product liability insurance is becoming increasingly expensive. As a result, we may be unable to obtain sufficient insurance or increase our existing coverage at a reasonable cost to protect us against losses that could have a material adverse effect on our business. An individual may bring a product liability claim against us if one of our products or product candidates causes, or is claimed to have caused, an injury or is found to be unsuitable for consumer use. Any product liability claim brought against us, with or without merit, could result in:

liabilities that substantially exceed our product liability insurance, which we would then be required to pay from other sources, if available;

an increase of our product liability insurance rates or the inability to maintain insurance coverage in the future on acceptable terms, or at all;

withdrawal of clinical trial volunteers or patients;

damage to our reputation and the reputation of our products, resulting in lower sales;

regulatory investigations that could require costly recalls or product modifications;

litigation costs; and

the diversion of management s attention from managing our business.

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Risks Related to Our Intellectual Property

If the combination of patents, trade secrets and contractual provisions that we rely on to protect our intellectual property is inadequate to provide us with market exclusivity, our ability to successfully commercialize our product candidates will be harmed and we may not be able to operate our business profitably.

Our success depends, in part, on our ability to obtain, maintain and enforce our intellectual property rights both domestically and abroad. The patent position of biotechnology companies is generally highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. The validity, enforceability and commercial value of our rights, therefore, are highly uncertain.

Our patents may not protect us against our competitors. The issuance of a patent is not conclusive as to its scope, validity or enforceability. The scope, validity or enforceability of our patents can be challenged in litigation. Such litigation is often complex, can involve substantial costs and distraction and the outcome of patent litigation is often uncertain. If the outcome is adverse to us, third parties may be able to use our patented inventions and compete directly with us, without payment to us. Third parties may also be able to circumvent our patents by design innovations. We may not receive any additional patents based on the applications that we have filed and are currently pending.

Because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing or, in some cases, not at all, and because publications of discoveries in the scientific literature often lag behind actual discoveries, neither we nor our licensors or collaborators can be certain that they or we were the first to make the inventions claimed in patents or pending patent applications, or that they or we were the first to file for protection of the inventions set forth in these patent applications. Assuming the other requirements for patentability are met, in the United States, the first to make the claimed invention is entitled to the patent, and outside the United States, the first to file is entitled to the patent.

Many of the proteins that are the APIs in our product candidates are off-patent. Therefore, we have obtained and are seeking to obtain patents directed to novel compositions of matter, formulations, methods of manufacturing and methods of treatment to protect some of our products. Such patents may not, however, prevent our competitors from developing products using the same APIs but different manufacturing methods or formulation technologies that are not covered by our patents.

If third parties successfully assert that we have infringed their patents and proprietary rights or challenge the validity of our patents and proprietary rights, we may become involved in intellectual property disputes and litigation that would be costly, time consuming, and could delay or prevent the development or commercialization of our product candidates.

Our ability to commercialize our product candidates depends on our ability to develop, manufacture, market and sell our product candidates without infringing the proprietary rights of third parties. Third parties may allege our product candidates infringe their intellectual property rights. Numerous United States and foreign patents and pending patent applications that are owned by third parties exist in fields that relate to our product candidates and our underlying technology, including patents and patent applications claiming compositions of matter of, methods of manufacturing, and methods of treatment using, specific proteins, combinations of proteins, and protein crystals. For example, we are aware of some issued United States and/or foreign patents that may be relevant to the development and commercialization of our product candidates. However, we believe that, if these patents were asserted against us, it is likely that we would not be found to infringe any valid claim of the patents relevant to our development and commercialization of these products. If any of these patents were asserted against us and determined to be valid and

construed to cover any of our product candidates, including, without limitation, ALTU-238 and ALTU-237, our development and commercialization of these products could be materially adversely affected.

Although we believe it is unlikely that we would be found to infringe any valid claim of these patents, we may not succeed in any action in which the patents are asserted against us. In order to successfully challenge the validity of any United States patent, we would need to overcome a presumption of validity. This

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burden is a high one requiring clear and convincing evidence. If any of these patents were found to be valid and we were found to infringe any of them, or any other patent rights of third parties, we would be required to pay damages, stop the infringing activity or obtain licenses in order to use, manufacture or sell our product candidates. Any required license might not be available to us on acceptable terms, or at all. If we succeeded in obtaining these licenses, payments under these licenses would reduce any earnings from our products. In addition, some licenses might be non-exclusive and, accordingly, our competitors might gain access to the same technology as that which was licensed to us. If we failed to obtain a required license or were unable to alter the design of our product candidates to make the licenses unnecessary, we might be unable to commercialize one or more of our product candidates, which could significantly affect our ability to establish and grow our commercial business.

In order to protect or enforce our patent rights, defend our activities against claims of infringement of third-party patents, or to satisfy contractual obligations to licensees of our own intellectual property, we might be required to initiate patent litigation against third parties, such as infringement suits or nullity, opposition or interference proceedings. Our collaborators or we may enforce our patent rights under the terms of our major collaboration and license agreements, but neither we nor our collaborators is required to do so. In addition, others may sue us for infringing their patent rights or file nullity, opposition or interference proceedings against our patents, even if such claims are without merit.

Intellectual property litigation is relatively common in our industry and can be costly. Even if we prevail, the cost of such litigation could deplete our financial resources. Litigation is also time consuming and could divert management s attention and resources away from our business. Furthermore, during the course of litigation, confidential information may be disclosed in the form of documents or testimony in connection with discovery requests, depositions or trial testimony. Disclosure of our confidential information and our involvement in intellectual property litigation could materially adversely affect our business. Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could significantly limit our ability to continue our operations.

Many of our employees were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. While we try to ensure that our employees do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees have inadvertently or otherwise used or disclosed intellectual property, trade secrets or other proprietary information of any such employee s former employer. Litigation may be necessary to defend against these claims and, even if we are successful in defending ourselves, could result in substantial costs or be distracting to management. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel.

If we are unable to protect our trade secrets, we may be unable to protect our interests in proprietary technology, processes and know-how that is not patentable or for which we have elected not to seek patent protection.

In addition to patented technology, we rely upon unpatented proprietary technology, processes and know-how, including particularly our manufacturing know-how relating to the production of the crystallized proteins used in the formulation of our product candidates. In an effort to protect our unpatented proprietary technology, processes and know-how, we require our employees, consultants, collaborators, contract manufacturers and advisors to execute confidentiality agreements. These agreements, however, may not provide us with adequate protection against improper use or disclosure of confidential information, in particular as we are required to make such information available to a larger pool of people as we seek to increase production of our product candidates and their component proteins. These agreements may be breached, and we may not become aware of, or have adequate remedies in the event of, any such breach. In addition, in some situations, these agreements may conflict with, or be subject to, the

rights of third parties with whom our employees, consultants, collaborators, contract manufacturers or advisors have previous employment or consulting relationships. Also, others may independently develop substantially equivalent technology, processes and know-how or otherwise gain access to our trade secrets. If we are unable to protect the confidentiality of our

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proprietary technology, processes and know-how, competitors may be able to use this information to develop products that compete with our products, which could adversely impact our business.

If we fail to comply with our obligations in the agreements under which we licensed development, commercialization or other technology rights to products or technology from third parties, we could lose license rights that are important to our business or incur financial obligations based on our exercise of such license rights.

Some of our license agreements provide for licenses to us of technology that is important to our business, and we may enter into additional agreements in the future that provide licenses to us of valuable technology. These licenses impose, and future licenses may impose, various commercialization, milestone and other obligations on us. If we fail to comply with these obligations, the licensor may have the right to terminate the license even where we are able to achieve a milestone or cure a default after a date specified in an agreement, in which event we would lose valuable rights and our ability to develop our product candidates.

Risks Related to Our Employees and Growth

Our future success depends on our ability to attract, retain and motivate key executives and personnel and to attract, retain and motivate qualified personnel.

We are a small company with 145 employees as of December 31, 2008. In 2009, we underwent a strategic realignment, which resulted in an approximate 75% headcount reduction. Our success depends on our ability to attract, retain and motivate highly qualified management, development and scientific personnel, which may be made more difficult as a result of the realignment. In particular, we are highly dependant on our new President and Chief Executive Officer, Dr. Georges Gemayel, and the other principal members of our executive, development and scientific teams.

All of the arrangements we have with the key members of our executive, development and scientific teams may be terminated by us or the employee at any time without notice. Although we do not have any reason to believe that we may lose the services of any of these persons in the foreseeable future, the loss of the services of any of these persons might impede the achievement of our research, development and commercialization objectives.

Recruiting and retaining qualified development and scientific personnel and sales and marketing personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of development and scientific personnel from universities and research institutions. We do not maintain key person insurance on any of our employees.

As we evolve from a company primarily involved in drug research and development into one that may become involved in the commercialization of drug products, we may have difficulty managing our growth, which could disrupt our operations.

As we advance our drug candidates through the development process, we will need to expand our development, regulatory, manufacturing, sales and marketing capabilities or contract with other organizations to provide these capabilities for us. As our operations expand, we expect that we will need to manage additional relationships with various contract manufacturers, collaborative partners, suppliers and other organizations. Our ability to manage our operations and growth requires us to continue to improve our operational, financial and management controls, reporting systems and procedures. Such growth could place a strain on our management, administrative and operational infrastructure. We may not be able to make improvements to our management information and control systems in an efficient or timely manner and may discover deficiencies in existing systems and controls. In addition,

the physical expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

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Risks Related to Our Common Stock and Public Company Compliance Requirements

Our stock price has been and is likely to continue to be volatile.

Investors should consider an investment in our common stock as risky and subject to significant loss and wide fluctuations in market value. Our common stock has only been publicly traded since January 26, 2006, and accordingly there is a limited history on which to gauge the volatility of our stock price. Our stock price has, however, been volatile since we began to be publicly traded. For example, our stock price declined approximately 50% following our announcement that our collaboration with Genentech had been terminated in December 2007. Our stock price also declined sharply following our announcement of the top line data of our Phase III efficacy trial of Trizytek in August 2008 and in connection with the announcement of our strategic realignment in January 2009. The stock market as a whole has experienced significant volatility, particularly with respect to pharmaceutical, biotechnology and other life sciences company stocks. The volatility of pharmaceutical, biotechnology and other life sciences company stocks may not relate to the operating performance of the companies represented by the stock. In addition, we may not continue to qualify for continued listing on The NASDAQ Global Market. To maintain listing, we are required, among other things, to maintain a daily closing bid price of $1.00 and a minimum market value of publicly held shares of $5.0 million. NASDAQ has suspended enforcement of its rules requiring a minimum $1.00 closing bid price and a minimum market value of publicly held shares of $5.0 million through April 20, 2009.

The market price of our common stock has been between $0.16 and $19.79 per share from January 1, 2007 until March 6, 2009. Some of the factors that may cause the market price of our common stock to continue to fluctuate include:

- delays in or results from our clinical trials or studies;
- our entry into or the loss of a significant collaboration or the expansion or contraction of a significant collaboration, disputes with a collaborator, or delays in the progress of a collaborative development program;
- competitive product information such as results of clinical trials conducted by others on drugs that would compete with our product candidates or the regulatory filing or approval of such competitive products;
- delays or other problems with manufacturing our product candidates or approved products;
- failure or delays in advancing product candidates from our preclinical programs, or other product candidates we may discover or acquire in the future, into clinical trials;
- failure or discontinuation of any of our research programs;
- regulatory review delays, changes in regulatory requirements, new regulatory developments or enforcement policies in the United States and foreign countries;
- developments or disputes concerning patents or other proprietary rights;
- introduction of technological innovations or new commercial products by us or our competitors;
- changes in estimates or recommendations by securities analysts, if any, who cover our common stock;
- failure to meet estimates or recommendations by securities analysts, if any, who cover our common stock;

positive or negative publicity regarding our product candidates or any approved products;

litigation or threatened litigation;

sales, future sales or anticipated sales of our common stock by us or our stockholders;

changes in the structure of health care payment systems;

failure of any of our product candidates, if approved, to achieve commercial success;

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economic and other external factors or other disasters or crises;

period-to-period fluctuations in our financial results; and

general market conditions.

These and other external factors may cause the market price and demand for our common stock to fluctuate substantially, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In addition, in the past, when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit regardless of the validity of the claims or the ultimate outcome. Such a lawsuit could also divert the time and attention of our management and create additional volatility in our common stock price.

One of our stockholders has substantial influence over us which could delay or prevent a change in corporate control or result in the entrenchment of management and the board of directors.

Entities affiliated with Warburg Pincus Private Equity VIII, L.P., or Warburg Pincus, one of our principal stockholders, are entitled to designate up to two individuals as candidates to our board of directors, for so long as Warburg Pincus owns at least 2,691,935 shares of our common stock, or one individual for so long as Warburg Pincus owns at least 1,794,623 shares of our common stock. We have agreed to nominate and use our reasonable efforts to cause the election of such candidates. Stewart Hen and Jonathan S. Leff were the members of our board of directors designated by Warburg Pincus, but each of these individuals resigned as Directors effective December 31, 2008, and Warburg Pincus has not designated any candidates to replace them.

A significant portion of our total outstanding shares may be sold into the market in the near future. This could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. We had 31,131,056 shares of common stock outstanding as of March 6, 2009. Holders of up to approximately 7.8 million shares of our common stock, assuming the exercise of warrants to purchase shares of our common stock, have rights, subject to some conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. We have registered all shares of common stock issuable under our equity compensation plans and they can now be freely sold in the public market upon issuance. A decline in the price of shares of our common stock might impede our ability to raise capital through the issuance of additional shares of our common stock or other equity securities, and may cause our stockholders to lose part or all of their investments in our shares of common stock.

Provisions of our charter, bylaws, and Delaware law may make an acquisition of us or a change in our management more difficult.

Certain provisions of our certificate of incorporation and bylaws could discourage, delay or prevent a merger, acquisition or other change in control that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions could limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. Stockholders who wish to participate in these transactions may not have the opportunity to do so. Furthermore, these provisions could prevent or frustrate attempts by our stockholders to replace or remove our

management. These provisions:

- allow the authorized number of directors to be changed only by resolution of our board of directors;
- establish a classified board of directors, such that not all members of the board are elected at one time;

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authorize our board of directors to issue without stockholder approval blank check preferred stock that, if issued, could operate as a poison pill to dilute the stock ownership of a potential hostile acquirer to prevent an acquisition that is not approved by our board of directors;

require that stockholder actions must be effected at a duly called stockholder meeting and prohibit stockholder action by written consent;

establish advance notice requirements for stockholder nominations to our board of directors or for stockholder proposals that can be acted on at stockholder meetings;

limit who may call stockholder meetings; and

require the approval of the holders of 80% of the outstanding shares of our capital stock entitled to vote in order to amend certain provisions of our restated certificate of incorporation and restated bylaws.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which may, unless certain criteria are met, prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a prescribed period of time.

ITEM 1B. ***UNRESOLVED STAFF COMMENTS***

None.

ITEM 2. ***PROPERTIES***

As of March 6, 2009, we leased or subleased a total of approximately 166,835 square feet of office and laboratory space. The leased and subleased properties are described below:

Location	Approximate Square Footage	Use	Expiration Date
610 Lincoln Street North, Waltham, MA	85,430(1)	Laboratory and Office	9/30/18
333 Wyman Street, Waltham, MA	83,405	Office	9/30/18

(1) Under the terms of the lease for our facility at 610 Lincoln Street North, our initial leased area is approximately 63,880 square feet. Beginning in June 2009, our leased area increases to 85,430 square feet for the remainder of the lease term.

As part of our realignment plan announced on January 26, 2009, we are evaluating our options concerning future occupancy of these facilities.

ITEM 3. ***LEGAL PROCEEDINGS***

We are not currently a party to any material legal proceedings.

ITEM 4. ***SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS***

No matters were submitted to a vote of our security holders during the quarter ended December 31, 2008.

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PART II

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

Market Information

Our common stock is traded on The Nasdaq Global Market under the symbol ALTU .

The following table sets forth, for the periods indicated, the range of high and low sales prices for our common stock from January 1, 2007 through December 31, 2008:

	High	Low
2007		
First Quarter	$ 19.79	$ 13.84
Second Quarter	15.90	10.50
Third Quarter	12.21	8.47
Fourth Quarter	14.30	4.80
2008		
First Quarter	$ 7.00	$ 4.35
Second Quarter	5.67	3.65
Third Quarter	5.26	0.92
Fourth Quarter	1.18	0.44

As of March 6, 2009, there were approximately 49 holders of record and approximately 2,750 beneficial shareholders of our common stock.

Dividends

We have never paid or declared any cash dividends on our common stock and we do not anticipate paying any cash dividends on our common stock in the foreseeable future. In addition, the terms of our redeemable preferred stock prohibit us from declaring and paying dividends on our common stock until we have paid all accrued but unpaid dividends on our redeemable preferred stock. We intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business.

Recent Sales of Unregistered Securities

None

Repurchase of Equity Securities

None

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Stock Performance Graph

We show below the cumulative total return to our stockholders during the period from January 26, 2006 (our initial public offering date) through December 31, 2008 in comparison to the cumulative return on the NASDAQ Market Index and a Peer Group Index comprised of more than 160 biotechnology companies listed on NASDAQ during the same period. The results assume that $100 was invested on January 26, 2006.

The information in this section shall not be deemed soliciting material or to be filed with the Securities and Exchange Commission, and is not to be incorporated by reference in any filing of Altus Pharmaceuticals Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K and irrespective of any general incorporation language in those filings.

COMPARISON OF 5-YEAR CUMULATIVE TOTAL RETURN
AMONG ALTUS PHARMACEUTICALS, INC.,
NASDAQ MARKET INDEX AND NASDAQ BIOTECH

ASSUMES $100 INVESTED ON JAN. 26, 2006
ASSUMES DIVIDEND REINVESTED
FISCAL YEAR ENDING DEC. 31, 2008

/26/06	03/31/06	06/30/06	09/30/06	12/31/06	03/31/07	06/30/07	09/30/07	12/31/07	03/31/08	06/3
00.00	130.38	109.69	94.95	112.07	90.49	68.61	62.37	30.80	27.05	2
00.00	103.59	93.29	97.60	99.87	86.11	100.41	106.18	100.49	97.61	9
00.00	101.40	94.65	98.43	105.50	105.86	113.83	118.06	116.00	99.39	10

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ITEM 6. ***SELECTED CONSOLIDATED FINANCIAL DATA***

The following table sets forth selected consolidated financial data for the years ended December 31, 2008, 2007, 2006, 2005 and 2004. This data, which is derived from our audited consolidated financial statements, should be read in conjunction with our audited consolidated financial statements and related notes which are included elsewhere in this Annual Report, and Management s Discussion and Analysis of Financial Condition and Results of Operations included in Item 7 below. Historical results are not necessarily indicative of operating results to be expected in the future.

	Years Ended December 31,				
	2008	2007	2006	2005	2004
	(In thousands, except per share amounts)				
Consolidated Statements of Operations Data:					
Revenue					
Contract revenue(1)	$ 2,161	$ 28,487	$ 5,107	$ 8,288	$ 4,045
Product sales(2)					185
Total revenue	2,161	28,487	5,107	8,288	4,230
Operating expenses, net					
Cost of product sales(2)					87
Research and development	83,555	70,569	50,316	26,742	19,095
General, sales and administrative	17,782	18,172	14,799	8,611	6,320
Reacquisition of European marketing rights(3) from Dr. Falk Pharma GmbH		11,493			
Gain on termination of collaboration and license agreement(1)		(4,000)			
Total operating expenses, net	101,337	96,234	65,115	35,353	25,502
Loss from operations	(99,176)	(67,747)	(60,008)	(27,065)	(21,272)
Interest income	2,921	6,683	5,022	1,018	646
Interest expense and other	(215)	(1,185)	(694)	(825)	(469)
Foreign currency exchange (loss) gain	(152)	(983)		(252)	138
Net loss	(96,622)	(63,232)	(55,680)	(27,124)	(20,957)
Preferred stock dividends and accretion	(225)	(225)	(1,286)	(10,908)	(8,588)
Net loss attributable to common stockholders	$ (96,847)	$ (63,457)	$ (56,966)	$ (38,032)	$ (29,545)
Basic and diluted net loss per share attributable to common stockholders	$ (3.13)	$ (2.23)	$ (2.75)	$ (22.13)	$ (17.33)
Shares used in computing basic and diluted net loss per share attributable to common stockholders	30,960	28,459	20,739	1,719	1,704

(1) In connection with the termination of our collaboration and license agreement with Genentech, Inc. effective December 31, 2007, in 2007 we recognized contract revenue of $25.1 million and a gain on the termination of the agreement of $4.0 million.

(2) Product sales and cost of product sales relate to the sale of crystallized enzymes for use as catalysts in pharmaceutical manufacturing processes. We stopped selling these products during the first half of 2004 and do not anticipate sales of these products in the future.

(3) In June 2007, Dr. Falk Pharma GmbH and we agreed to terminate our collaborative agreement. As part of the agreement, we agreed to pay Dr. Falk Pharma GmbH 12.0 million over a four year period. The net

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present value of this obligation was $14.1 million at then current exchange rates. This amount was immediately expensed, net of $2.7 million of remaining deferred revenue.

	As of December 31,				
	2008	2007	2006	2005	2004
	(In thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents and marketable securities	$ 48,600	$ 138,332	$ 85,914	$ 30,061	$ 52,638
Working capital	34,429	124,171	71,307	14,249	41,612
Total assets	64,251	154,110	96,461	40,584	62,824
Deferred revenue		2,087	8,367	13,644	10,617
Dr. Falk GmbH obligation, net of current portion(4)	4,049	6,664			
Long-term debt, net of current portion	1,432	738	2,874	3,708	3,821
Deferred rent and lease incentive obligation, net of current portion	5,645				
Redeemable preferred stock	6,731	6,506	6,281	119,373	108,465
Total stockholders equity (deficit)	29,873	119,686	69,422	(104,947)	(68,112)

(4) At the time we terminated our collaborative agreement with Dr. Falk Pharma GmbH, we recognized a liability of $14.1 million, representing the net present value of our cash payment obligation.

On January 26, 2009, we announced a strategic realignment plan to conserve capital resources, discontinue development of Trizytek and reduce headcount by approximately 75%. The financial impact of the realignment on future operating results is discussed in Management s Discussion and Analysis of Financial Condition and Results of Operations in Item 7 below.

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

You should read the following discussion and analysis of financial condition and results of operations together with the Selected Consolidated Financial Data included in Item 6 above and our consolidated financial statements and related notes appearing elsewhere in this Annual Report. In addition to historical financial information, the following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this document, particularly in Item 1A above.

Overview

We are a biopharmaceutical company focused on the development and commercialization of oral and injectable protein therapeutics using our proprietary protein crystallization technology, which we believe will have significant advantages over existing products and will address unmet medical needs. Our lead product candidate is ALTU-238, a crystallized formulation of human growth hormone, for which we have completed a Phase II clinical trial in adults for growth hormone deficiency and will begin a Phase II clinical trial for growth hormone deficiency in pediatric patients in March 2009. Our next most advanced product candidate is ALTU-237, for which we have completed a Phase I clinical trial for the treatment of hyperoxalurias. We also have a pipeline of other product candidates in preclinical

research and development.

On January 31, 2006, we completed an initial public offering of 8,050,000 shares of common stock at a price of $15.00 per share. Net proceeds to us from the offering were approximately $110.2 million, net of underwriting discounts, commissions and offering expenses.

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During April 2007, we completed a common stock offering in which we sold 6,518,830 shares of common stock at a price of $14.75 per share. Net proceeds from the offering were approximately $89.9 million net of underwriting discounts, commissions and offering expenses.

We have used the net proceeds from these common stock offerings and our collaboration agreements discussed herein to fund development activities including those related to Trizytek™ (liprotamase), ALTU-238 and ALTU-237.

On January 26, 2009, we announced a strategic realignment to focus on the advancement of our long-acting, recombinant human growth hormone candidate, ALTU-238, as a once-per-week treatment for adult and pediatric patients with growth hormone deficiency. To conserve capital resources, we are discontinuing our activities in support of Trizytek, an orally delivered enzyme replacement therapy for patients suffering from malabsorption due to exocrine pancreatic insufficiency. In addition, we are evaluating the feasibility of moving forward our early-stage clinical and pre-clinical programs and will make future decisions on these programs subject to the availability of resources. In connection with the realignment, we implemented a workforce reduction of approximately 75%, primarily in functions related to the Trizytek program as well as certain general and administrative positions. As a result of these activities, we will recognize a charge of approximately $3.8 million in the first quarter of 2009 for severance and related expenses. We also anticipate further restructuring charges that could be significant due to events associated with the realignment plan, including termination of contractual obligations and facility-related costs. We expect the realignment plan will be completed in the first half of 2009.

On February 20, 2009, Cystic Fibrosis Foundation Therapeutics, Inc., or CFFTI, and we entered into a letter agreement, or the Letter Agreement, and a license agreement, or the License Agreement, terminating our strategic alliance agreement. Under the terms of the License Agreement, we assigned the Trizytek trademark and certain patent rights to CFFTI and granted CFFTI an exclusive, worldwide, royalty-bearing license to use certain other intellectual property owned or controlled by us to develop, manufacture and commercialize any product using, in any combination, the three active pharmaceutical ingredients, or APIs, which comprise Trizytek. In these agreements, we also agreed to assist CFFTI with a transition of our on-going development and regulatory activities and clinical trials through March 27, 2009, after which CFFTI will be responsible for future development activities. In exchange, CFFTI agreed to release us from all obligations and liabilities resulting from the original strategic alliance agreement, and to pay us a percentage of any proceeds CFFTI realizes associated with respect to any rights licensed or assigned to CFFTI under the License Agreement. We anticipate incurring between $8 million and $9 million in the first quarter of 2009 associated with completing specific validation activities at Lonza and continuing on-going clinical trials and NDA preparation activities through the March 27, 2009 transition.

Our future operating results will largely depend on the progress of our product candidates in the clinical development process and our ability to raise sufficient capital to fund operations. The results of our operations will vary significantly from year to year and from quarter to quarter and depend on, among other factors: our level of investment in pre-clinical and clinical research and development; our success in manufacturing drug supplies and procuring the APIs for our products; and the outcome of the clinical trials we conduct.

We have generated significant losses as we have advanced our product candidates into clinical development and expect to continue to generate losses as we continue development of ALTU-238, close out our development activities related to Trizytek and finalize our realignment of operations. As of December 31, 2008, we had $48.6 million of cash, cash equivalents and short-term marketable securities and an accumulated deficit of $335.7 million. We believe we have sufficient cash to meet our funding requirements into the fourth quarter of 2009. We will require significant additional funding to remain a going concern and to fund operations until such time, if ever, we become profitable. However, there can be no assurance that adequate additional financing will be available to us on acceptable terms.

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Financial Operations Overview

Contract Revenue. We do not expect to generate any revenue from the sale of products in the foreseeable future. Our contract revenue consists of amounts earned under former collaborative research and development agreements relating to Trizytek and ALTU-238.

In February 2001, we entered into a strategic alliance agreement with CFFTI to collaborate on the development of Trizytek and specified derivatives of Trizytek in North America for the treatment of malabsorption due to exocrine pancreatic insufficiency in patients with cystic fibrosis and other indications. The agreement, in general terms, provided us with funding from CFFTI for a portion of the development costs of Trizytek upon the achievement of specified development milestones, up to a total of $25.0 million, in return for specified payment obligations and our obligation to use good faith reasonable efforts to develop and bring Trizytek to market in North America. As of December 31, 2008, we had received a total of $18.4 million of the $25.0 million available under the CFFTI agreement, including an advance payment of $1.5 million against the final milestone payment. We were eligible to receive a final milestone payment of $6.6 million, which is net of the $1.5 million advance, less $0.2 million per annum on the advance through the date the final milestone was achieved. As noted above, on February 20, 2009, CFFTI and we entered into a series of agreements to terminate the strategic alliance agreement.

In December 2002, we entered into a development, commercialization and marketing agreement with Dr. Falk Pharma GmbH, or Dr. Falk, for the development by us of Trizytek and the commercialization by Dr. Falk of Trizytek, if approved, in Europe, the countries of the former Soviet Union, Israel and Egypt. Under the agreement, we granted Dr. Falk an exclusive, sublicensable license under specified patents to commercialize Trizytek for the treatment of symptoms caused by exocrine pancreatic insufficiency, which we refer to as the European Marketing Rights. We received upfront and milestone payments from Dr. Falk under the agreement totaling 11.0 million, which equated to $12.9 million based on exchange rates in effect at the times we received the milestone payments. Effective June 6, 2007, Dr. Falk and we agreed to terminate the agreement outside the provisions of the original agreement, and we reacquired Dr. Falk s European Marketing Rights. Under the terms of the termination agreement, we agreed to pay Dr. Falk a total of 12.0 million in installments through 2010. We will not recognize any further revenue under the agreement and will not receive any further milestone or royalty payments. At the time of the termination agreement, we recorded a net liability of $14.1 million, which reflected the net present value of our cash payment obligations to Dr. Falk. This amount was expensed in the second quarter of 2007, net of a reversal of $2.7 million of deferred revenue representing the remaining balance associated with the non-refundable upfront and milestone payments received from Dr. Falk.

In December 2006, we entered into a collaboration and license agreement with Genentech, Inc., or Genentech, for the development, manufacture and commercialization of ALTU-238. Under the terms of the agreement, we granted Genentech exclusive rights and license to make (and have made), use and import ALTU-238, and to sell ALTU-238 in North America if approved by the FDA. Genentech had the option to expand the agreement to a global agreement. The agreement, in general terms, provided that Genentech would assume full responsibility for the development, manufacture and commercialization of ALTU-238.

Pursuant to the agreement, Genentech made the following specific cash payments to us in 2007 and 2008 for work performed pursuant to the agreement:

a $15.0 million upfront non-refundable license fee payment;

$15.0 million in exchange for 794,575 shares of our common stock; and

$10.8 million to reimburse us for various development activities performed by us on Genentech s behalf.

On December 19, 2007, Genentech and we entered into an agreement terminating the collaboration effective December 31, 2007. Under the terms of the termination agreement, we reacquired the North American development and commercialization rights to ALTU-238, and Genentech s option to expand the agreement to a global agreement expired unexercised. In addition, Genentech agreed to provide, for a limited

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time, supplies of human growth hormone for further clinical development of ALTU-238 in North America and clinical development and commercialization purposes outside North America and to pay us a $4.0 million termination payment to fund the transition of the project back to us. Upon commercialization, Genentech will be entitled to a nominal royalty on sales of ALTU-238.

Before we entered into the termination agreement, we did not recognize any revenue related to the upfront payment or reimbursement for development activities performed on Genentech s behalf because provisions in the original agreement precluded us from concluding that revenue was fixed and determinable. As a result of the termination of the collaborative agreement, the amount of revenue we would receive became fixed and determinable, and our estimated performance period under the amended agreement changed to coincide with the December 31, 2007 termination date. Accordingly, we recognized revenue of $25.1 million in December 2007. In addition, we recognized a gain on the termination of the agreement of $4.0 million. We also recognized revenue in the first quarter 2008 of $0.7 million reflecting cost reimbursements for development work performed on Genentech s behalf.

In the future, we will seek to generate revenue from a combination of license fees, research and development funding, milestone payments and royalties resulting from strategic collaborations we may enter into relating to the development of products that incorporate our intellectual property, and from sales of any products that we successfully develop and commercialize, either alone or in collaboration.

Research and Development Expense. Research and development expense consists primarily of expenses incurred in developing and testing product candidates, including:

- salaries and related expenses for personnel, including stock-based compensation expenses;
- fees paid to professional service providers in conjunction with independently monitoring our clinical trials and evaluating data in conjunction with our clinical trials;
- costs of contract manufacturing services;
- costs of materials used in clinical and non-clinical trials;
- performance of non-clinical trials, including toxicity studies in animals; and
- depreciation of equipment used to develop our products and costs of facilities.

We expense research and development costs as incurred.

We completed a Phase III efficacy clinical trial of the capsule form of Trizytek in August 2008, and were conducting two long-term safety studies and preparing for the filing of an NDA when we decided to terminate development. As of December 31, 2008, we had incurred approximately $161.9 million for the development of Trizytek.

We completed a Phase II clinical trial of ALTU-238 in adults in 2006, and in March 2009, will begin a Phase II clinical trial for pediatric patients. From January 1, 2003, the date on which we began separately tracking development costs for ALTU-238, through December 31, 2008, we incurred approximately $53.9 million in total development costs for this product candidate.

We completed a Phase I clinical trial for ALTU-237 in June 2008. From January 1, 2006, the date on which we began separately tracking development costs for ALTU-237, through December 31, 2008, we have incurred approximately $20.8 million in total development costs for this product candidate.

The amount and timing of resources we devote to our clinical and preclinical product candidates in the future will be influenced by our ability to fund further development activities, or the potential to enter into one or more strategic collaborations that would provide full or partial funding for the development of our product candidates.

The successful development of our product candidates is highly uncertain. At this time, we cannot reasonably estimate or know the nature, timing and estimated costs of the efforts that will be necessary to complete the remainder of the development of ALTU-238 or any of our preclinical product candidates, or the

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period, if any, in which material net cash inflows will commence. This is due to the numerous risks and uncertainties associated with developing drugs, including the uncertainty of:

- the scope, rate of progress and expense of our clinical trials and other research and development activities;
- the potential benefits of our product candidates over other therapies;
- our ability to manufacture, market, commercialize and achieve market acceptance for any of our product candidates that we are developing or may develop in the future;
- future clinical trial results;
- the terms and timing of any collaborative, licensing and other arrangements that we may establish;
- the expense and timing of regulatory approvals;
- the expense of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights; and
- the availability of sufficient capital resources to fund development activities.

A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate, including a decision to discontinue the development of that product candidate. For example, if the FDA or other regulatory authority were to require us to conduct clinical trials beyond those which we currently anticipate will be required for the completion of clinical development of a product candidate, or if we experience significant delays in enrollment in any of our clinical trials, we would be required to expend significant additional financial resources and time on the completion of clinical development. There is no guarantee that such additional resources will be available to us.

General, Sales and Administrative Expense. General, sales and administrative expense consists primarily of salaries and other related costs for personnel, including stock-based compensation expenses, in our executive, sales, marketing, finance, accounting, information technology and human resource functions. Other costs primarily include facility costs not otherwise included in research and development expense, corporate insurance, advertising and promotion expenses, trade shows and professional fees for accounting and legal services, including patent-related expenses.

Reacquisition of European Marketing Rights from Dr. Falk Pharma GmbH. In conjunction with the termination of our collaborative agreement with Dr. Falk in June 2007, we reacquired the European Marketing Rights for Trizytek in exchange for cash payments totaling 12.0 million, which equated to $16.1 million based on exchange rates at the time of the termination agreement, over a three year period. The net present value of these payments converted to U.S. dollars on the date of the termination of the collaboration and discounted at our incremental borrowing rate of 11.0% was $14.1 million. Due to the uncertainty associated with receiving potential future cash flows from the commercialization of Trizytek under the reacquired European Marketing Rights, we expensed this cost in the second quarter of 2007. This expense was reduced by the reversal of $2.7 million of deferred revenue, representing the remaining balance associated with the non-refundable upfront and milestone payments received from Dr. Falk, since we no longer had any remaining performance obligations under the original agreement.

Interest and Other Income (Expense), Net. Interest income consists of interest earned on our cash and cash equivalents and marketable securities. Interest expense consists of interest incurred on equipment loans and

amortization of the discount associated with our obligation to Dr. Falk.

Preferred Stock Dividends and Accretion. Preferred stock dividends and accretion consists of cumulative but undeclared dividends payable and accretion of the issuance costs and warrants, where applicable, on our redeemable preferred stock and Series B and C convertible preferred stock. The issuance costs on these shares and warrants were recorded as a reduction to the carrying value of the preferred stock when issued, and were being accreted to preferred stock ratably through December 31, 2010 by a charge to additional paid-in capital

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and earnings attributable to common stockholders. Upon the completion of our initial public offering on January 31, 2006, the Series B and Series C convertible preferred stock converted into an aggregate of 10,385,710 shares of common stock, and the cumulative but unpaid dividends on the Series B and C convertible preferred stock were satisfied through the issuance of 1,391,828 shares of common stock at the price of the common stock sold in the offering.

Critical Accounting Policies and Significant Judgments and Estimates

Our discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements and notes, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses. On an ongoing basis, we evaluate our estimates and judgments, including those related to revenue, accrued expenses, stock-based compensation and income taxes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. A summary of our significant accounting policies is contained in Note 3 to our consolidated financial statements included elsewhere in this Annual Report. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements.

Contract Revenue. We follow the provisions of the Securities and Exchange Commission s Staff Accounting Bulletin, or SAB, No. 104 (SAB No. 104) *Revenue Recognition*, Emerging Issues Task Force, or EITF, Issue No. 00-21 (EITF 00-21) *Accounting for Revenue Arrangements with Multiple Deliverables,* and EITF Issue No. 99-19 (EITF 99-19) *Reporting Revenue Gross as a Principal Versus Net as an Agent.*

Contract revenue includes revenue from collaborative license and development agreements with biotechnology and pharmaceutical companies and other organizations for the development and commercialization of our product candidates. The terms of the agreements typically include non-refundable license fees, reimbursement for all or a portion of research and development spending, payments based upon achievement of clinical development and commercial milestones and royalties on product sales.

Collaborative agreements often contain multiple elements, providing for a license as well as research and development, regulatory and commercialization services. Such arrangements are analyzed to determine whether the deliverables can be separated or whether they must be accounted for as a single unit of accounting in accordance with EITF 00-21. We recognize upfront license payments as revenue upon delivery of the license only if the license has standalone value and the fair value of the undelivered performance obligations can be determined, provided that the fee is fixed or determinable and collection is reasonably assured. If the fair value of the undelivered performance obligations can be determined, such obligations would then be accounted for separately as performed. If the license is considered to either (i) not have standalone value or (ii) have standalone value but the fair value of any of the undelivered performance obligations cannot be determined, the arrangement would then be accounted for as a single unit of accounting and the upfront license payments are recognized as revenue over the estimated period performance obligations are performed.

When we determine that an arrangement should be accounted for as a single unit of accounting, we must determine the period over which the performance obligations will be performed and revenue related to upfront license and other payments will be recognized. Revenue is only recognized to the extent it is fixed or determinable and is limited to the lesser of the cumulative amount of payments received or the cumulative amount of revenue earned as of the period end date.

We recognize revenue using the proportional performance method provided we can reasonably estimate the level of effort required to complete our performance obligations under an arrangement and such performance obligations are provided on a best-efforts basis. Under the proportional performance method, periodic revenue related to upfront license and other payments is recognized based on the percentage of actual effort expended in that period to total effort budgeted for all of our performance obligations under the

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arrangement. Significant management judgment is required in determining the level of effort required under an arrangement and the period over which we expect to complete the related performance obligations. Management reassesses its estimates quarterly and makes judgment based on the best information available. Estimates may change in the future based on changes in facts and circumstances, resulting in a change in the amount of revenue recognized in future periods.

We used the proportional performance method of revenue recognition for our former collaborations for the development of Trizytek. Since the inception of our former collaboration agreements with CFFTI and Dr. Falk, we adjusted our estimated costs to complete the development program for Trizytek on five occasions, including during the third quarters of 2006 and 2007, resulting in cumulative adjustments in revenue each time. During the third quarters of 2006 and 2007, we increased our estimated development costs for Trizytek, which resulted in us decreasing cumulative revenue by $3.7 million and $2.0 million in the third quarters of 2006 and 2007, respectively.

If we cannot reasonably estimate the level of effort required to complete our performance obligations under an arrangement, the performance obligations are provided on a best-efforts basis and we can reasonably estimate when the performance obligation ceases or becomes inconsequential, then revenue would be recognized on a straight-line basis over the period we expect to complete our performance obligations.

Collaborations may also involve substantive milestone payments. Substantive milestone payments are considered to be performance bonuses that are recognized upon achievement of the milestone only if all of the following conditions are met: (1) the milestone payments are non-refundable, (2) achievement of the milestone involves a degree of risk and was not reasonably assured at the inception of the arrangement, (3) substantive effort is involved in achieving the milestone, (4) the amount of the milestone payment is reasonable in relation to the effort expended or the risk associated with achievement of the milestone and (5) a reasonable amount of time passes between the upfront license payment and the first milestone payment as well as between each subsequent milestone payment.

Reimbursement of research and development costs is recognized as revenue provided the provisions of EITF Issue No. 99-19 are met, the amounts are fixed or determinable and collection of the related receivable is reasonably assured.

Royalties received based on sales of licensed products would be recognized when due and payable assuming we have no further contractual obligations and the amount of revenue is fixed or determinable.

Contract amounts which are not due until the customer accepts or verifies the research results are not recognized as revenue until payment is received or the customer s acceptance or verification of the results is evidenced, whichever occurs earlier. In the event warrants are issued in connection with a collaborative agreement, contract revenue is recorded net of amortization of the fair market value of the related warrants at the time of grant.

Deferred revenue consists of payments received in advance of revenue recognized under collaborative agreements. If payments received under a collaborative agreement are non-refundable, the termination of that collaborative agreement before its completion could result in an immediate recognition of deferred revenue relating to payments received from the collaborative partner but not previously recognized as revenue.

Accrued Expenses. As part of the process of preparing consolidated financial statements, we are required to estimate accrued expenses. This process involves identifying services which have been performed on our behalf and estimating the level of service performed and the associated cost incurred for such service as of each balance sheet date in our consolidated financial statements. Examples of estimated expenses for which we accrue include contract service fees, such as amounts paid to clinical monitors, data management organizations, clinical sites and investigators in conjunction with clinical trials, and fees paid to contract manufacturers in conjunction with the production of materials

for clinical and non-clinical trials, and professional service fees. In connection with these service fees, our estimates are most affected by our understanding of the status and timing of services provided relative to the actual levels of services incurred by such service providers. In the event that we do not identify costs which have begun to be incurred or we under- or over-estimate the level of services performed or the costs of such services, our reported expenses for

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such period would be too low or too high, and revenue may be overstated or understated to the extent such expenses relate to collaborations accounted for using the proportional performance method. The date on which specified services commence, the level of services performed on or before a given date and the cost of such services is often judgmental. We attempt to mitigate the risk of inaccurate estimates, in part, by communicating with our service providers when other evidence of costs incurred is unavailable.

Stock-Based Compensation. We apply Statement of Financial Accounting Standards, or SFAS, No. 123(R), *Share-Based Payments,* or SFAS 123(R), to account for equity instruments. In order to determine the fair value of share-based awards on the date of grant, we use the Black-Scholes option-pricing model and recognize compensation cost ratably over the appropriate vesting period. Inherent in this model are assumptions related to risk-free interest rate, dividend yield, stock price volatility and expected life of the option. The risk-free interest rate is based on treasury instruments whose term is consistent with the expected life of options. We use a dividend yield of zero as we have never paid cash dividends and have no intention to pay cash dividends in the foreseeable future. The stock price volatility, option life and forfeiture assumptions applied in recognizing stock-based compensation expense require a greater level of judgment. Our stock-price volatility assumption is based on trends in both the current and historical volatilities of our common stock and those of comparable companies. We use the simplified method, as prescribed by the SEC s SAB No. 107, to calculate the expected term of options. We estimate forfeitures based on our historical experience of cancellations of stock options prior to vesting. We believe that our estimates are based on outcomes that are reasonably likely to occur. To the extent actual forfeitures differ from our estimates, we will record an adjustment in the period the estimates are revised.

Results of Operations Years Ended December 31, 2008, 2007 and 2006:

Contract Revenue

	Years Ended December 31,			% Increase (Decrease)	
				2007 to	2006 to
	2008	2007	2006	2008	2007
	(Dollars in thousands)				
Contract revenue	$ 2,161	$ 28,487	$ 5,107	(92)%	458%

Overview: Contract revenue is associated with our former collaboration agreements with CFFTI and Dr. Falk for Trizytek and Genentech for ALTU-238. Revenue related to the CFFTI and Dr. Falk collaborations was recognized under the proportional performance method. Under this method, to the extent we incurred direct development costs each year to advance Trizytek, we recognized revenue based on the proportion of actual costs spent to our estimate of total direct development costs. Contract revenue recognized under the proportional performance method fluctuated from year-to-year due to two factors: (a) the level of development spending on Trizytek, which directly correlated to revenue recognized, and (b) changes to our estimate in total direct development costs for Trizytek, which necessitated a positive or negative cumulative revenue adjustment at the time of the change in estimate. We will not recognize any revenue in 2009 unless we enter into a new collaborative arrangement related to one of our research or development programs.

2008 as compared to 2007. Contract revenue for 2008 decreased 92%, or $26.3 million, from 2007. We recognized revenue of $1.9 million related to the CFFTI collaborative agreement during the first quarter of 2008, representing our total remaining deferred revenue balance. We did not recognize any revenue related to our agreement with CFFTI during the remainder of 2008 since we received no further cash payments. We assessed the recoverability of the carrying value of the warrants given to CFFTI at the onset of the collaborative agreement at December 31, 2008. We

determined that the carrying value was not recoverable as we did not expect any additional milestone payments from CFFTI, and accordingly recorded a $0.5 million reduction to revenue in the fourth quarter of 2008 to write-off the remaining unamortized balance. In addition, in the first quarter of 2008 we recognized $0.7 million of revenue related to our terminated collaboration and license agreement with Genentech. This revenue is related to an additional amount that Genentech agreed to pay us for services performed on Genentech s behalf in the fourth quarter of 2007. Revenue in 2007 consisted of $25.1 million associated with our former collaboration with Genentech and $3.4 million related to the CFFTI collaborative agreement. Genentech and we agreed to terminate the collaboration and license agreement effective December 31, 2007 and, because there were no significant contractual obligations under the

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termination agreement between the parties, we recognized as revenue all amounts received and estimated to be due to us from Genentech under the terms of the original agreement since the inception of the agreement on February 21, 2007 through the effective termination date.

2007 as compared to 2006. Contract revenue for 2007 increased by 458%, or $23.4 million, from 2006. Included in 2007 revenue was $25.1 million associated with our former collaboration agreement with Genentech, as discussed above. Excluding the Genentech revenue, contract revenue in 2007 was $3.4 million, which represented a decrease from 2006 of $1.7 million, or 34%. The decrease in contract revenue was primarily due to a lack of revenue related to the collaboration with Dr. Falk in 2007, compared to $2.8 million of revenue recognized under that collaboration in 2006. We terminated the agreement with Dr. Falk in the second quarter of 2007. Partially offsetting the decrease caused by the lack of revenue from Dr. Falk was an increase in net revenue associated with the CFFTI agreement of approximately $1.1 million to $3.4 million in 2007, primarily due to the increase in development spending on Trizytek in 2007 over 2006.

Research and development expense

	Years Ended December 31,			% Increase (Decrease)	
	2008	2007	2006	2007 to 2008	2006 to 2007
	(Dollars in thousands)				
Trizytek	$ 55,970	$ 36,123	$ 21,447	55%	68%
ALTU-238	13,091	14,240	13,889	(8)%	3%
ALTU-237	4,853	9,195	6,795	(47)%	35%
Stock-based compensation	2,092	3,308	1,922	(37)%	72%
Other research and development	7,549	7,703	6,263	(2)%	23%
Total research and development	$ 83,555	$ 70,569	$ 50,316	18%	40%

2008 as compared to 2007. Research and development expense for 2008 increased primarily due to increased manufacturing and clinical costs associated with Trizytek. Trizytek costs, which increased by 55% over 2007, primarily included: (a) $32.8 million associated with establishing a manufacturing process for the API s in our commercial drug supply, including helping Lonza Ltd., or Lonza, establish its manufacturing facility, validating Lonza s manufacturing process and producing validation batches of the APIs; (b) $17.2 million associated with the conduct of our Phase III efficacy trial in cystic fibrosis patients, which was completed in August 2008, and two Phase III long-term safety studies, which commenced in June 2007; and (c) $4.8 million related to our New Drug Application, or NDA, filing, which we had previously expected to file in the second quarter of 2009 before our decision to discontinue further development activities. ALTU-238 costs during 2008, which were at essentially the same level as 2007 spending, consisted of: (a) $9.0 million associated with validation and clinical manufacturing costs associated with our clinical supply agreement with Althea Technologies, Inc., or Althea, and the purchase of hGH from Sandoz; and (b) $2.1 million of costs related to our Phase Ic trial of ALTU-238. ALTU-237 costs decreased 47% from 2007 due to decreased overall activity related to the product candidate as compared to 2007. During the third quarter of 2007, we began our Phase I clinical trial for ALTU-237, which was completed in the second quarter of 2008.

Overall, we expect research and development expense to decrease significantly in 2009 as a result of our decision to discontinue development activities on Trizytek and the related headcount reduction associated with this decision. We

anticipate that research and development activities related to ALTU-238 will increase in 2009 as a result of the Phase II pediatric study we plan to initiate in March 2009, our continued manufacturing activities at Althea and the cost of procuring hGH and other raw materials to supply our development and clinical trial requirements. We also anticipate that we will incur approximately $8.6 million in the first quarter of 2009 associated with the close down of the Trizytek development program.

2007 as compared to 2006. Research and development expense for 2007 increased primarily due to an increase in third-party development costs and an increase in personnel and non-cash compensation costs directly related to headcount increases during 2007. Trizytek costs, which increased by 68% over 2006 costs, primarily included: (a) $13.4 million associated with the conduct of our Phase III efficacy trial in cystic

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fibrosis patients which commenced in May 2007, and two Phase III long-term safety studies, which commenced in June 2007; (b) $8.7 million associated with manufacturing Trizytek Phase III clinical trial materials; and (c) $12.2 million associated with establishing a manufacturing process, primarily at Lonza. ALTU-238 costs during 2007, which were essentially at the same level as 2006 spending, related primarily to facility modification and validation costs associated with our clinical supply agreement with Althea. ALTU-237 costs in 2007 related primarily to: (a) $5.0 million of regulatory and other preparatory costs associated with our filing of an IND in June 2007 and the production of clinical trial materials; (b) $1.5 million associated with the conduct of a Phase I clinical trial, which commenced in August 2007; and (c) $2.5 million associated with development activities to improve the formulation and manufacturing process. In addition, we continued to invest in our preclinical research and development programs at a slightly higher level than in 2006, including proof of concept preclinical efficacy studies and product formulation work.

General, sales and administrative expense

	Years Ended December 31,			% Increase (Decrease)	
	2008	2007	2006	2007 to 2008	2006 to 2007
	(Dollars in thousands)				
Personnel	$ 6,964	$ 7,174	$ 5,350	(3)%	34%
Legal services	1,032	1,143	2,116	(10)%	(46)%
General insurance	962	799	807	20%	(1)%
Market research and related costs	338	801	1,291	(58)%	(38)%
Consulting and professional services	1,648	1,859	1,787	(11)%	4%
Stock-based compensation	3,703	3,649	1,495	1%	144%
Other general and administrative	3,135	2,747	1,953	14%	41%
Total general, sales and administrative	$ 17,782	$ 18,172	$ 14,799	(2)%	23%

2008 as compared to 2007. General, sales and administrative expenses remained essentially the same for 2008 as compared to 2007, as we leveraged our investments in administrative infrastructure over the last three years since becoming a public company. A decrease in personnel costs in 2008 was due to management s decision to forego bonus payments for 2008, partially offset by a one-time charge of $0.6 million associated with a separation agreement with Sheldon Berkle, our former CEO, who resigned in February 2008. In addition, we had a reduction in marketing related costs as we reevaluated our spending during 2008 regarding the launch of Trizytek.

We expect general, sales and administrative expenses to decrease significantly in 2009 as a result of the realignment, primarily due to a significant reduction in general and administrative headcount and the rationalization of facilities-related and other variable infrastructure expenses consistent with an organization of 34 employees.

2007 as compared to 2006. General, sales and administrative expenses in 2007 increased by approximately $3.4 million compared to 2006. The 2007 increase was primarily driven by a $1.8 million increase in personnel costs and a $2.2 million increase in stock-based compensation costs. The increase in personnel costs reflects the full year impact of headcount hired in 2006 in addition to new headcount hired in 2007. The increase in stock-based compensation also relates to the increase in average headcount in 2007 over 2006, plus an increase in the number of options granted. These increases were partially offset by a $1.0 million decrease in the cost of legal services and a $0.5 million decrease in market research and related costs. During 2006, we incurred significant outside legal costs

related to negotiations of agreements with three contract manufacturing organizations, as well as substantial market research costs in connection with the initial preparations for our commercialization of Trizytek, with correspondingly fewer costs in 2007.

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Reacquisition of European Marketing Rights from Dr. Falk Pharma GmbH

	Years Ended December 31,			% Increase (Decrease)	
	2008	2007	2006	2007 to 2008	2006 to 2007
	(Dollars in thousands)				
Reacquisition of European Marketing Rights from Dr. Falk Pharma GmbH	$	$ 11,493	$	N/A	N/A

Reacquisition of European Marketing Rights from Dr. Falk reflects the net cost associated with the termination of our collaborative agreement with Dr. Falk on June 6, 2007 and our reacquisition of Dr. Falk s European Marketing Rights to Trizytek. The net present value of payments due by us to Dr. Falk over a three year period as part of the termination agreement was $14.1 million and was fully expensed on the termination date based on the uncertainty of receiving future cash flows as part of the reacquired European Marketing Rights. This amount was partially offset by the reversal of $2.7 million of deferred revenue, representing the remaining unrecognized portion of non-refundable upfront and milestone payments received from Dr. Falk, since we had no remaining performance obligations under the original agreement.

Gain on termination of Genentech, Inc. Collaboration and License Agreement

	Years Ended December 31,			% Increase (Decrease)	
	2008	2007	2006	2007 to 2008	2006 to 2007
	(Dollars in thousands)				
Gain on termination of Genentech, Inc. Collaboration and License Agreement	$	$ 4,000	$	N/A	N/A

On December 19, 2007, Genentech and we entered into an agreement terminating our Collaboration and License Agreement effective December 31, 2007. Under the terms of the termination agreement, Genentech paid us a $4.0 million termination payment to fund the transition of the project back to us.

Other income (expense) net

	Years Ended December 31,			% Increase (Decrease)	
	2008	2007	2006	2007 to 2008	2006 to 2007
	(Dollars in thousands)				
Interest income	$ 2,921	$ 6,683	$ 5,022	(56)%	33%
Interest expense and other	(215)	(1,185)	(694)	(82)%	71%
Foreign currency exchange loss	(152)	(983)		(85)%	N/A

Total other income (expense)	net	$ 2,554	$ 4,515	$ 4,328	(43)%	4%

2008 as compared to 2007. Interest income decreased by $3.8 million, or 56%, due to the lower average balances of cash, cash equivalents and marketable securities in 2008 as well as lower investment yields. Interest expense and other was comprised of non-cash interest expense on our obligation to Dr. Falk and interest expense on long-term debt, partially offset by the reversal of accrued interest that we do not have to pay of $1.1 million in the fourth quarter of 2008 on a milestone advance received from CFFTI. Foreign currency exchange losses primarily reflect foreign currency adjustments relating to our obligation to Dr. Falk, and amounts paid and payable to Lonza.

2007 as compared to 2006. Interest income and expense both increased in 2007 over 2006. As a result of our common stock offering completed in April 2007, we had higher average cash balances in 2007 than in 2006, resulting in higher interest income. In addition, interest income was favorably impacted by slightly higher interest rates in 2007 compared to 2006. Included in interest expense in 2007 is approximately $0.6 million related to the amortization of the discount associated with the termination of the Dr. Falk agreement on June 6, 2007. The foreign currency loss in 2007 primarily relates to a foreign exchange adjustment relating to our obligation to Dr. Falk.

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Preferred stock dividends and accretion

	Years Ended December 31,			% Increase (Decrease)	
				2007 to	2006 to
	2008	2007	2006	2008	2007
	(Dollars in thousands)				
Preferred stock dividends and accretion	$ 225	$ 225	$ 1,286	0%	(83%)

Preferred stock dividends and accretion in 2008 and 2007 relates solely to our outstanding redeemable preferred stock. Preferred stock dividends and accretion in 2006 consisted of our redeemable preferred stock as well as dividends and accretion related to our Series B preferred stock and Series C preferred stock, which was converted into common stock in connection with our initial public offering in January 2006.

Liquidity and Capital Resources

Overview

We have financed our operations since inception primarily through the sale of equity securities, payments from our collaborators, borrowings and capital lease financings and, prior to the middle of 2004, revenue from product sales.

From September 2001 until the time of our initial public offering, we funded our activities primarily with issuances of convertible preferred stock. In May 2004, we received approximately $50.4 million from the issuance of Series C convertible preferred stock. In September and December 2001, we received approximately $46.2 million from the issuance of Series B convertible preferred stock. Prior to September 2001, we received most of our equity and debt financing proceeds from the issuance of notes, common stock and preferred stock to Vertex, including redeemable preferred stock and Series A convertible preferred stock. The Series A, B and C convertible preferred stock were converted into shares of common stock upon the closing of our initial public offering, and accrued but unpaid dividends were satisfied through issuance of shares of our common stock upon the closing of the offering at the offering price. The outstanding redeemable preferred stock, which is not convertible into common stock, is redeemable, at the holder s option, on or after December 31, 2010, or by us at our option at any time. The liquidation preference of the redeemable preferred stock at December 31, 2008 was $6.7 million and includes accrued but unpaid dividends on the redeemable preferred stock of $2.2 million. Assuming we do not exercise our right to repurchase the redeemable preferred stock before December 31, 2010, the accrued and unpaid dividends at that date will be $2.7 million.

On January 31, 2006, we completed our initial public offering of 8,050,000 shares of common stock at a price of $15.00 per share, resulting in net proceeds to us of approximately $110.2 million.

During April 2007, we completed a common stock offering in which we sold 6,518,830 shares of common stock at a price of $14.75 per share, resulting in net proceeds to us of approximately $89.9 million.

As of December 31, 2008, we had received $18.4 million from our former collaborative agreement with CFFTI. As a result of the termination of the Trizytek program in February 2009, we will not receive any additional milestone payments from CFFTI.

We had received $12.9 million from Dr. Falk since the inception of our collaborative agreement with Dr. Falk in December 2002. Effective June 6, 2007, Dr. Falk and we agreed to terminate our collaborative agreement, and we

reacquired Dr. Falk s European Marketing Rights under the agreement. Based on the termination agreement, we agreed to make cash payments to Dr. Falk totaling 12.0 million, payable as follows: 5.0 million that was paid in July 2007 and equated to $6.7 million based on foreign currency exchange rates at the time of payment, 2.0 million that was paid in June 2008 and equated to $3.1 million based on foreign currency exchange rates at the time of payment, 2.0 million on June 6, 2009 and 3.0 million on June 6, 2010. Both parties are absolved from any further performance obligations under the original contract.

Pursuant to our aforementioned collaboration and license agreement with Genentech, we received a total of $36.7 million from Genentech in 2007 and $4.1 million in 2008 which was comprised of an equity investment, an upfront milestone payment and cost reimbursements. In addition, as part of the termination

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agreement, we received a $4.0 million termination payment from Genentech in the fourth quarter of 2007. Upon commercialization of ALTU-238, Genentech will be entitled to a nominal royalty on sales of ALTU-238.

On January 26, 2009, we announced a realignment plan to discontinue development of Trizytek and reduce headcount by approximately 75%. We anticipate recording a restructuring charge in the first quarter of 2009 of approximately $3.8 million, representing cash payments for severance and other related expenses. We also anticipate further restructuring charges that could be significant due to events that may occur as a result of, or associated with, the realignment plan, including termination of contractual obligations and facility-related costs. We expect the realignment plan will be completed in the first half of 2009, and that as a result our annualized operating expenses, excluding restructuring charges, will be reduced by approximately 65%.

Funding Requirements

Since our inception, we have generated significant losses while we have advanced our product candidates into preclinical and clinical trials. As we continue to advance ALTU-238 and our other product candidates through development, we expect to incur additional operating losses until such time, if any, as our efforts result in commercially viable and profitable drug products. In January 2009, we announced a realignment plan to discontinue development of Trizytek and to reduce headcount by 75% in order to conserve our financial resources for the development of ALTU-238 and any other products we may develop. We anticipate that after the impact of our restructuring actions our current cash, cash equivalents and marketable securities will be sufficient to fund our operations into the fourth quarter of 2009. We will require significant additional funding to remain a going concern and to fund operations until such time, if ever, we become profitable. Raising sufficient capital in the current financial environment may be particularly difficult and there can be no assurance that additional financing will be available on acceptable terms when needed, if at all. In addition to equity financing, we continue to evaluate and aggressively pursue other forms of capital infusion including collaborations with organizations that have capabilities that are complementary to our own, as well as program structured financing arrangements, in order to continue the development of our product candidates.

We believe the key factors that will affect our internal and external sources of cash are:

- the success of clinical trials for ALTU-238;
- our ability to successfully develop, manufacture and obtain regulatory approval for ALTU-238;
- the success of the ALTU-237 program or any preclinical programs that we determine to move forward;
- our ability to enter into strategic collaborations with corporate collaborators and the success of such collaborations; and
- the receptivity of the capital markets to financings of biotechnology companies.

We may raise funds from time to time through public or private sales of equity or from borrowings. Financing may not be available on acceptable terms, or at all, and our failure to raise capital when needed could materially adversely impact our ability to continue as a going concern. Additional equity financing may be dilutive to the holders of our common stock and debt financing, if available, may involve significant cash payment obligations and covenants that restrict our ability to operate our business. For example, warrants issued in connection with our Series B and Series C financings contain provisions that result in the reduction of the exercise price per share of such warrants to the extent we issue or are deemed to issue equity at a per share price that is less than the current exercise price of the warrants. At December 31, 2008, 1,962,494 such warrants with an exercise price of $5.64 per warrant and 1,133,112 such

warrants with an exercise price of $9.80 per warrant were outstanding. The warrants with an exercise price of $5.64 per warrant expired unexercised on February 1, 2009. We do not engage in off-balance sheet financing arrangements, other than operating leases.

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Summary Cash Flow Information

	December 31,			% Increase (Decrease)	
	2008	2007	2006	2007 to 2008	2006 to 2007
	(Dollars in thousands)				
Cash, cash equivalents and marketable securities	$ 48,600	$ 138,332	$ 85,914	(65)%	61%
Working capital	34,429	124,171	71,307	(72)%	74%

	Years Ended December 31,		
	2008	2007	2006
	(Dollars in thousands)		
Cash flows from:			
Operating activities	$ (80,711)	$ (39,172)	$ (54,099)
Investing activities	(8,654)	(6,345)	(9,824)
Financing activities	(1,934)	97,654	112,521

At December 31, 2008, we had $48.6 million in cash, cash equivalents and marketable securities. The composition and mix of cash, cash equivalents and marketable securities may change frequently as a result of our evaluation of conditions in the financial markets, the maturity of specific investments, and our near term liquidity needs. Our funds at December 31, 2008 were invested in investment grade securities and money market funds.

Since our inception, we have generated significant losses while we have advanced our product candidates into preclinical and clinical trials. Accordingly, we have historically used cash in our operating activities. During the years ended December 31, 2008 and 2007, our operating activities used $80.7 million and $39.2 million, respectively. The use of cash in each period was primarily a result of expenditures associated with our research and development activities and amounts incurred to develop and maintain our administrative infrastructure, offset partially in 2007 by an aggregate of $25.7 million received from Genentech in conjunction with the terms of the original collaborative agreement for the upfront payment, cost reimbursements and the termination payment.

Net cash used in investing activities was $8.7 million in 2008 due to capital expenditures of $7.0 million and purchases of marketable securities of $35.0 million, partially offset by proceeds from maturities of marketable securities of $33.4 million. Net cash used in investing activities was $6.3 million in 2007, due to capital expenditures of $2.6 million and $3.7 million of cash placed into certificates of deposits to collateralize letters of credit relating to two 10-year leases we entered into in October 2007 for facilities in Waltham, Massachusetts. Proceeds from the maturity and sale of marketable securities and purchases of marketable securities were both $43.3 million in 2007, resulting in zero net cash flow.

In 2008, our financing activities used $1.9 million, primarily reflecting repayments of long-term debt principal of $2.6 million and repayments to Dr. Falk of $3.1 million. Offsetting these amounts was $2.5 million in proceeds from borrowings under our capital equipment loan facility and $1.3 million in proceeds from the exercise of common stock options. In 2007, our financing activities provided $97.7 million, primarily reflecting net proceeds of $89.9 million from the issuance of common stock in April 2007 and the $15.0 million equity investment by Genentech. In addition, we received $1.5 million in proceeds from the exercise of common stock options and warrants, and made repayments

of long-term debt principal of $2.1 million and repayments to Dr. Falk of $6.7 million.

We have generally financed a substantial portion of our capital expenditures through equipment loans under which the lender retains a security interest in the equipment. The equipment loans are governed by a master loan and security agreement that contains the key terms of the loans. The master loan and security agreement require us to maintain insurance on the collateral. Each loan carries a fixed rate of interest which was established at the time of borrowing and is payable in fixed monthly installments over periods of up to four years.

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The following table summarizes our contractual obligations at December 31, 2008 and the effects such obligations are expected to have on our liquidity and cash flows in future periods:

Payments Due by Period

	Total	2009	2010 Through 2011	2012 Through 2013	After 2013
	(Dollars in thousands)				
Contractual Obligations(1):					
Short and long-term debt(2)	$ 3,089	$ 1,542	$ 1,547	$	$
Operating lease obligations	48,221	4,632	9,264	9,417	24,908
Dr. Falk obligation(3)	7,049	2,820	4,229		
Purchase obligations(4)	11,719	9,340	2,379		
Total contractual cash obligations	$ 70,078	$ 18,334	$ 17,419	$ 9,417	$ 24,908

(1) Excludes estimated payment of $7.2 million to Vertex in connection with its optional redemption of shares of redeemable preferred stock on or after December 31, 2010, plus dividends accruing after that date and royalties to Genentech on product sales of ALTU-238.

(2) Includes interest expense.

(3) Represents 5.0 million due to Dr. Falk converted to U.S. dollars at the foreign exchange rate at December 31, 2008.

(4) Includes amounts due to Sandoz under the terms of our supply agreement with Sandoz whereas we are obligated to purchase all of the recombinant human growth hormone, or hGH, forecasted for 2009 and 50% of the hGH forecasted for 2010. As of December 31, 2008 our minimum contractual obligation to Sandoz under the terms of the agreement was $4.8 million and $2.4 million for 2009 and 2010, respectively, based on the foreign currency exchange rate at December 31, 2008.

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

Our cash, cash equivalents and short-term investments are invested with highly-rated financial institutions in North America with the primary objective of preservation of principal, while maintaining liquidity and generating favorable yields. When purchased, investments have a maturity of less than 18 months. Some of the securities we invest in are subject to interest rate risk and will decline in value if market interest rates increase. To minimize the risk associated with changing interest rates, we invest primarily in bank certificates of deposit, United States government securities and investment-grade commercial paper and corporate notes. All of our investments at December 31, 2008 met these criteria. At December 31, 2008, we had gross unrealized gains of approximately $0.2 million on our investments. If market interest rates were to increase immediately and uniformly by 10% from levels at December 31, 2008, we estimate that the fair value of our investment portfolio would decline by an immaterial amount.

Our total debt at December 31, 2008 was $2.7 million, representing outstanding equipment loans. All borrowings under our equipment loan agreements carry fixed rates of interest established at the time such borrowings were made. Accordingly, our future interest costs relating to such drawdowns are not subject to fluctuations in market interest rates.

Our assets are principally located in the United States and a majority of our historical revenues and operating expenses are denominated in United States dollars. Our payments to Dr. Falk for the repurchase of the European Marketing Rights of Trizytek are denominated in Euros, and the gross amount of that liability at December 31, 2008 is 5.0 million. In addition, some purchases of raw materials and contract manufacturing services are also denominated in foreign currencies. Accordingly, we are subject to market risk with respect to foreign currency-denominated expenses. We recognized foreign currency exchange losses of $0.2 million in 2008 and $1.0 million in 2007. We may engage in additional collaborations with international partners. If we enter into additional collaborations with international partners providing for foreign currency-denominated revenues and expenses, we may be subject to significant foreign currency and market risk.

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ITEM 8. *FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA*

The financial statements required by this Item are attached to this Annual Report beginning on Page F-1.

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

None.

ITEM 9A. *CONTROLS AND PROCEDURES*

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer, or CEO, and Chief Financial Officer, or CFO, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934) as of December 31, 2008. In designing and evaluating our disclosure controls and procedures, our management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and our management necessarily applied its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation by our management, our CEO and CFO concluded that, as of December 31, 2008, our disclosure controls and procedures were: (1) designed to ensure that material information relating to us is made known to our CEO and CFO by others within the Company, particularly during the period in which this report was being prepared and (2) effective, in that they provide reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934, as amended, or the Exchange Act, is recorded, processed, summarized, and reported within the time periods specified in the Securities and Exchange Commission s rules and forms and that such information is accumulated and communicated to management as appropriate to allow timely decisions regarding disclosures.

Management s Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we assessed the effectiveness of our internal control over financial reporting based on the framework in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our assessment under the framework in *Internal Control Integrated Framework*, our management concluded that our internal control over financial reporting was effective as of the year ended December 31, 2008.

Ernst & Young LLP, our independent registered public accounting firm for the fiscal year ended December 31, 2008, has issued an audit report on our internal controls over financial reporting, which appears below.

Changes in Internal Control

Based on an evaluation by management, no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fiscal quarter ended December 31, 2008 that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Disclosure Controls and Internal Controls over Financial Reporting

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders of
Altus Pharmaceuticals Inc.

We have audited Altus Pharmaceuticals Inc. s internal control over financial reporting as of December 31, 2008, based on criteria established in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO criteria). Altus Pharmaceuticals Inc. s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying management s report on internal control over financial reporting. Our responsibility is to express an opinion on the company s internal control over financial reporting based on our audit.

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

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

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

In our opinion, Altus Pharmaceuticals Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2008, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheet as of December 31, 2008, and the related consolidated statement of operations, redeemable preferred stock and stockholders equity (deficit), and cash flows for the year then ended of Altus Pharmaceuticals Inc. and our report dated March 9, 2009 expressed an unqualified opinion thereon that included an explanatory paragraph regarding Altus Pharmaceuticals Inc. s ability to continue as a going concern.

/s/ Ernst & Young LLP

Boston, Massachusetts

March 9, 2009

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ITEM 9B. ***OTHER INFORMATION***

Not applicable.

PART III

ITEM 10. ***DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE***

The following is a list of our Directors:

David D. Pendergast, Ph.D.	Chairman of the Board of Directors Chief Executive Officer Proteostasis Therapeutics, Inc.
Georges Gemayel, Ph.D.	President and Chief Executive Officer Altus Pharmaceuticals Inc.
Manuel A. Navia, Ph.D.	Oxford Bioscience Partners
Harry H. Penner, Jr.	Chairman and Chief Executive Officer New Haven Pharmaceuticals, Inc.
John P. Richard	Managing Director Georgia Venture Partners
Jonathan D. Root, M.D.	Managing Member U.S. Venture Partners
Michael S. Wyzga	Executive Vice President, Finance; Chief Financial and Accounting Officer Genzyme Corporation

The following is a list of our executive officers.

Georges Gemayel, Ph.D.	President and Chief Executive Officer
Burkhard Blank, M.D.	Executive Vice President and Chief Medical Officer
Jonathan I. Lieber	Senior Vice President, Chief Financial Officer and Treasurer
Kenneth Attie, M.D.	Vice President, Clinical Development and Medical Affairs
Philip Gotwals, Ph.D.	Vice President, Program Management
Thomas J. Phair, Jr.	Senior Director, Finance and Corporate Controller
Jill E. Porter, Ph.D.	Vice President, Process Development and Engineering
John Sorvillo, Ph.D.	Vice President, business Development

The remaining information required by this Item will be contained in either our definitive Proxy Statement to be filed with the Securities and Exchange Commission in connection with our Annual Meeting of Stockholders to be held on June 17, 2009, or the 2009 Proxy Statement, or a future amendment to this Form 10-K, to be filed with the Securities and Exchange Commission not later than 120 days after the end of the fiscal year covered by the Form 10-K, or the Form 10-K Amendment, under the caption Directors, Executive Officers and Corporate Governance and is incorporated herein by reference.

We have adopted a code of conduct and ethics that applies to all of our directors, officers and employees. This code is publicly available on our website at *www.altus.com*. Amendments to the code of conduct and ethics or any grant of a waiver from a provision of the code requiring disclosure under applicable SEC and The Nasdaq Stock Market rules will be disclosed in a Current Report on Form 8-K.

ITEM 11. ***EXECUTIVE COMPENSATION***

The information required by this Item is incorporated by reference from the information under the caption Executive Compensation to be contained in either our 2009 Proxy Statement or the Form 10-K Amendment.

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

The information required by this Item is incorporated by reference from the information under the caption Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters to be contained in either our 2009 Proxy Statement or the Form 10-K Amendment.

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

The information required by this Item is incorporated by reference from the information under the caption Certain Relationships and Related Transactions, and Director Independence to be contained in either our 2009 Proxy Statement or the Form 10-K Amendment.

ITEM 14. ***PRINCIPAL ACCOUNTING FEES AND SERVICES***

The information required by this Item is incorporated by reference from the information under the caption Principal Accounting Fees and Services to be contained in either our 2009 Proxy Statement or the Form 10-K Amendment.

PART IV

ITEM 15. ***EXHIBITS AND FINANCIAL STATEMENT SCHEDULES***

(a) 1. *Consolidated Financial Statements*

The Consolidated Financial Statements are filed as part of this report.

2. *Consolidated Financial Statement Schedules*

All schedules are omitted because they are not required or because the required information is included in the Consolidated Financial Statements or notes thereto.

3. *Exhibits*

		Incorporated by Reference to SEC Filing			
Exhibit No.	**Filed Exhibit Description**	**Form**	**Date**	**Exhibit No.**	**Filed with this Form 10-K**
	Articles of Incorporation and By-Laws				
3.1	Restated Certificate of Incorporation of the Registrant.	10-K (000-51711)	3/12/07	3.1	
3.2	Restated By-laws of Registrant.	S-1/A (333-129037)	1/11/06	3.4	
	Instruments Defining the Rights of Security Holders				
4.1	Form of Common Stock Certificate.	S-1/A (333-129037)	1/11/06	4.1	
4.2		S-1 (333-129037)	10/17/05	4.3	

	Amended and Restated Investor Rights Agreement, dated as of May 21, 2004.			
4.3	Form of Common Stock Warrant to Cystic Fibrosis Foundation Therapeutics, Inc.	S-1 (333-129037)	10/17/05	4.9
4.4	Form of Common Stock Warrant to SG Cowen & Co.	S-1 (333-129037)	10/17/05	4.11
4.5	Form of Series B Preferred Stock Warrant, as amended, together with a schedule of warrant holders.	S-1 (333-129037)	10/17/05	4.12
4.6	Form of Series C Preferred Stock Warrant, together with a schedule of warrant holders.	S-1 (333-129037)	10/17/05	4.13

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Exhibit No.	Filed Exhibit Description	Incorporated by Reference to SEC Filing			Filed with this Form 10-K
		Form	Date	Exhibit No.	
4.7	Common Stock Purchase Agreement, dated as of December 19, 2006, between the Registrant and Genentech, Inc.	8-K (000-51711)	3/1/07	10.1	
4.8	Registration Rights Agreement, dated as of February 27, 2007, between the Registrant and Genentech, Inc.	8-K (000-51711)	3/1/07	10.2	
4.9	Form of Common Stock Warrant issued to Adage Capital Partners, L.P.	S-3 (333-141414)	3/19/07	4.5	
	Material Contracts Management Contracts and Compensatory Plans				
10.1	1993 Stock Option Plan, as amended.	S-1 (333-129037)	10/17/05	10.1	
10.2	Form of Incentive Stock Option Agreement under the 1993 Stock Option Plan.	S-1 (333-129037)	10/17/05	10.2	
10.3	Form of Non-Qualified Stock Option Agreement under the 1993 Stock Option Plan, as amended.	S-1 (333-129037)	10/17/05	10.3	
10.4	Amended and Restated 2002 Employee, Director and Consultant Stock Plan, as amended.	10-K (000-51711)	3/12/07	10.4	
10.5	Pre-IPO Form of Incentive Stock Option Agreement under the Amended and Restated 2002 Employee, Director and Consultant Stock Plan applicable to Executive Officers.	S-1 (333-129037)	10/17/05	10.5	
10.6	Post-IPO Form of Incentive Stock Option Agreement under the Amended and Restated 2002 Employee, Director and Consultant Stock Plan applicable to Executive Officers.	S-1/A (333-129037)	1/11/06	10.5.1	
10.7	Post-IPO Form of Non-Qualified Stock Option Agreement under the Amended and Restated 2002 Employee, Director and Consultant Stock Plan applicable to Executive Officers.	S-1/A (333-129037)	1/11/06	10.6.1	
10.8	Post-IPO Form of Non-Qualified Stock Option Agreement under the Amended and Restated 2002 Employee, Director and Consultant Stock Plan applicable to Directors.	10-K (000-51711)	3/11/08	10.8	

10.9	Pre-IPO Form of Non-Qualified Stock Option Agreement under the Amended and Restated 2002 Employee, Director and Consultant Stock Plan applicable to Executive Officers.	S-1 (333-129037)	10/17/05	10.6
10.10	Amended and Restated Director Compensation Policy, dated February 2, 2007.	10-K (000-51711)	3/12/07	10.9
10.11	Description of Arrangement between the Registrant and John P. Richard, effective as of October 28, 2004.	S-1 (333-129037)	10/17/05	10.20
10.12	Offer Agreement between the Registrant and Georges Gemayel, Ph.D., dated May 21, 2008.	8-K (000-51711)	5/27/08	10.1
10.13	Letter Agreement between the Registrant and Burkhard Blank, dated as of June 2, 2006.	10-K (000-51711)	3/12/07	10.14
10.14	Letter Agreement between the Registrant and John Sorvillo, dated as of July 31, 2006.	10-K (000-51711)	3/12/07	10.15

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Exhibit No.	Filed Exhibit Description	Incorporated by Reference to SEC Filing			Filed with this Form 10-K
		Form	Date	Exhibit No.	
10.15	Letter Agreement between the Registrant and Philip Gotwals, dated as of August 14, 2006.	10-K (000-51711)	3/11/08	10.17	
10.16	Employment Agreement between the Registrant and David Pendergast, dated February 4, 2008.	10-K (000-51711)	3/11/08	10.18	
10.17	Form of Indemnification Agreement.	S-1/A (333-129037)	11/30/05	10.7	
10.18	Separation Agreement between the Registrant and Sheldon Berkle, dated February 4, 2008.	10-K (000-51711)	3/11/08	10.21	
10.19	Severance and Change in Control Agreement dated as of June 2, 2008 between Georges Gemayel, Ph.D. and the Registrant.	8-K (000-51711)	5/27/08	10.2	
10.20	Form of Severance and Change in Control Agreement dated as of May 17, 2007 between the Registrant and each of Burkhard Blank and Jonathan Lieber.	8-K (000-51711)	5/21/07	10.2	
10.21	Form of Severance and Change in Control Agreement dated as of May 17, 2007 between the Registrant and John Sorvillo and dated as of October 16, 2007 between the Registrant and Philip Gotwals.	8-K (000-51711)	5/21/07	10.3	
	Material Contracts Leases				
10.22	Lease dated October 29, 2007 for 610 Lincoln Street, Waltham, Massachusetts between 610 Lincoln LLC and the Registrant.	10-Q (000-51711)	10/29/07	10.1	
10.23	Lease dated October 29, 2007 for 333 Wyman Street, Waltham, Massachusetts between 275 Wyman LLC and the Registrant.	10-Q (000-51711)	10/29/07	10.2	
	Material Contracts - Financing Agreements				
10.24	Master Loan and Security Agreement between Oxford Finance Corporation and the Registrant, dated as of December 17, 1999, as amended.	S-1 (333-129037)	10/17/05	10.9	
10.25	Form of Promissory Note issued to Oxford Finance Corporation.	S-1 (333-129037)	10/17/05	10.10	

10.26	Master Security Agreement between Oxford Finance Corporation and the Registrant, dated August 19, 2004.	S-1 (333-129037)	10/17/05	10.11
10.27	Form of Promissory Note issued to Oxford Finance Corporation.	S-1 (333-129037)	10/17/05	10.12
10.28	Form of Promissory Note Schedule No. 08 issued to Oxford Finance Corporation, dated December 29, 2006.	8-K (000-51711)	1/3/07	10.1
10.29	Form of Promissory Note Schedule No. 09 issued to Oxford Finance Corporation, dated December 29, 2006.	8-K (000-51711)	1/3/07	10.2
	Material Contracts License and Collaboration Agreements			
10.30+	Technology License Agreement by and between the Registrant and Vertex Pharmaceuticals Incorporated, dated as of February 1, 1999, as amended.	S-1/A (333-129037)	1/11/06	10.13

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Exhibit No.	Filed Exhibit Description	Incorporated by Reference to SEC Filing			Filed with this Form 10-K
		Form	Date	Exhibit No.	
10.31+	Strategic Alliance Agreement between the Registrant and Cystic Fibrosis Foundation Therapeutics, Inc., dated as of February 22, 2001, as amended.	S-1/A (333-129037)	1/11/06	10.15	
10.32	Termination Agreement to the Development, Commercialization and Marketing Agreement between Dr. Falk Pharma GmbH and the Registrant dated June 6, 2007.	10-Q (000-51711)	8/8/07	10.2	
	Material Contracts Manufacturing and Supply Agreements				
10.33+	Cooperative Development Agreement between Amano Enzyme, Inc. and the Registrant, dated as of November 8, 2002, as amended.	10-Q (000-51711)	11/7/07	10.1	
10.34+	Amendment No. 2 to Cooperative Development Agreement between Amano Enzyme, Inc. and the Registrant dated as of March 16, 2007.	10-Q (000-51711)	5/11/07	10.1	
10.35+	Amendment No. 3 to Cooperative Development Agreement between Amano Enzyme, Inc. and the Registrant dated as of July 12, 2007.	10-Q (000-51711)	11/7/07	10.2	
10.36+	Manufacturing License, Option and Support Agreement between Amano Enzyme, Inc. and the Registrant dated as of December 20, 2007.	10-K (000-51711)	3/11/08	10.50	
10.37+	Drug Product Production and Clinical Supply Agreement by and between the Registrant and Althea Technologies, Inc., dated as of August 15, 2006.	10-Q (000-51711)	11/14/06	10.1	
10.38+	First Amendment to Drug Product Production and Clinical Supply Agreement between Althea Technologies, Inc. and the Registrant dated June 25, 2007.	10-Q (000-51711)	8/8/07	10.1	
10.39+	Second Amendment to Drug Product Production and Clinical Supply Agreement between Althea	10-Q (000-51711)	5/7/08	10.1	

	Technologies, Inc. and the Registrant dated March 12, 2008.				
10.40++	Third Amendment to Drug Product Production and Clinical Supply Agreement between Althea Technologies, Inc. and the Registrant dated November 25, 2008.				X
10.41+	Manufacturing and Supply Agreement by and between the Registrant and Lonza Ltd., dated as of November 16, 2006.	8-K (000-51711)	2/6/07	10.1	
10.42+	Amendment 1 to Manufacturing and Supply Agreement between Lonza Ltd. and the Registrant, effective as of June 30, 2008.	10-Q (000-51711)	11/4/08	10.1	
10.43+	Amendment 2 to Manufacturing and Supply Agreement between Lonza Ltd. and the Registrant, effective as of August 19, 2008.	10-Q (000-51711)	11/4/08	10.2	

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Exhibit No.	Filed Exhibit Description	Incorporated by Reference to SEC Filing			Filed with this Form 10-K
		Form	Date	Exhibit No.	
10.44+	Supply Agreement between Sandoz GmBH and the Registrant, dated as of July 1, 2008.	10-Q (000-51711)	8/5/08	10.1	
	Other Exhibits				
21.1	Subsidiaries of the Registrant	10-K (000-51711)	3/30/2006	21.1	
23.1	Consent of Independent Registered Public Accounting Firm, Ernst & Young LLP.				X
23.2	Consent of Independent Registered Public Accounting Firm, Deloitte & Touche LLP.				X
31.1	Certification of Principal Executive Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934.				X
31.2	Certification of Principal Financial Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934.				X
32.1	Certificate of Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350 and Section 906 of the Sarbanes-Oxley Act of 2002.				X

\+ Confidential treatment has been granted as to certain portions of the document, which portions have been omitted and filed separately with the Securities and Exchange Commission.

++ Confidential treatment has been requested as to certain portions of the document, which portions have been omitted and filed separately with the Securities and Exchange Commission.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on March 10, 2009.

ALTUS PHARMACEUTICALS INC.

By /s/ Georges Gemayel
Georges Gemayel, Ph.D.
Chief Executive Officer

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

Signature	Title	Date
/s/ GEORGES GEMAYEL Georges Gemayel, Ph.D.	President, Chief Executive Officer and Director (principal executive officer)	March 10, 2009
/s/ JONATHAN I. LIEBER Jonathan I. Lieber	Senior Vice President, Chief Financial Officer and Treasurer (principal financial and accounting officer)	March 10, 2009
/s/ DAVID D. PENDERGAST David D. Pendergast, Ph.D.	Chairman of the Board	March 10, 2009
/s/ MANUEL A. NAVIA Manuel A. Navia, Ph.D.	Director	March 10, 2009
/s/ HARRY H. PENNER, JR. Harry H. Penner, Jr.	Director	March 10, 2009
/s/ JOHN P. RICHARD John P. Richard	Director	March 10, 2009
/s/ JONATHAN D. ROOT Jonathan D. Root, M.D.	Director	March 10, 2009
/s/ MICHAEL S. WYZGA	Director	March 10, 2009

Michael S. Wyzga

ALTUS PHARMACEUTICALS INC. AND SUBSIDIARY

Index to Consolidated Financial Statements

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders of
Altus Pharmaceuticals Inc.

We have audited the accompanying consolidated balance sheet of Altus Pharmaceuticals Inc. (the Company) as of December 31, 2008, and the related consolidated statement of operations, redeemable preferred stock and stockholders equity (deficit), and cash flows for the year then ended. These financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these financial statements based on our audit.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Altus Pharmaceuticals Inc. at December 31, 2008, and the consolidated results of its operations and its cash flows for the year then ended, in conformity with U.S. generally accepted accounting principles.

The accompanying financial statements have been prepared assuming that Altus Pharmaceuticals Inc. will continue as a going concern. As more fully described in Note 1, the Company has incurred recurring operating losses and has an accumulated deficit. The Company believes its cash and cash equivalents will fund operations into the fourth quarter of 2009 at which time it will be required to raise additional capital, find alternative means of financial support, or both. These conditions raise substantial doubt about the Company s ability to continue as a going concern. Management s plans in regard to these matters also are described in Note 1. The 2008 financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the effectiveness of Altus Pharmaceuticals Inc. s internal control over financial reporting as of December 31, 2008, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 9, 2009 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Boston, Massachusetts
March 9, 2009

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Altus Pharmaceuticals Inc.
Cambridge, Massachusetts

We have audited the accompanying consolidated balance sheet of Altus Pharmaceuticals Inc. and subsidiary (the Company) as of December 31, 2007, and the related consolidated statements of operations, redeemable preferred stock and stockholders equity (deficit), and cash flows for each of the two years in the period ended December 31, 2007. These financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on the financial statements based on our audits.

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

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of Altus Pharmaceuticals Inc. and subsidiary at December 31, 2007, and the results of their operations and their cash flows for each of the two years in the period ended December 31, 2007, in conformity with accounting principles generally accepted in the United States of America.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
March 10, 2008

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ALTUS PHARMACEUTICALS INC. AND SUBSIDIARY

CONSOLIDATED BALANCE SHEETS

AS OF DECEMBER 31, 2008 AND 2007

	December 31,	
	2008	2007
	(In thousands, except share and per share amounts)	
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 22,308	$ 113,607
Marketable securities available-for-sale	26,292	24,725
Accounts receivable		3,454
Prepaid expenses and other current assets	2,350	2,001
Total current assets	50,950	143,787
PROPERTY AND EQUIPMENT, Net	9,601	5,991
OTHER ASSETS, Net	3,700	4,332
TOTAL ASSETS	$ 64,251	$ 154,110
LIABILITIES, REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS EQUITY		
CURRENT LIABILITIES:		
Accounts payable and accrued expenses	$ 12,568	$ 13,166
Current portion of Dr. Falk Pharma GmbH obligation	2,300	2,200
Current portion of long-term debt	1,313	2,137
Current portion of deferred rent and lease incentive obligation	340	26
Deferred revenue		2,087
Total current liabilities	16,521	19,616
Dr. Falk Pharma GmbH obligation, net of current portion	4,049	6,664
Long-term debt, net of current portion	1,432	738
Deferred rent and lease incentive obligation, net of current portion	5,645	
Other long-term liabilities		900
TOTAL LIABILITIES	27,647	27,918
COMMITMENTS AND CONTINGENCIES (Note 12)		
REDEEMABLE PREFERRED STOCK:		
Redeemable Preferred Stock, par value $0.01 per share; 450,000 shares authorized, issued and outstanding in 2008 and 2007 at accreted redemption value	6,731	6,506
STOCKHOLDERS EQUITY:		
	311	308

Common stock, par value $0.01 per share; 100,000,000 shares authorized; 31,131,056 shares issued and outstanding at December 31, 2008; 30,791,035 shares issued and outstanding at December 31, 2007		
Additional paid-in capital	365,033	358,134
Accumulated deficit	(335,668)	(239,046)
Accumulated other comprehensive income	197	290
Total stockholders equity	29,873	119,686
TOTAL LIABILITIES, REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS EQUITY	$ 64,251	$ 154,110

See notes to consolidated financial statements.

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ALTUS PHARMACEUTICALS INC. AND SUBSIDIARY

CONSOLIDATED STATEMENTS OF OPERATIONS

FOR THE YEARS ENDED DECEMBER 31, 2008, 2007 AND 2006

	Year Ended December 31,		
	2008	2007	2006
	(In thousands, except per share amounts)		
CONTRACT REVENUE	$ 2,161	$ 28,487	$ 5,107
COSTS AND EXPENSES, NET:			
Research and development	83,555	70,569	50,316
General, sales, and administrative	17,782	18,172	14,799
Reacquisition of European Marketing Rights from Dr. Falk Pharma GmbH		11,493	
Gain on termination of collaboration and license agreement		(4,000)	
Total costs and expenses net	101,337	96,234	65,115
LOSS FROM OPERATIONS	(99,176)	(67,747)	(60,008)
OTHER INCOME (EXPENSE):			
Interest income	2,921	6,683	5,022
Interest expense and other	(215)	(1,185)	(694)
Foreign currency exchange loss	(152)	(983)	
Other income (expense) net	2,554	4,515	4,328
NET LOSS	(96,622)	(63,232)	(55,680)
PREFERRED STOCK DIVIDENDS AND ACCRETION	(225)	(225)	(1,286)
NET LOSS ATTRIBUTABLE TO COMMON STOCKHOLDERS	$ (96,847)	$ (63,457)	$ (56,966)
NET LOSS ATTRIBUTABLE TO COMMON STOCKHOLDERS PER SHARE BASIC AND DILUTED	$ (3.13)	$ (2.23)	$ (2.75)
WEIGHTED AVERAGE SHARES OUTSTANDING BASIC AND DILUTED	30,960	28,459	20,739

See notes to consolidated financial statements.

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ALTUS PHARMACEUTICALS INC. AND SUBSIDIARY

CONSOLIDATED STATEMENTS OF REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS EQUITY (DEFICIT)

FOR THE YEARS ENDED DECEMBER 31, 2007, 2006 AND 2005

	Redeemable Preferred Stock						Stockholders Equity (Def		
	Series B Convertible Preferred Stock		Series C Convertible Preferred Stock		Series A Convertible Preferred Stock				Ac
le ock mount	Shares	Amount	Shares	Amount	Shares	Amount	Common Stock Shares	Amount	Additional Paid-In Capital	Con
	(In thousands, except share amounts)									
5,879	11,773,609	$ 62,159	11,819,959	$ 51,335	87,500	$ 897	1,842,809	$ 18	$ 14,272	
402		374		510					(1,286)	
							700,101	7	2,990	
							369,433	4	355	
									3,417	
							8,050,000	80	110,084	
	(11,773,609)	(49,453)	(11,819,959)	(44,048)	(87,500)	(897)	10,767,306	108	94,290	
		(13,080)		(7,797)			1,391,828	14	20,863	
6,281							23,121,477	231	244,985	

225					(225)
			346,149	4	1,447
			10,004		98
					6,957
			6,518,830	65	89,880
			794,575	8	14,992
6,506			30,791,035	308	358,134
225					(225)
			340,021	3	1,329
					5,795
6,731	$	$	$ 31,131,056	$ 311	$ 365,033

See notes to consolidated financial statements.

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ALTUS PHARMACEUTICALS INC. AND SUBSIDIARY

CONSOLIDATED STATEMENTS OF CASH FLOWS

FOR THE YEARS ENDED DECEMBER 31, 2008, 2007 AND 2006

	Year Ended December 31,		
	2008	2007	2006
	(In thousands)		
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$ (96,622)	$ (63,232)	$ (55,680)
Adjustments to reconcile net loss to net cash used in operating activities:			
Reacquisition of European Marketing Rights from Dr. Falk Pharma GmbH		11,493	
Depreciation and amortization	3,475	3,678	3,059
Stock-based compensation expense	5,795	6,957	3,417
Noncash interest expense	746	779	225
Foreign currency exchange (gain) loss and other	152	983	35
Changes in assets and liabilities:			
Accounts receivable	3,454	(3,454)	
Prepaid expenses and other current assets	(349)	575	(170)
Other noncurrent assets	25	369	(71)
Accounts payable and accrued expenses	(359)	6,331	(338)
Deferred rent and lease incentive obligation	5,959	(26)	
Other long-term liabilities	(900)		701
Payments received as deferred revenue		21,662	
Deferred revenue recognized	(2,087)	(25,287)	(5,277)
Net cash used in operating activities	(80,711)	(39,172)	(54,099)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Purchases of marketable securities	(35,025)	(43,349)	(209,044)
Maturities of marketable securities	33,365	43,338	201,809
Purchases of property and equipment	(6,994)	(2,634)	(2,589)
Increase in restricted cash		(3,700)	
Net cash used in investing activities	(8,654)	(6,345)	(9,824)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Net proceeds from public offerings of common stock		89,945	110,164
Proceeds from equity investment by Genentech, Inc.		15,000	
Proceeds from exercise of stock options and warrants	1,332	1,549	3,356
Payment of Dr. Falk Pharma GmbH obligation	(3,136)	(6,735)	
Proceeds from issuance of long-term debt	2,476		1,272
Repayment of long-term debt	(2,606)	(2,105)	(2,271)

Net cash (used in) provided by financing activities	(1,934)	97,654	112,521
NET (DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS	(91,299)	52,137	48,598
CASH AND CASH EQUIVALENTS Beginning of year	113,607	61,470	12,872
CASH AND CASH EQUIVALENTS End of year	$ 22,308	$ 113,607	$ 61,470
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Cash paid for interest	$ 369	$ 382	$ 472
SUPPLEMENTAL DISCLOSURE OF NONCASH INVESTING AND FINANCING ACTIVITIES:			
First months payments withheld from long-term debt proceeds	$	$	$ 38
Series A Convertible Preferred Stock, Series B Redeemable Convertible Preferred Stock and Series C Redeemable Convertible Preferred Stock, and accrued dividends, converted to common stock	$	$	$ 115,275
Decrease (Increase) in property and equipment and accounts payable and accrued expenses	$ 516	$ (516)	$

See notes to consolidated financial statements.

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ALTUS PHARMACEUTICALS INC. AND SUBSIDIARY

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
FOR THE YEARS ENDED DECEMBER 31, 2008, 2007 AND 2006

(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

1. BACKGROUND AND GOING CONCERN UNCERTAINTY

Altus Pharmaceuticals Inc. and subsidiary were incorporated in Massachusetts in October 1992 as a wholly owned subsidiary of Vertex Pharmaceuticals Incorporated, or Vertex, a Massachusetts corporation. In February 1999, we were reorganized as an independent company, and in August 2001 we were reincorporated as a Delaware corporation. Unless the context requires otherwise, references to Altus, we, our and us in these footnotes refers to Altus Pharmaceuticals Inc. and our subsidiary.

We are a biopharmaceutical company focused on the development and commercialization of oral and injectable protein therapeutics for gastrointestinal and metabolic disorders. We are subject to risks common to companies in the biotechnology industry including, but not limited to, product development risks, new technological innovations, protection of proprietary technology, compliance with government regulations, dependence on key personnel, the need to obtain additional financing, uncertainty of market acceptance of products, and product liability.

During January 2006, we completed an initial public offering of 8,050,000 shares of our common stock at a public offering price of $15.00 per share. Our net proceeds were $110,164, after deducting underwriting discounts and commissions and offering expenses totaling $10,586.

During April 2007, we completed a common stock offering in which we sold 6,518,830 shares of common stock at a price of $14.75 per share. Net proceeds from the offering were approximately $89,945 after deducting underwriting discounts and commissions and offering expenses totaling $6,208.

Our consolidated financial statements have been prepared assuming that we will continue as a going concern. As of December 31, 2008, we had $48,600 of cash, cash equivalents and short-term marketable securities and an accumulated deficit of $335,668. However, we believe we will not have sufficient cash to meet our funding requirements through December 31, 2009. This projection is based on our anticipated cost structure after implementation of the realignment plan that was announced on January 26, 2009, as discussed in Note 2, and expectations regarding expenses and potential cash inflows. We will require significant additional funding to remain a going concern and to fund operations until such time, if ever, as we become profitable. We intend to pursue additional equity or debt financing and/or collaboration arrangements to support the continued development of our product candidates. There can be no assurances as to the availability of additional financing or the terms upon which additional financing may be available in the future. These events raise substantial doubt about our ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

2. REALIGNMENT PLAN

On January 26, 2009, we announced a strategic realignment to focus on the advancement of our long-acting, recombinant human growth hormone candidate, ALTU-238, as a once-per-week treatment for adult and pediatric patients with growth hormone deficiency. To conserve capital resources, we are discontinuing our activities in support of Trizytek, an orally delivered enzyme replacement therapy for patients suffering from malabsorption due to exocrine pancreatic insufficiency. In addition, we are evaluating the feasibility of moving forward our early-stage clinical and

pre-clinical programs and will make future decisions on these programs subject to the availability of resources. In connection with the realignment, we implemented a workforce reduction of approximately 75%, primarily in functions related to the Trizytek program as well as certain general and administrative positions. We anticipate recording a restructuring charge of approximately $3.8 million in the first quarter of 2009, representing cash payments for severance and related expenses. Employees were informed of the decision on January 26, 2009, and after a statutory waiting period, will be terminated on March 27, 2009. The majority of the severance payments will be paid out over the course of

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ALTUS PHARMACEUTICALS INC. AND SUBSIDIARY

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2009. We also anticipate further restructuring charges that could be significant due to events associated with the realignment plan, including termination of contractual obligations and facility-related costs. We expect the realignment plan will be completed in the first half of 2009.

3. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation The consolidated financial statements include the accounts of Altus Pharmaceuticals Inc. and our wholly owned subsidiary, Altus Pharmaceuticals Securities Corporation. All intercompany transactions and balances have been eliminated. Certain amounts reported in previous years have been reclassified to conform to current year presentation. Such reclassifications were immaterial.

Use of Estimates The preparation of our consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents Cash and cash equivalents represent cash and highly liquid investments purchased within three months of the maturity date and consist of money market funds and government securities.

Marketable Securities We invest available cash primarily in bank certificates of deposit and investment-grade commercial paper, corporate notes and United States government securities. We classify our marketable securities as available-for-sale. Available-for sale marketable securities are carried at fair value with unrealized gains and losses included in stockholders equity. All marketable securities are classified as current assets as they have maturities of less than one year and are available to meet working capital needs and to fund current operations (see Note 6).

Fair Value Measurement SFAS No. 157, *Fair Value Measurement*, or SFAS 157, requires expanded disclosures about fair value measurements. SFAS 157 applies to other accounting pronouncements that require or permit fair value measurements, but does not require any new fair value measurements. We adopted the provisions of SFAS 157 relating to assets and liabilities recognized or disclosed in the financial statements at fair value on a recurring basis on January 1, 2008. The adoption of these provisions had no effect on our consolidated financial statements.

SFAS 157 clarifies that fair value is an exit price, representing the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants based on the highest and best use of the asset or liability. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. SFAS 157 requires us to use valuation techniques to measure fair value that maximize the use of observable inputs and minimize the use of unobservable inputs. These inputs are prioritized as follows:

Level Input:	**Input Definition:**
Level I	Observable inputs such as quoted prices for identical assets or liabilities in active markets.
Level II	

	Other inputs which are observable directly or indirectly, such as quoted prices for similar assets or liabilities or market-corroborated inputs.
Level III	Unobservable inputs for which there is little or no market data and which require us to develop our own assumptions about how market participants would price the assets or liabilities.

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ALTUS PHARMACEUTICALS INC. AND SUBSIDIARY

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The following table summarizes fair value measurements by level at December 31, 2008 for assets measured at fair value on a recurring basis:

	Level I	Level II	Level III	Total
Cash and cash equivalents	$ 15,810	$ 6,498	$	$ 22,308
Marketable securities available for sale		26,292		26,292
Total assets at fair value	$ 15,810	$ 32,790	$	$ 48,600

Our assets classified as Level II assets above are valued using third-party pricing sources. These third party pricing sources generally use interest rates and yield curves observable at commonly quoted intervals of similar assets as observable inputs for pricing our Level II assets.

The carrying amounts of accounts payable and accrued expenses approximate fair value because of their short-term nature. The carrying amounts of our long-term debt instruments approximate fair value.

Property and Equipment Property and equipment are recorded at cost. Depreciation is calculated using the straight-line method over the following estimated useful lives of the assets:

computer equipment three years;

software five years;

laboratory equipment four years;

office equipment seven years; and

leasehold improvements over the lesser of the estimated life of the asset or the lease term.

During 2008, 2007 and 2006, fully depreciated assets with gross value of $2,177, $1,420 and $3,236 were written-off, respectively. Repairs and maintenance costs are expensed as incurred.

Other Assets Other assets consist of an interest bearing certificate of deposit required to collateralize letters of credit relating to two ten year leases we entered into in October 2007 for facilities in Waltham, Massachusetts (see Note 8).

Impairment of Long-Lived Assets We continually evaluate whether events or circumstances have occurred that indicate that the estimated remaining useful lives of long-lived assets may require revision or that the carrying value of these assets may be impaired. To determine whether assets have been impaired, the estimated undiscounted future cash flows for the estimated remaining useful life of the respective assets are compared to the carrying value. To the extent that the undiscounted future cash flows are less than the carrying value, a new fair value of the asset is required

to be determined. If such fair value is less than the current carrying value, the asset is written down to its estimated fair value. We have had no impairments of long-lived assets since our inception.

Deferred Rent and Lease Incentive Obligation We recognize rent expense on our facilities in accordance with SFAS 13, *Accounting for Leases,* or SFAS 13. SFAS 13 requires us to recognize rent expense on a straight-line basis over the period we have access to our facilities. As discussed in Note 11, we were reimbursed by our landlords for certain leasehold improvements on our new facilities located in Waltham, MA. The reimbursements we received, or are contractually due to us in accordance with the lease agreements, are being deferred and amortized as a reduction of rent expense over the expected term of the lease. The deferred amounts are included in deferred rent and lease incentive obligation in the consolidated balance sheets.

Concentrations of Credit Risk and Financial Instruments Our financial instruments that potentially subject us to concentrations of credit risk are cash and cash equivalents, and marketable securities. We invest

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ALTUS PHARMACEUTICALS INC. AND SUBSIDIARY

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

cash that is not currently being used for operational purposes in accordance with our investment policy. The policy allows for the purchase of low-risk debt securities issued by the U.S. government and very highly-rated banks and corporations, subject to certain concentration limits. The policy allows for maturities that are no longer than 18 months. We believe our established guidelines for investment of excess cash maintains preservation of capital and liquidity through our policy on diversification and investment maturity.

Revenue Recognition Substantially all the revenue we recognize is contract revenue from current and former collaborative agreements. We follow the provisions of the Securities and Exchange Commission s, or the SEC s, Staff Accounting Bulletin, or SAB, No. 104 (SAB No. 104) *Revenue Recognition*, Emerging Issues Task Force, or EITF, Issue No. 00-21 (EITF 00-21) *Accounting for Revenue Arrangements with Multiple Deliverables*, and EITF Issue No. 99-19 (EITF 99-19) *Reporting Revenue Gross as a Principal Versus Net as an Agent*.

Contract revenue includes revenue from collaborative license and development agreements with biotechnology and pharmaceutical companies for the development and commercialization of our product candidates. The terms of the agreements typically include non-refundable license fees, reimbursement for all or a portion of research and development, payments based upon achievement of clinical development and commercial milestones and royalties on product sales.

Collaborative agreements are often multiple element arrangements, providing for a license as well as research and development services. Such arrangements are analyzed to determine whether the deliverables, including research and development services, can be separated or whether they must be accounted for as a single unit of accounting in accordance with EITF 00-21. We recognize upfront license payments as revenue upon delivery of the license only if the license has standalone value and the fair value of the undelivered performance obligations can be determined. If the fair value of the undelivered performance obligations can be determined, such obligations would then be accounted for separately as performed. If the license is considered to either (i) not have standalone value or (ii) have standalone value but the fair value of any of the undelivered performance obligations cannot be determined, the arrangement would then be accounted for as a single unit of accounting and the upfront license payments are recognized as revenue over the estimated period performance obligations are performed.

When we determine that an arrangement should be accounted for as a single unit of accounting, we must determine the period over which the performance obligations will be performed and revenue related to upfront license payments will be recognized. Revenue is recognized using either a proportional performance or straight-line method. Revenue is limited to the lesser of the cumulative amount of payments received or the cumulative amount of revenue earned as of the period ending date.

We recognize revenue using the proportional performance method provided we can reasonably estimate the level of effort required to complete our performance obligations under an arrangement and such performance obligations are provided on a best-efforts basis. Under the proportional performance method, periodic revenue related to upfront license and other payments is recognized based on the percentage of actual effort expended in that period to total effort budgeted for all of our performance obligations under the arrangement. Significant management judgment is required in determining the level of effort required under an arrangement and the period over which we expect to complete the related performance obligations. Management reassessed its estimates quarterly and made judgments based on the best information available. Estimates changed periodically based on changes in facts and circumstances, resulting in changes in the amount of revenue recognized in future periods.

We used the proportional performance method of revenue recognition for our collaborations for the development of Trizytek[tm] [liprotamase]. Since the inception of our former collaboration agreements with CFFTI and Dr. Falk, we adjusted our estimated costs to complete the development program for Trizytek on five occasions, including during the third quarters of 2006 and 2007, resulting in cumulative adjustments in

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revenue each time. During the third quarters of 2006 and 2007, we increased our estimated development costs for Trizytek, which resulted in us decreasing cumulative revenue by $3,684 and $1,966 in the third quarters of 2006 and 2007, respectively.

If we cannot reasonably estimate the level of effort required to complete our performance obligations under an arrangement, the performance obligations are provided on a best-efforts basis and we can reasonably estimate when the performance obligation ceases or becomes inconsequential, then revenue would be recognized on a straight-line basis over the period we expect to complete our performance obligations.

Collaborations may also involve substantive milestone payments. Substantive milestone payments are considered to be performance bonuses that are recognized upon achievement of the milestone only if all of the following conditions are met: (1) the milestone payments are non-refundable, (2) achievement of the milestone involves a degree of risk and was not reasonably assured at the inception of the arrangement, (3) substantive effort is involved in achieving the milestone, (4) the amount of the milestone payment is reasonable in relation to the effort expended or the risk associated with achievement of the milestone and (5) a reasonable amount of time passes between the upfront license payment and the first milestone payment as well as between each subsequent milestone payment.

Reimbursement of research and development costs is recognized as revenue provided the provisions of EITF No. 99-19 are met, the amounts are determinable and collection of the related receivable is reasonably assured.

Royalty revenue is recognized upon the sale of the related products, provided that the royalty amounts are fixed or determinable, collection of the related receivable is reasonably assured and we have no remaining performance obligations under the arrangement.

Contract amounts which are not due until the customer accepts or verifies the research results are not recognized as revenue until payment is received or the customer s acceptance or verification of the results is evidenced, whichever occurs earlier. In the event warrants are issued in connection with a collaborative agreement, contract revenue is recorded net of amortization of the fair market value of the related warrants at the time of grant.

Deferred revenue consists of payments received in advance of revenue recognized under collaborative agreements. If payments received under a collaborative agreement are non-refundable, the termination of that collaborative agreement before its completion could result in an immediate recognition of deferred revenue relating to payments received from the collaborative partner but not previously recognized as revenue.

Stock-Based Compensation On January 1, 2006, we adopted Statement of Financial Accounting Standards, or SFAS, No. 123(R), *Share-Based Payment,* or SFAS 123(R), as required, using the modified prospective application method. We estimate the fair value of the equity instruments using the Black-Scholes option-pricing model and recognize compensation cost ratably over the appropriate vesting period.

We account for transactions in which goods and services are received in exchange for equity instruments based on the fair value of such goods and services received or of the equity instruments issued, whichever is more reliably measured. When equity instruments are granted or sold in exchange for the receipt of goods or services and the value of those goods or services can not be readily estimated, as is true in connection with most stock options and warrants granted to employees, directors, consultants and other non-employees, we determine the fair value of the equity

instruments using all relevant information, including application of the Black-Scholes option-pricing model.

Income Taxes We record deferred tax assets and liabilities for the expected future tax consequences of temporary differences between our financial statement carrying amounts and the tax bases of assets and liabilities using enacted tax rates expected to be in effect in the years in which the differences are expected to

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reverse. A valuation allowance is provided to reduce the deferred tax assets to the amount that will more likely than not be realized.

Net Loss per Share Basic and diluted net loss per common share is calculated by dividing net loss attributable to common stockholders by the weighted average number of common shares outstanding during the period. Diluted net loss per common share is the same as basic net loss per common share, since the effects of potentially dilutive securities are antidilutive for all annual periods presented.

Outstanding dilutive securities not included in the calculation of diluted net loss attributable to common stockholders per share were as follows for the years ended December 31:

	2008	2007	2006
		(In thousands)	
Options to purchase common stock	4,053	3,755	3,544
Warrants to purchase common stock	3,170	3,593	3,603
Total	7,223	7,348	7,147

Comprehensive Loss Comprehensive loss includes net loss and other comprehensive income (loss). Other comprehensive income (loss) refers to revenues, expenses, gains and losses that under accounting principles generally accepted in the United States of America are excluded from net income (loss) as these amounts are recorded directly as an adjustment to stockholders equity, net of tax. Other comprehensive loss was $93 in 2008. Other comprehensive income was $270 and $20 in 2007 and 2006, respectively. Other comprehensive income (loss) is composed of unrealized gains (losses) on available-for-sale marketable securities.

Segment Reporting Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief decision-maker, or decision-making group, in making decisions regarding resource allocation and assessing performance. Our chief decision maker uses consolidated financial information in determining how to allocate resources and assess performance and has determined that we operate in one segment, focusing on developing and commercializing novel protein therapeutics for patients with gastrointestinal and metabolic diseases.

4. RELATED-PARTY TRANSACTIONS

Vertex During 2006, we leased a small laboratory from Vertex, which was also a stockholder during that period of time. Vertex s ownership interest in us on a fully converted basis at January 1, 2006 was approximately 14%, consisting of redeemable preferred stock, Series A convertible preferred stock, common stock and warrants to purchase common stock. With the exception of the redeemable preferred stock, Vertex divested itself of any ownership interest in us in 2006. The total amount paid to Vertex for the laboratory during the year ended December 31, 2006 was $62, which was included in research and development expense in that year. At December 31, 2006, we had no amounts payable to Vertex. We have an exclusive, royalty-free, fully-paid license to patents relating

to cross-linked enzyme crystals from Vertex. Vertex retained a non-exclusive right to use the licensed patents and know-how for specified uses. These licenses expire on a patent-by-patent basis. There were no financial transactions with Vertex during 2007 or 2008.

Sublease Payments We subleased certain laboratory and office space from Shire Pharmaceuticals plc (Shire) under a lease agreement which expired on December 31, 2008. In November 2006, an employee of Shire became a member of our Board of Directors. Rental payments made by us to Shire during 2008 and 2007 were $400 and $497, respectively. Rental payments made by us to Shire during 2006 after this individual became a member of our Board of Directors were $33. There were no amounts payable to Shire at December 31, 2007 or 2008. On December 31, 2007, this individual retired from Shire.

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5. COLLABORATIONS

Cystic Fibrosis Foundation Therapeutics, Inc. On February 20, 2009, CFFTI and we entered into a letter agreement, or the Letter Agreement, and a license agreement, or the License Agreement, terminating our strategic alliance agreement. Under the terms of the License Agreement, we assigned the Trizytek trademark and certain patent rights to CFFTI and granted CFFTI an exclusive, worldwide, royalty-bearing license to use certain other intellectual property owned or controlled by us to develop, manufacture and commercialize any product using, in any combination, the three active pharmaceutical ingredients which comprise Trizytek. In these agreements, we also agreed to assist CFFTI with a transition of our on-going development and regulatory activities and clinical trials through March 27, 2009, after which CFFTI will be responsible for future development activities. In exchange, CFFTI agreed to release us from all obligations and liabilities resulting from the original strategic alliance agreement, and to pay us a percentage of any proceeds CFFTI realizes associated with respect to any rights licensed or assigned to CFFTI under the License Agreement. We anticipate incurring between $8 million and $9 million in the first quarter of 2009 associated with completing specific validation activities at Lonza and continuing on-going clinical trials and new drug application, or NDA, preparation activities through the March 27, 2009 transition.

In February 2001, we entered into a strategic alliance agreement with CFFTI to collaborate on the development of Trizytek and specified derivatives of Trizytek in North America for the treatment of malabsorption due to exocrine pancreatic insufficiency in patients with cystic fibrosis and other indications. The agreement, in general terms, provided us with funding from CFFTI for a portion of the development costs of Trizytek upon the achievement of specified development milestones, up to a total of $25,000, in return for specified payment obligations and our obligation to use good faith reasonable efforts to develop and bring Trizytek to market in North America. As of December 31, 2008, we had received a total of $18,400 of the $25,000 available under the CFFTI agreement and recognized cumulative revenue of $17,114. Under the terms of the agreement, we were eligible to receive a final milestone payment of $6,600, less an amount determined by when we achieve the milestone. Revenue from CFFTI accounted for 68%, 12%, and 45% of our total revenue in 2008, 2007, and 2006, respectively.

If we had been successful in obtaining United States Food and Drug Administration, or FDA, approval of Trizytek, we would have been required to pay CFFTI a license fee equal to the aggregate amount of milestone payments we have received from CFFTI, plus interest, up to a maximum of $40,000, less the fair market value of the shares of stock underlying the warrants issued to CFFTI. This fee, plus interest on the unpaid balance, would have been due in four annual installments, commencing 30 days after the approval date. We also agreed to pay an additional $1,500 to CFFTI within 30 days after the approval date. In addition, we were obligated to pay royalties to CFFTI consisting of a percentage of worldwide net sales by us or our sublicensees of Trizytek for any and all indications until the expiration of specified United States patents covering Trizytek.

In connection with the execution of the CFFTI agreement and the first amendment of the agreement, we issued to CFFTI warrants to purchase a total of 261,664 shares of our common stock at an exercise price of $0.02 per share, including 174,443 warrants with a fair value of $1,748 issued at the time of the agreement in February 2001. The fair value of the 174,443 warrants was being recognized as a discount to contract revenue and amortized against the gross revenue earned under the contract. $461 remained to be amortized against future revenues. In the fourth quarter of 2008, it became probable that we would not receive the final milestone payment noted above and thus we determined that the carrying value of the asset was not recoverable as of December 31, 2008, and accordingly we wrote-off the asset resulting in a reduction to revenue in the fourth quarter of 2008.

Dr. Falk Pharma GmbH Effective June 6, 2007, Dr. Falk and we agreed to terminate the agreement outside of the provisions of the original agreement, and we reacquired the European Marketing Rights previously licensed to Dr. Falk under the agreement. Dr. Falk and we had differing views regarding the optimal development and commercialization path in Europe, and ultimately concluded that reacquisition of

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European Marketing Rights by us would be in the best strategic interest of both parties. In exchange, we agreed to make cash payments to Dr. Falk totaling 12,000, payable in installments through 2010. Both parties were absolved from any further performance obligations under the original contract.

At the time of the termination agreement, we recorded a net liability of $14,148, which reflected the net present value of our cash payment obligations to Dr. Falk discounted at our estimated incremental borrowing rate of 11.0%. This discount is being amortized as interest expense over the period that payments are due to Dr. Falk. Due to the uncertainty associated with us receiving potential future cash flows from the commercialization of Trizytek under our reacquired marketing rights in the Licensed Territory, we expensed this cost in the second quarter of 2007. The expense for the reacquisition of the European Marketing Rights was reduced by the reversal of $2,655 of deferred revenue, representing the remaining balance associated with the non-refundable upfront and milestone payments received from Dr. Falk, since we no longer have any remaining performance obligations under the original agreement. We will not recognize any further revenue under the agreement and will not receive any further milestone or royalty payments.

In December 2002, we entered into a development, commercialization and marketing agreement with Dr. Falk for the development by us of Trizytek and the commercialization by Dr. Falk of Trizytek, if approved, in Europe, the countries of the former Soviet Union, Israel and Egypt, which we refer to as the Licensed Territory. Under the agreement, we granted Dr. Falk an exclusive, sublicensable license under specified patents that cover Trizytek to commercialize Trizytek for the treatment of symptoms caused by exocrine pancreatic insufficiency, in Europe, the countries of the former Soviet Union, Israel and Egypt, which we refer to as European Marketing Rights.

As of December 31, 2006, we had received non-refundable upfront and milestone payments from Dr. Falk under the agreement totaling 11,000, which was equal to $12,879 based on exchange rates in effect at the time we received the milestone payments. We recognized revenue related to these payments from Dr. Falk using the proportional performance method, and since the inception of the agreement through December 31, 2006 we had recognized $10,224 of contract revenue. During the first quarter of 2007, we deferred contract revenue associated with the agreement due to our discussions with Dr. Falk regarding our business relationship, as discussed above.

We recognized no revenue from Dr. Falk in 2008 and 2007. Revenue from Dr. Falk accounted for 55% of our total revenue in 2006.

Genentech, Inc. In December 2006, we entered into a collaboration and license agreement with Genentech for the development, manufacture and commercialization of ALTU-238. The effective date of the agreement was February 21, 2007, following expiration of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended. Under the terms of the agreement, we granted Genentech exclusive rights and license to make (and have made), use and import ALTU-238, and to sell ALTU-238 in North America if approved by the FDA. Genentech had the option to expand the agreement to a global agreement. The agreement, in general terms, provided that Genentech would assume full responsibility for the development, manufacture and commercialization of ALTU-238. Under the agreement, we had the option to elect to co-promote ALTU-238 in North America.

Pursuant to the agreement, Genentech made the following specific cash payments to us in 2007: a $15,000 upfront non-refundable license fee payment, $15,000 in exchange for 794,575 shares of our common stock, and $6,662 to reimburse us for various development activities performed by us on Genentech s behalf. Genentech made additional

payments of $4,135 to us in 2008 to reimburse us for development activities performed on its behalf in the fourth quarter of 2007.

On December 19, 2007, Genentech and we entered into an agreement terminating the collaboration and license agreement effective December 31, 2007. Under the terms of the termination agreement, we reacquired the North American development and commercialization rights to ALTU-238, and the option to expand the

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

agreement to a global agreement expired unexercised. In addition, Genentech agreed to provide, for a limited time, supplies of human growth hormone for further clinical development and commercialization of ALTU-238 in North America and clinical development and commercialization purposes outside North America, and to pay us a $4,000 termination payment to fund the transition of the project back to us. Upon commercialization, Genentech will be entitled to a nominal royalty on net sales of ALTU-238.

Before we entered into the termination agreement, we did not recognize any revenue related to the upfront payment or reimbursements for development activities performed on Genentech s behalf because provisions in the original agreement precluded us from concluding that revenue was fixed or determinable. As a result of the amendment of the collaborative agreement, the amount of revenue to recognize became fixed and determinable, and our estimated performance period under the amended agreement changed to coincide with the December 31, 2007 termination effective date. Accordingly, we recognized revenue of $25,116 in December 2007, comprised of the original $15,000 upfront payment and cost reimbursements received and estimated to be due to us for development work performed on Genentech s behalf. In addition, we recognized a gain as a result of terminating the collaboration and license agreement with Genentech in the amount of the $4,000 termination payment in December 2007. We recognized revenue of $681 in 2008, representing cost reimbursements received in 2008 for work performed on Genentech s behalf in the fourth quarter of 2007.

Revenue from Genentech comprised 32% and 88% of our 2008 and 2007 total revenue, respectively.

6. MARKETABLE SECURITIES

At December 31, 2008, all marketable securities were classified as available-for-sale and consisted of the following:

	Cost	Gross Unrealized Gains	Aggretate Fair Value
U.S. government sponsored entities	$ 23,098	$ 195	$ 23,293
Commercial paper	2,997	2	2,999
Total marketable securities	$ 26,095	$ 197	$ 26,292

At December 31, 2007, all marketable securities were classified as available-for-sale and consisted of the following:

	Cost	Gross Unrealized Gains	Aggretate Fair Value
Corporate fixed income	$ 1,796	$ 19	$ 1,815
U.S. government sponsored entities	7,957	50	8,007

Commercial paper	14,682	221	14,903
Total marketable securities	$ 24,435	$ 290	$ 24,725

Available-for-sale marketable securities are carried at fair value. At December 31, 2008, all of our marketable securities had maturities of less than one year. We did not recognize any realized gains or losses during 2008, 2007 or 2006.

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7. PROPERTY AND EQUIPMENT

Property and equipment are summarized as follows:

	December 31, 2008	2007
Laboratory equipment	$ 9,605	$ 6,781
Computer equipment	525	497
Office equipment	239	326
Leasehold improvements	5,612	1,722
Software	565	565
Equipment in process	397	2,761
Total Property and equipment, at cost	16,943	12,652
Less: Accumulated depreciation	(7,342)	(6,661)
Property and equipment, net	$ 9,601	$ 5,991

Depreciation expense related to property and equipment totaled $2,868, $3,270, and $2,888 for the years ended December 31, 2008, 2007 and 2006, respectively.

8. OTHER ASSETS

Other assets consisted of the following:

	December 31, 2008	2007
Restricted cash	$ 3,700	$ 3,700
Fair value of CFFTI warrants, net		607
Other		25
Total	$ 3,700	$ 4,332

In October 2007, we entered into ten year leases for two neighboring facilities in Waltham, Massachusetts (see Note 12). In connection with these leases, we were required to provide two letters of credit to the respective landlords. In connection with the issuance of the letters of credit, we were required to place a total of $3,700 into an interest bearing certificate of deposit as collateral.

In connection with the execution of our strategic alliance with CFFTI in 2001, we issued CFFTI fully vested warrants to purchase 174,443 shares of common stock at an exercise price of $0.02 per share. The fair value of the warrants on the date of grant was $1,748. The fair value of the warrants was being accounted for as a discount to contract revenue and amortized against the gross revenue earned under the contract. Warrant amortization totaled $146, $254, and $171 during the years ended December 31, 2008, 2007 and 2006, respectively. As discussed in Note 5, we wrote-off the remaining unamortized balance of $461 against revenue in the fourth quarter of 2008.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

9. ACCOUNTS PAYABLE AND ACCRUED EXPENSES

Accounts payable and accrued expenses consisted of the following:

	December 31, 2008	2007
Accounts payable	$ 1,678	$ 2,984
Accrued compensation	700	2,504
Accrued professional fees	346	126
Accrued research and development	8,500	6,084
Other accrued expenses	1,344	1,468
Total	$ 12,568	$ 13,166

10. DR. FALK PHARMA GMBH OBLIGATION

Effective June 6, 2007, Dr. Falk and we agreed to terminate our collaborative agreement and we reacquired Dr. Falk s European Marketing Rights. Based on the termination agreement, we agreed to make cash payments to Dr. Falk totaling 12,000, payable as follows: 5,000, which was paid in July 2007 and equated to $6,735 based on foreign currency rates in effect at the time of payment, 2,000, which was paid in June 2008 and equated to $3,136 based on foreign currency rates in effect at the time of payment, 2,000 on June 6, 2009 and 3,000 on June 6, 2010. At the time of the termination agreement, we recorded a net liability of $14,148, which reflected the net present value of our cash payment obligations to Dr. Falk discounted at our estimated incremental borrowing rate of 11.0%. This discount is being amortized as interest expense over the period payments are due to Dr. Falk.

The balance of the current and long-term portions of the Dr. Falk obligation, net of discounts, was as follows as of December 31, 2008:

	Euro	USD Obligation		
Year	Obligation	Short Term	Long Term	Total
2009	2,000	$ 2,820	$	$ 2,820
2010	3,000		4,229	4,229
Gross obligation	5,000	2,820	4,229	7,049
Less: discount		(520)	(180)	(700)
Obligation, net of discount		$ 2,300	$ 4,049	$ 6,349

During 2008, we recognized a foreign currency exchange gain of $125 on the gross obligation and recorded interest expense of $745. From the date of the termination agreement to December 31, 2007, we recognized a foreign currency exchange loss of $897 on the gross obligation and recorded interest expense of $555.

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11. INDEBTEDNESS

Indebtedness consisted of the following:

	December 31, 2008	2007
Equipment loans, due through April 2011, bearing interest rates between 9.2% and 11.0%, with a weighted average interest rate of 10.8%, and 9.8% at December 31, 2008 and 2007, respectively	$ 2,745	$ 2,875
Less: current portion	(1,313)	(2,137)
Long-term portion	$ 1,432	$ 738

In May 2004, we entered into a master loan and security agreement, or the security agreement, with a lender and entered into a new equipment loan providing up to $6,901 of funding. We borrowed a total of $3,952 under this equipment loan in 2005 and 2006. During 2008, we entered into another equipment loan under the security agreement providing $2,476 of additional funding. At December 31, 2008, outstanding borrowings under these equipment loans were $2,745. These borrowings, with repayment terms ranging between 36 and 48 months, are collateralized by the underlying equipment.

12. COMMITMENTS AND CONTINGENCIES

Leases We lease our office and laboratory space under noncancelable operating leases.

On October 29, 2007, we entered into two ten year leases for new laboratory and office facilities in Waltham, Massachusetts. The leases commenced on October 1, 2008 upon the completion of facility construction and improvements by each landlord. Our annual fixed rent payments for the two leases in years one through five are $4,632. Beginning in year six, our annual fixed rent payments for the two leases will be approximately $5,244. In addition, the landlords of the two properties agreed to provide improvement and space planning allowances of $3,052, of which $2,435 was reimbursed to us as of December 31, 2008 and $617 was payable to us at December 31, 2008 and subsequently received in January 2009. These amounts are recorded as lease incentive obligations on the balance sheet and are being amortized as a reduction to rent expense over the term of the leases. We also have the option to extend the term of each lease for two additional five-year periods.

Future minimum payments under our operating leases are as follows at December 31, 2008

Year Ending December 31:	Operating Leases
2009	$ 4,632

2010	4,632
2011	4,632
2012	4,632
2013	4,785
Thereafter	24,908
Total minimum lease payments	$ 48,221

Total rent expense under our operating lease agreements during the years ended December 31, 2008, 2007 and 2006, was $6,815, $2,614 and $1,704, respectively.

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Purchase Commitments We have contractual purchase obligations to contract manufacturing organizations. Amounts due are as follows at December 31, 2008:

	Purchase Commitment
2009	$ 9,340
2010	2,379
Total	$ 11,719

13. REDEEMABLE PREFERRED STOCK

Redeemable Preferred Stock In connection with our 1999 reorganization, 450,000 shares of redeemable preferred stock, par value $0.01 per share, or Redeemable Preferred Stock, were issued to Vertex with a value of $3,100. Vertex has no stockholder voting rights and is entitled to receive dividends at an annual rate of $0.50 per share. Dividends are cumulative whether or not declared by the Board of Directors and have been accrued in the amount of approximately $2,231 and $2,006, at December 31, 2008 and 2007, respectively.

The Redeemable Preferred Stock is redeemable for cash on or after December 31, 2010 at the option of Vertex, or at our option at any time, at a price of $10.00 per share plus accrued and unpaid dividends. Upon liquidation, Vertex is entitled to receive, prior to any payment with respect to the common stock, $10.00 per share plus accrued but unpaid dividends. We are prohibited from declaring or paying dividends on shares of common stock until we have paid all accrued but unpaid dividends on Redeemable Preferred Stock.

Series B Convertible Preferred Stock In December 2001, we completed a private placement of 11,773,609 shares of our Series B Convertible Preferred Stock, or Series B Preferred Stock, and warrants to purchase an additional 1,154,546 shares of the Series B Preferred Stock at approximately $4.31 per share. The Series B Preferred Stock accrued dividends at a rate of 6% of the purchase price per annum. Our net proceeds were $46,180 (net of issuance costs of $4,620). The warrants were exercisable immediately and expired no later than December 7, 2008. The fair value of the warrants on the date of issuance was $2,730. Accordingly, $2,730 of the net proceeds received from the sale of the Series B Preferred Stock was allocated to the warrants and recorded as an increase to additional paid-in capital.

The Series B Preferred Stock converted into common stock, the related warrants were converted into common stock warrants and accrued but unpaid dividends on the Series B Preferred Stock were satisfied through the issuance of shares of common stock upon the completion of our initial public offering (see Note 14).

Series C Convertible Preferred Stock In May 2004, we completed a private placement of 11,819,959 shares of our Series C Convertible Preferred Stock, or Series C Preferred Stock and warrants to purchase an additional 2,600,400 shares of Series C Preferred Stock at approximately $4.31 per share. The Series C Preferred Stock accrued dividends at a rate of 9% of the purchase price per annum. Our net proceeds were $50,372 (net of issuance costs of

$636). The warrants were exercisable immediately and expire no later than May 21, 2011. The fair value of the warrants on the date of issuance was $8,717. Accordingly, $8,717 of the net proceeds received from the sale of the Series C Preferred Stock was allocated to the warrants and recorded as an increase to additional paid-in capital

The Series C Preferred Stock converted into common stock, the related warrants were converted into common stock warrants and accrued but unpaid dividends on the Series C Preferred Stock were satisfied through the issuance of shares of common stock upon the completion of our initial public offering (see Note 14).

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14. STOCKHOLDERS EQUITY (DEFICIT)

In connection with the initial public offering in January 2006, all shares of Series B Preferred Stock and Series C Preferred Stock, plus accrued but unpaid dividends were converted into 11,777,538 shares of common stock and all shares of Series A Convertible Preferred Stock, or Series A Preferred Stock, were converted into 381,596 shares of common stock. All warrants to purchase Series B Preferred Stock and warrants to purchase Series C Preferred Stock were automatically converted into warrants to purchase 1,652,884 shares of our common stock at an exercise price of $9.80 per share. All of these converted warrants became exercisable immediately upon conversion. These warrants contain provisions that result in the reduction of the exercise price per share of such warrants to the extent we issue or are deemed to issue equity at a per share price that is less than the current exercise price of the warrants. 1,133,112 of these warrants remained outstanding at December 31, 2008.

In 1999, we issued warrants to Vertex for the purchase of 1,962,494 shares of common stock at an exercise price, as amended in 2001, of $5.64 per share. During 2006, Vertex sold these warrants to an institutional investor. These warrants also contain provisions that result in the reduction of the exercise price per share of such warrants to the extent we issue or are deemed to issue equity at a per share price that is less than the current exercise price of the warrants. These warrants expired unexercised on February 1, 2009.

We also issued 174,443 warrants in connection with the strategic alliance agreement with CFFTI (see Notes 5 and 8). Of the total warrants issued, 100,479 became exercisable immediately upon us completing an initial public offering and were exercised by CFFTI during 2006 using the net issue exercise provision allowed under the terms of the agreement, resulting in 100,333 shares of common stock issued to CFFTI. The remaining 73,964 warrants are exercisable after February 21, 2011, or earlier upon certain triggering events related to product development progress, and expire on February 22, 2013. A summary of common stock warrants outstanding as of December 31, 2008 are as follows:

Outstanding Warrants	Exercise Price	Expiration Date
1,133,112	$ 9.80	May 21, 2011
1,962,494	$ 5.64	February 1, 2009
73,964	$ 0.02	February 22, 2013
3,169,570		

15. INCOME TAXES

A reconciliation of the expected income tax (benefit) computed using the federal statutory income tax rate to our effective income tax rate is as follows for the years ended December 31:

	2008	2007

Income tax computed at federal statutory tax rate	35.00%	35.00%
State taxes, net of federal benefit	2.66%	4.20%
Change in valuation allowance	(33.39)%	(31.71)%
Change in tax credit carryforwards	(2.07)%	(4.20)%
Permanent differences	(0.97)%	(1.35)%
Other	(1.23)%	(1.94)%
Total	0.00%	0.00%

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ALTUS PHARMACEUTICALS INC. AND SUBSIDIARY

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The significant components of deferred taxes were as follows at December 31:

	2008	2007
Net operating loss carryforwards	$ 101,649	$ 68,565
Tax credit carryforwards	11,452	9,530
Deferred revenue		835
Intangible assets	5,062	5,439
Capitalized research and development	520	680
Other	5,116	3,180
Net deferred tax assets	123,799	88,229
Valuation allowance	(123,799)	(88,229)
Net deferred tax balance	$	$

We have established a full valuation allowance against our net deferred tax assets due to uncertainty surrounding the future recognition of these tax assets. The increases in the valuation allowance during the years ended December 31, 2008 and 2007 were $35,570 and $32,519, respectively. At December 31, 2008, we had federal net operating loss, or NOL, carryforwards of approximately $265,438 and tax credits of $9,099 and state NOLs of $249,252 and state tax credits of $2,354. The NOL carryforwards expire through 2013 for state purposes and through 2028 for federal purposes. The federal tax credits expire through 2028 and the state tax credits expire through 2023. The tax loss carryforwards may be subject to limitation by Section 382 of the Internal Revenue Code with respect to the amount utilizable each year. We have not quantified the amount of the limitation, if any.

The federal and state NOL carryforwards include approximately $9,293 of deductions related to the exercise of stock options subsequent to the adoption of SFAS 123(R). This amount represents an excess tax benefit as defined under SFAS 123(R) and has not been included in the gross deferred tax asset reflected for net operating losses.

As of January 1, 2007, we recorded no liability for unrecognized tax benefits related to various federal and state income tax matters. We continued to record no liability for the year ended December 31, 2008. We do not expect that the amounts of unrecognized tax benefits will change significantly within the next 12 months. Future changes in unrecognized tax benefit will have no impact on our effective tax rate due to the existence of our valuation allowance.

We file income tax returns in the U.S. federal and Massachusetts jurisdictions. We are no longer subject to tax examinations before 2003, except to the extent that we utilize net operating losses or tax credit carryforwards that originated before 2003. We do not believe there will be any material changes to our unrecognized tax positions over the next 12 months. We have not incurred any interest or penalties. In the event that we are assessed interest or penalties at some point in the future, they will be classified in the financial statements as general and administrative expense.

16. STOCK-BASED COMPENSATION

We operate the 2002 Employee, Director, and Consultant Stock Option Plan, or the 2002 Plan, which replaced the 1993 Stock Option Plan, or the 1993 Plan, on February 7, 2002. In January 2009, under the evergreen provision the 2002 Plan, an additional 1,150,617 shares were made available for future grant under the 2002 Plan. Under the 1993 and 2002 Plans, the total number of shares issuable upon exercise of outstanding stock options and available for future grant to employees, directors and consultants at December 31, 2008 was 5,559,774 shares.

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All option grants are nonstatutory (nonqualified) stock options except option grants to employees (including officers and directors) intended to qualify as incentive stock options under the Internal Revenue Code. Incentive stock options may not be granted at less than the fair market value of our common stock on the date of grant. Nonqualified stock options may be granted at an exercise price established by the Board of Directors at its sole discretion. Vesting periods are generally quarterly over a four year period and are determined by the Board of Directors or a delegated subcommittee or officer. Options granted under the 1993 and 2002 Plans expire no more than 10 years from the date of grant.

In connection with Dr. Georges Gemayel joining Altus as Chief Executive Officer, or CEO, he was granted stock options to purchase up to 900,000 shares of common stock at an exercise price per share equal to the closing price on June 2, 2008, the first day of Dr. Gemayel s employment. The options vest over four years. The total grant was comprised of options to purchase 560,000 shares under the 2002 Plan and an inducement grant of a non-qualified option to purchase 340,000 shares. The 2002 Plan limits the issuance of stock options to any one individual to a maximum of 560,000 options during a fiscal year. In order to grant a total of 900,000 options to Dr. Gemayel, we granted the additional 340,000 options as a one-time inducement grant allowed under NASDAQ Marketplace Rule 4350(i)(1)(A)(iv), which was granted on substantially identical terms and conditions as those contained in the 2002 Plan.

We account for stock options in accordance with SFAS No. 123(R). We determine the fair value of equity instruments using the Black-Scholes option-pricing model and recognize compensation cost ratably over the appropriate service period.

SFAS 123R requires the application of an estimated forfeiture rate to current period expense to recognize stock-based compensation expense only for those awards expected to vest. We estimate forfeitures based upon historical data, adjusted for known trends, and will adjust our estimate of forfeitures if actual forfeitures differ, or are expected to differ from such estimates. Subsequent changes in estimated forfeitures will be recognized through a cumulative adjustment in the period of change and will also impact the amount of stock-based compensation expense in future periods.

The following table represents stock-based compensation expense included in our Consolidated Statements of Operations for the years ended December 31:

	2008	2007	2006
Research and development	$ 2,092	$ 3,308	$ 1,922
General, sales and administrative	3,703	3,649	1,495
Total	$ 5,795	$ 6,957	$ 3,417

The fair value of the stock options granted was estimated on the date of grant using all relevant information, including application of the Black-Scholes option-pricing model. When applying the Black-Scholes option-pricing model to compute stock-based compensation, we assumed the following:

	2008	2007	2006
Risk-free interest rate	2.8% to 3.6%	3.6% to 5.0%	4.4% to 5.2%
Expected average option life	5.75 to 6.25 years	6.25 years	6.25 years
Dividends	None	None	None
Volatility	68% to 87%	75%	75%

The expected average option life assumption is based upon the simplified or plain-vanilla method, provided under SAB 107 which averages the contractual term of the our options (10 years) with the vesting term (4 years) taking into consideration multiple vesting tranches. Expected volatility is based upon the historical volatility data of our common stock and the historical volatility of comparable companies over the expected option term.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

A summary of the stock option activity under the 1993 Plan, 2002 Plan and inducement grant to our CEO is as follows:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term
Options outstanding December 31, 2007	3,754,788	$ 10.69	
Granted	2,046,255	4.75	
Exercised	(340,021)	3.92	
Forfeited	(887,200)	10.77	
Expired	(520,546)	11.58	
Options outstanding December 31, 2008	4,053,276	$ 8.12	7.6
Options exercisable December 31, 2008(1)	1,846,840	$ 9.19	6.6
Options vested and expected to vest December 31, 2008	3,790,782	$ 8.13	7.5

(1) Options and awards granted prior to January 25, 2006 are generally exercisable immediately, but the shares purchased are subject to restriction on transfer until vested.

As of December 31, 2008, all outstanding stock options had exercise prices greater than the closing common stock price, which was $0.53. Consequently, none of the stock options had any intrinsic value at December 31, 2008. The intrinsic value of options exercised during 2008, 2007 and 2006 was $292, $3,355 and $8,191, respectively. Cash received upon the exercise of stock options during these periods was $1,333, $1,451 and $2,997, respectively, and no tax benefit was recognized from the exercises due to our net operating losses. We issue shares for the exercise of stock options from unissued reserved shares.

The weighted-average fair value of options granted at exercise prices equal to fair market value during 2008, 2007 and 2006 was $3.12, $9.73 and $12.03, respectively.

As of December 31, 2008, total unrecognized stock-based compensation expense relating to unvested employee stock awards, adjusted for estimated forfeitures, was $13,454. This amount is expected to be recognized over a weighted-average period of 2.6 years. If actual forfeitures differ from current estimates, total unrecognized stock-based compensation expense will be adjusted for future changes in estimated forfeitures.

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ALTUS PHARMACEUTICALS INC. AND SUBSIDIARY

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

The following table summarizes information about stock options outstanding:

	December 31, 2008				
Range of Exercise Prices	Number Outstanding	Weighted-Average Remaining Contractual Life (Years)	Weighted-Average Exercise Price	Number Vested	Weighted-Average Exercise Price Vested
$0.59 - $3.84	3,950	9.7	$ 1.33	94	$ 3.84
3.92	788,658	4.6	3.92	777,339	3.92
3.93 - 4.04	77,990	9.2	3.94	11,895	3.94
4.07	900,797	9.4	4.07	141	4.07
4.14 - 5.34	410,435	8.9	4.92	42,768	4.41
5.36 - 5.87	474,796	9.0	5.72	156,464	5.68
6.76 - 13.04	489,646	6.9	11.71	274,746	11.61
13.27 - 15.71	413,105	7.1	14.33	225,331	14.34
16.00 - 19.17	406,212	7.4	18.57	249,677	18.62
19.21 - 24.20	87,687	7.3	21.78	56,513	21.85
Total $0.59 - $24.20	4,053,276	7.6	$ 8.12	1,794,968	$ 9.18

17. EMPLOYEE BENEFIT PLANS

401(k) Retirement Plan Our employees are eligible to participate in our 401(k) retirement plan. Participants may contribute up to 60% of their annual compensation to the plan, subject to statutory limitations. We may declare discretionary matching contributions to the plan. Matching contributions were $718, $673 and $516 for the years ended December 31, 2008, 2007 and 2006, respectively.

18. SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Year Ended December 31, 2008				
Revenue	$ 2,622	$	$	$ (461)(1)
Net loss	(24,499)	(25,260)	(22,131)	(24,732)
Net loss attributable to common stockholders	(24,555)	(25,316)	(22,187)	(24,789)

Net loss attributable to common stockholders per share, basic and diluted(2)	(0.80)	(0.82)	(0.71)	(0.80)
Year Ended December 31, 2007				
Revenue	$ 827	$ 1,508	$ (619)(3)	$ 26,771(4)
Net income (loss)	(15,767)	(30,436)	(22,495)	5,466(4)
Net income (loss) attributable to common stockholders	(15,823)	(30,492)	(22,551)	5,409(4)
Net income (loss) attributable to common stockholders per share:				
Basic	(0.67)	(1.06)	(0.73)	0.18
Diluted	(0.67)	(1.06)	(0.73)	0.16

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(1) In the fourth quarter of 2008, we evaluated the carrying value of the unamortized fair value of the warrants issued to CFFTI at the onset of the collaborative agreement and determined that the carrying value was not recoverable, and accordingly recorded negative revenue of $461 in the fourth quarter of 2008 to write-off the remaining unamortized balance.

(2) Basic and diluted net loss per common share is identical since common stock equivalents are excluded from the calculation as their effect is antidilutive.

(3) In the third quarter of 2007, we recorded a negative cumulative revenue adjustment of $1,966 based on an increase in our total estimated cost to develop Trizytek.

(4) In the fourth quarter of 2007, we recognized contract revenue of $25,116 and a gain of $4,000 related to the termination of the Genentech, Inc. Collaboration and License Agreement.

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