

AMICUS THERAPEUTICS INC  
Form 10-K  
February 28, 2012

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**FORM 10-K**

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

**For the fiscal year ended December 31, 2011**

**Commission File Number 001-33497**

**Amicus Therapeutics, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**1 Cedar Brook Drive, Cranbury, NJ 08512**

(Address of principal executive offices)

**Telephone: (609) 662-2000**

**71-0869350**  
(IRS Employer  
Identification No.)

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

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Title of each class	Name of each exchange on which registered
Common Stock, par value \$0.01 per share	The NASDAQ Stock Market LLC
<b>Securities registered pursuant to Section 12(g) of the Act: None</b>	

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

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, non-accelerated filer or a smaller reporting company. See definition of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act.

Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>
Non-accelerated filer <input type="checkbox"/>	Smaller Reporting Company <input checked="" type="checkbox"/>

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

The aggregate market value of the 10,435,171 shares of voting common equity held by non-affiliates of the registrant, computed by reference to the closing price as reported on the NASDAQ, as of the last business day of the registrant's most recently completed second fiscal quarter (June 30, 2011) was approximately \$61,984,916. Shares of voting and non-voting stock held by executive officers, directors and holders of more than 10% of the outstanding stock have been excluded from this calculation because such persons or institutions may be deemed affiliates. This determination of affiliate status is not a conclusive determination for other purposes.

As of February 17, 2012, there were 34,822,759 shares of common stock outstanding.

**DOCUMENTS INCORPORATED BY REFERENCE:** Portions of the Proxy Statement for the registrant's 2012 Annual Meeting of Stockholders which is to be filed subsequent to the date hereof are incorporated by reference into Part III of this Annual Report on Form 10-K.

<u>PART I</u>	2
Item 1. <u>BUSINESS</u>	2
Item 1A. <u>RISK FACTORS</u>	21
Item 1B. <u>UNRESOLVED STAFF COMMENTS</u>	40
Item 2. <u>PROPERTIES</u>	40
Item 3. <u>LEGAL PROCEEDINGS</u>	40
Item 4. <u>MINE SAFETY DISCLOSURES</u>	40
<u>PART II</u>	41
Item 5. <u>MARKET FOR THE REGISTRANT'S COMMON EQUITY, AND ISSUER PURCHASES OF EQUITY SECURITIES</u>	41
Item 6. <u>SELECTED FINANCIAL DATA</u>	44
Item 7. <u>MANAGEMENT'S DISCUSSION AND ANALYSIS OF OPERATIONS</u>	45
Item 7A. <u>QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK</u>	57
Item 8. <u>FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA</u>	58
Item 9. <u>CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE</u>	85
Item 9A. <u>CONTROLS AND PROCEDURES</u>	85
Item 9B. <u>OTHER INFORMATION</u>	85
<u>PART III</u>	86
Item 10. <u>DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE</u>	86
Item 11. <u>EXECUTIVE COMPENSATION</u>	87
Item 12. <u>SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS</u>	88
Item 13. <u>CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE</u>	88
Item 14. <u>PRINCIPAL ACCOUNTING FEES AND SERVICES</u>	88
<u>PART IV</u>	89
Item 15. <u>EXHIBITS, FINANCIAL STATEMENT SCHEDULE</u>	89
<u>SIGNATURES</u>	91

**SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS**

This annual report on Form 10-K contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, included in this annual report on Form 10-K regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management are forward-looking statements. The words anticipate, believe, estimate, expect, intend, may, plan, predict, project, will, would and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this annual report on Form 10-K include, among other things, statements about:

the progress and results of our clinical trials of our drug candidates, including migalastat HCl;

our ability to achieve development and commercialization milestone payments and sales royalties under our collaboration with GlaxoSmithKline PLC;

the scope, progress, results and costs of preclinical development, laboratory testing and clinical trials for our product candidates including those testing the use of pharmacological chaperones co-administered with enzyme replacement therapy and for the treatment of diseases of neurodegeneration;

the costs, timing and outcome of regulatory review of our product candidates;

the number and development requirements of other product candidates that we pursue;

the costs of commercialization activities, including product marketing, sales and distribution;

the emergence of competing technologies and other adverse market developments;

the costs of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property related claims;

the extent to which we acquire or invest in businesses, products and technologies; and

our ability to establish collaborations and obtain milestone, royalty or other payments from any such collaborators.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this annual report on Form 10-K, particularly in Part I, Item 1A Risk Factors that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, collaborations or investments we may make.

You should read this annual report on Form 10-K and the documents that we incorporate by reference in this annual report on Form 10-K completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements.



## PART I

### Item 1. BUSINESS.

#### Overview

We are a biopharmaceutical company focused on the discovery, development and commercialization of orally-administered, small molecule drugs known as pharmacological chaperones, a novel, first-in-class approach to treating a broad range of diseases including lysosomal storage diseases and diseases of neurodegeneration. We believe that our pharmacological chaperone technology, our advanced product pipeline, especially our lead product candidate for Fabry disease, migalastat HCl, a strong balance sheet and our strategic collaboration with GlaxoSmithKline uniquely position us at the forefront of developing therapies for rare and orphan diseases.

We are focused on the development of pharmacological chaperones as monotherapies and in combination with enzyme replacement therapy (ERT), the current standard of treatment for Fabry and other lysosomal storage diseases. In 2012, we are advancing two monotherapy programs for genetic diseases:

Migalastat HCl for patients with Fabry disease identified as having alpha-galactosidase A (alpha-Gal A) mutations amenable to chaperone therapy, and

AT3375 for Parkinson's disease in Gaucher disease carriers and potentially the broader Parkinson's population. Our pharmacological chaperone-ERT combination programs for 2012 include:

Migalastat HCl co-administered with ERT for patients with Fabry disease receiving ERT treatment with any genetic mutation,

AT2220 (duvoglustat HCl) co-administered with ERT for Pompe disease,

AT3375 and afegostat tartrate co-administered with ERT for Gaucher disease, and

Several new, undisclosed pharmacological chaperone programs focused on the combination of chaperones with ERTs for additional lysosomal storage diseases.

Fabry and other lysosomal storage diseases such as Gaucher and Pompe diseases are among certain human diseases that are caused by mutations in specific genes that, in many cases, lead to the production of proteins with reduced stability. Proteins with such mutations may not fold into their correct three-dimensional shape and are generally referred to as misfolded or unstable proteins. Misfolded or unstable proteins are often recognized by cells as having defects and, as a result, may be eliminated prior to reaching their intended location in the cell. The reduced biological activity of these proteins leads to impaired cellular function and ultimately to disease.

Our novel approach to the treatment of human genetic diseases consists of using pharmacological chaperones that selectively bind to the target protein, increasing the stability of the protein and helping it fold into the correct three-dimensional shape. This allows proper trafficking of the protein within the cell, thereby increasing protein activity, improving cellular function and potentially reducing cell stress. We have also demonstrated in preclinical studies that pharmacological chaperones can further stabilize normal, or wild-type proteins. This stabilization could lead to a higher percentage of the target proteins folding correctly and more stably, which can increase cellular levels of that target protein and improve cellular function, making chaperones potentially applicable to a wide range of diseases.

Our lead product candidate, migalastat HCl for Fabry disease, is in late Phase 3 development. We are developing and commercializing migalastat HCl with an affiliate of GlaxoSmithKline PLC (GSK) pursuant to a License and Collaboration Agreement entered into in October 2010. Our partnership with GSK allows us to utilize GSK's significant expertise in clinical, regulatory, commercial and manufacturing matters in the development of migalastat HCl. In addition, the cost-sharing arrangements and potential milestone and royalty payments under the License and Collaboration Agreement provide us with the financial resources to continue the development of migalastat HCl while also advancing our

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other programs. We also believe this collaboration is important in validating our status as a leader in the development of treatments for rare diseases given the increasing focus placed on the rare disease field.

Our Phase 3 clinical development program for the use of migalastat HCl as monotherapy in Fabry disease includes two global registration studies for patients with Fabry disease identified as having alpha-Gal A mutations amenable to migalastat HCl: Study 011 and Study 012. We completed enrollment of 67 patients in Study 011, our placebo-controlled Phase 3 study, in December 2011 and expect results in the third quarter of 2012. We plan to use the data from Study 011 to support the submission of a New Drug Application, or NDA, to the U.S. Food and Drug Administration (FDA) for marketing approval in the United States and other

regulatory agencies. Study 012 is our second Phase 3 study for migalastat HCl study intended to support the worldwide registration of migalastat HCl for Fabry disease. We dosed the first patient in Study 012 in September 2011 to compare the safety and efficacy of migalastat HCl and ERT and expect to complete enrollment of approximately 50 patients by the end of 2012.

We believe migalastat HCl may have advantages over ERT. While ERT compensates for the reduced level of activity of specific enzymes through regular infusions of recombinant forms of the enzyme, our approach uses orally-administered small molecule pharmacological chaperones to improve the function of the enzyme that is made by the patient's own body. We believe this approach to treating these diseases could provide benefits to patients through better bio-distribution and ease of use.

In addition to potential benefits pharmacological chaperones may provide as a monotherapy, we also believe the use of pharmacological chaperones co-administered with ERT may address certain key limitations of ERT. The use of pharmacological chaperones co-administered with ERT may improve the characteristics of ERT by, among other effects, prolonging the half-life of infused enzymes in the circulation, increasing uptake of the infused enzymes into cells and tissues, mitigating immunogenicity, and increasing enzyme activity and substrate reduction in target tissues compared to that observed with ERT alone. We, along with our partner GSK, are currently conducting a Phase 2 study (Study 013) to evaluate migalastat HCl co-administered with ERT in Fabry patients. We recently presented preliminary positive data from Study 013 which included, in part, increases in levels of active enzyme in plasma and skin demonstrating a positive drug-drug interaction between migalastat HCl and ERT. We expect to complete Study 013 in the first half of 2012.

In addition, we are conducting another Phase 2 co-administration study (Study 010) evaluating our pharmacological chaperone AT2220 (duvoglustat HCl) co-administered with ERT in Pompe patients. Unlike migalastat HCl, we own exclusive rights to the development of AT2220. We expect to announce preliminary results from Study 010 in the first half of 2012. We also plan to increase our commitment to the broader application of the chaperone-ERT combination technology as a potential next-generation treatment approach for multiple lysosomal storage diseases in 2012. We are continuing our preclinical work investigating our pharmacological chaperones AT3375 and afegostat tartrate co-administered with ERT for Gaucher disease, and have initiated new undisclosed pharmacological chaperone research and development programs to investigate the use of chaperones in combination with other ERTs.

Although Fabry, Gaucher and Pompe are relatively rare diseases, they represent substantial commercial markets due to the severity of the symptoms and the chronic nature of the diseases. The publicly-reported worldwide net product sales for the six currently approved therapeutics to treat Fabry, Gaucher and Pompe disease were approximately \$2.0 billion in 2011.

While our initial clinical efforts have focused on the use of pharmacological chaperones to treat lysosomal storage diseases, we believe that our technology may be applicable to the treatment of certain diseases of neurodegeneration. We have been a pioneer in investigating the link between Gaucher and Parkinson's disease, and have been exploring the possibility of using pharmacological chaperones that target glucocerebrosidase (GCase), the enzyme deficient in Gaucher disease, for more than five years. In 2011, numerous peer-reviewed publications in leading scientific journals reported additional information on the underlying mechanisms that link Gaucher and Parkinson's, and further validated GCase as a target for the treatment of the disease. In particular, these new papers demonstrated a direct connection between GCase and alpha-synuclein, whose accumulation in the brain is a hallmark of Parkinson's, and showed that increased GCase activity in the brain of mouse models could reduce alpha-synuclein pathology and other deficits. We will continue preclinical and IND-enabling studies for the pharmacological chaperone AT3375, which targets the same GCase enzyme that is deficient in Gaucher disease. These preclinical studies are anticipated to be complete by year-end 2012 and are funded in part by a grant awarded by the Michael J. Fox Foundation.

### **Our Pharmacological Chaperone Technology**

In the human body, proteins are involved in almost every aspect of cellular function. Proteins are linear strings of amino acids that fold and twist into specific three-dimensional shapes in order to function properly. Certain human diseases result from mutations that cause changes in the amino acid sequence of a protein, and these changes often reduce protein stability and may prevent them from folding properly. The majority of genetic mutations that lead to the production of less stable or misfolded proteins are called missense mutations. These mutations result in the substitution of a single amino acid for another in the protein. Because of this type of error, missense mutations often result in proteins that have a reduced level of biological activity.

Proteins generally fold in a specific region of the cell known as the endoplasmic reticulum (ER). The cell has quality control mechanisms that ensure that proteins are folded into their correct three-dimensional shape before they can move from the ER to the appropriate destination in the cell, a process generally referred to as protein trafficking. Misfolded proteins are often eliminated by the quality control mechanisms after initially being retained in the ER. In certain instances, misfolded or unstable proteins can accumulate in the ER before being eliminated.



The retention of misfolded proteins in the ER interrupts their proper trafficking, and the resulting reduced biological activity can lead to impaired cellular function and ultimately to disease. In addition, the accumulation of misfolded proteins in the ER may lead to various types of stress on cells, which may also contribute to cellular dysfunction and disease.

We use pharmacological chaperones to increase the stability of target proteins and help them fold into their correct three-dimensional shape. This allows proper trafficking of the protein within the cell, thereby increasing protein activity, improving cellular function and potentially reducing cell stress.

**Potential Advantages of Pharmacological Chaperones for the Treatment of Lysosomal Storage Diseases**

Lysosomal storage diseases are a type of metabolic disorder characterized by mutations in lysosomal enzymes, which are specialized proteins that break down cellular substrates in a part of the cell called the lysosome. We believe that pharmacological chaperone therapy may have advantages relative to the current therapeutic standard of care for these disorders, ERT, which involves regular infusions of recombinant human enzyme to compensate for the deficient lysosomal enzyme. The following table compares some features of ERT to pharmacological chaperone therapy.

<b>Product Characteristic</b>	<b>Enzyme Replacement Therapy</b>	<b>Pharmacological Chaperone Therapy</b>
<i>Biodistribution</i>	Variable tissue distribution	Broad tissue distribution, including brain
<i>Ease of Use</i>	Weekly or every other week intravenous infusion	Oral administration
<i>Manufacturing</i>	Recombinant protein manufacturing	Chemical synthesis

An additional therapeutic approach to the treatment of certain lysosomal storage diseases is substrate reduction therapy (SRT). We believe our pharmacological chaperone therapies may have advantages relative to SRT as well. Like pharmacological chaperone therapies, SRT uses orally-administered small molecules; however, the underlying mechanism of action is very different. SRTs are designed to prevent the production of the substrate that accumulates in disease by inhibiting an enzyme required to make the substrate in cells, which is not the same enzyme that is deficient in the disease. Importantly, if synthesis of the substrate is inhibited it cannot perform its normal biological functions. Our pharmacological chaperones are designed to bind directly to the enzyme deficient in the disease, increasing its stability and helping it fold into its correct three-dimensional shape. This in turn enables proper trafficking to the lysosome where the enzyme can directly decrease substrate accumulation. To date, one SRT product has received regulatory approval in the U.S. and the European Union (EU) for the treatment of lysosomal storage diseases. Zavesca<sup>®</sup>, a substrate reduction therapy product commercialized by Actelion, Ltd., is approved for the treatment of Gaucher disease in the U.S., the EU and other countries as well for another lysosomal storage disease in the EU. Sanofi aventis, through its subsidiary Genzyme Corporation, is currently developing a SRT product which is in Phase 3 development for the treatment of Gaucher Disease.

**Migalastat HCl for Fabry Disease**

*Overview*

Our most advanced product candidate, migalastat HCl, is an investigational, orally-administered, small molecule pharmacological chaperone for the treatment of Fabry disease. In October, 2010, we entered into a License and Collaboration Agreement with GSK to develop and commercialize migalastat HCl. Under the terms of the License and Collaboration Agreement, GSK received an exclusive worldwide license to develop, manufacture and commercialize migalastat HCl. In consideration of the license grant, we received an upfront license payment of \$30 million and are eligible to receive further payments of up to approximately \$170 million upon the successful achievement of development, regulatory and commercialization milestones, as well as tiered double-digit royalties on global sales of migalastat HCl. We are jointly funding development costs with GSK in accordance with an agreed upon development plan, pursuant to which we funded 50% of the development costs in 2011 and will fund only 25% of the development costs for 2012 and beyond, subject to annual and aggregate caps.

Clinical Studies of Migalastat HCl Monotherapy for Fabry Disease

Study 011 is a six-month, placebo-controlled global Phase 3 study of migalastat HCl for Fabry disease to support marketing applications for the FDA and other regulatory agencies. In September 2009, the first patient was randomized in Study 011 to receive migalastat HCl 150 mg or placebo on an every-other-day (QOD) oral dosing schedule for a six-month double-blinded treatment period. During a six-month open-label follow up period, patients continue treatment with migalastat HCl or switch from placebo to



migalastat HCl. We exceeded our target enrollment of 60 patients for Study 011 when we enrolled our 67<sup>th</sup> and final patient in December 2011. As of December 31, 2011, 24 of 26 patients who have completed the six-month treatment and six-month follow-up periods are currently enrolled in the ongoing Phase 3 extension study and remain on migalastat HCl treatment. We expect results from this study in the third quarter of 2012.

The primary efficacy endpoint for Study 011 is a change in interstitial capillary globotriaosylceramide (GL-3), the substrate that accumulates in Fabry disease, as measured by kidney biopsy. Patients in Study 011 with a reduction of GL-3 deposits per capillary of at least 50% at six months will be considered responders. The final analysis will compare the number of responders in the migalastat HCl group vs. the placebo group. Secondary endpoints for Study 011 include safety and tolerability, urine GL-3, renal function, and quality of life (QOL). Urine GL-3 will be analyzed using the first analytically validated GLP assay, which was developed by Amicus to measure forms of GL-3 found in kidney cells. Renal function will be assessed by measuring iohexol glomerular filtration rate (GFR), eGFR, and 24-hour urine protein.

Study 012 is our second Phase 3 study intended to support the worldwide registration of migalastat HCl for Fabry disease. Study 012 is a randomized, open-label, 18-month Phase 3 study to compare the safety and efficacy of migalastat HCl and ERT in male and female patients with Fabry disease. The study will randomize approximately 50 patients (30 to switch to migalastat HCl and 20 to remain on ERT) identified as having alpha-Gal A mutations amenable to migalastat HCl and who have been treated with either of the ERTs currently marketed (Fabrazyme<sup>®</sup> (agalsidase beta) or Replagal<sup>®</sup> (agalsidase alfa)) for Fabry disease for at least 12 months. Subjects in the migalastat HCl treatment arm will receive 150 mg of migalastat HCl every other day, while those in the ERT alone arm will continue on their current dose and regimen. The primary outcome of efficacy will be renal function as measured by glomerular filtration rate (GFR) for the migalastat HCl and ERT groups at 18 months. The primary analysis will use descriptive statistics to compare the mean changes in GFR for each arm. Secondary outcomes of efficacy include renal function as measured by 24-hour urine protein and other clinical outcomes. The first patient in Study 012 commenced dosing in September 2011 and we expect to complete enrollment by the end of 2012, although timelines may be influenced by the continuing ERT shortage.

Our ongoing Phase 2 extension study (Study 2050) is designed to evaluate the long-term safety and efficacy of migalastat HCl (150 MG qod). Among the endpoints being evaluated are two measures of renal function, estimated glomerular filtration rate (eGFR) and 24-hour urine protein. As of December 31, 2011, 17 patients who completed one of our four Phase 2 clinical studies and enrolled in Study 205 continue to receive migalastat HCl for up to five years.

The key findings from our four Phase 2 studies and long term extension study to date include the following:

migalastat HCl has been generally safe and well-tolerated at all doses evaluated and no drug-related serious adverse events have been reported.

migalastat HCl increased the level of the enzyme deficient in 24 of the 26 original Phase 2 study subjects

migalastat HCl was shown to reduce the accumulated GL-3 substrate in a majority of study subjects.

eGFR has remained stable out to 3-4 years for all subjects in the extension study.

Trends of reduced 24-hour urine protein continued to be observed in 17 subjects retrospectively identified as having alpha-Gal A mutations amenable to migalastat HCl; these seventeen subjects continue to receive treatment with migalastat HCl in the Phase 2 extension study

Responses in patients with different Fabry mutations were consistent with the results of in vitro testing, thus suggesting the ability to use pharmacogenetics to select likely alpha-Gal A mutations amenable to migalastat HCl.

In February 2004, the FDA granted orphan drug designation to migalastat HCl for the treatment of Fabry disease and in May 2006, the EMEA granted orphan medicinal product designation for migalastat HCl. In the United States, we intend to seek Accelerated Approval for migalastat HCl according to Subpart H regulations.

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### Phase 2 Chaperone-ERT Co-Administration Study of migalastat HCl for Fabry Disease

We are also investigating the use of migalastat HCl co-administered with ERT in a Phase 2 study. Study 013 is an ongoing, open-label Phase 2 drug-drug interaction study to evaluate the safety and pharmacokinetic (PK) effects of two doses of migalastat HCl (150 mg and 450 mg) co-administered with ERT (Fabrazyme<sup>®</sup> (agalsidase beta) or Replagal<sup>®</sup> (agalsidase alfa)) in up to 24 males diagnosed with Fabry disease. Unlike Study 011 and Study 012, patients in Study 013 are not required to have alpha-Gal A mutations amenable to chaperone therapy because, when co-administered with ERT, migalastat HCl is designed to bind to and stabilize the recombinant enzyme in the circulation in any patient receiving ERT.

We recently presented data for the first seven subjects in Study 013 who received their current dose and regimen of the ERT agalsidase beta alone at one infusion followed by oral migalastat HCl 150 mg administered two hours prior to agalsidase beta at their next infusion. Due to the supply shortage of agalsidase beta, five of these subjects had been receiving 0.5 mg/kg infused every two weeks and two subjects had been receiving a dose of 1.0 mg/kg infused every four weeks. The preliminary results include the following:

Increases in levels of active enzyme in plasma and skin and peripheral blood mononuclear cells (PBMCs) demonstrate a positive drug-drug interaction between migalastat HCl 150 mg and agalsidase beta, confirming observations from preclinical studies and;

For all seven treated with migalastat HCl 150 mg, levels of active enzyme in plasma ranged from 1.6 to 4.2-fold higher than with ERT alone, as measured by total area under the curve (AUC). Skin biopsies taken on Day 2 post-dose demonstrated increased levels of active enzyme in the skin from all seven patients from 1.1 to 18.9-fold after subtracting baseline activity. On Day 7 post-dose, active enzyme activity remained increased in five of the seven patients, up to 11.1-fold higher after subtracting baseline activity, following co-administration compared to ERT alone.

In published preclinical studies, the co-administration of migalastat HCl and ERT led to stabilization of the ERT and increased uptake of active enzyme into key organs of disease, including kidney, heart, and skin, when compared to ERT alone. This increased enzyme uptake in Fabry mouse models also led to further reductions in GL-3, the substrate that accumulates in kidney, heart and skin in Fabry disease. We expect to complete Study 013 in the first half of 2012.

#### ***Causes of Fabry Disease and Rationale for Use of Migalastat HCl***

Fabry disease is a lysosomal storage disease resulting from a deficiency in a-GAL A. Symptoms can be severe and debilitating, including kidney failure and increased risk of heart attack and stroke. The deficiency of a-Gal A in Fabry patients is caused by inherited genetic mutations. Certain of these mutations cause changes in the amino acid sequence of a-Gal A that may result in the production of a-Gal A with reduced stability that does not fold into its correct three-dimensional shape. Although a-Gal A produced in patient cells often retains the potential for some level of biological activity, the cell's quality control mechanisms recognize and retain misfolded a-Gal A in the ER, until it is ultimately moved to another part of the cell for degradation and elimination. Consequently, little or no a-Gal A moves to the lysosome, where it normally breaks down GL-3. This leads to accumulation of GL-3 in cells, which is believed to be the cause of the symptoms of Fabry disease. In addition, accumulation of the misfolded a-Gal A enzyme in the ER may lead to stress on cells and inflammatory-like responses, which may contribute to cellular dysfunction and disease.

Migalastat HCl is designed to act as a pharmacological chaperone for a-Gal A by selectively binding to the enzyme, which increases its stability and helps the enzyme fold into its correct three-dimensional shape. This stabilization of a-Gal A allows the cell's quality control mechanisms to recognize the enzyme as properly folded so that trafficking of the enzyme to the lysosome is increased, enabling it to carry out its intended biological function, the metabolism of GL-3. As a result of restoring the proper trafficking of a-Gal A from the ER to the lysosome, migalastat HCl also reduces the accumulation of misfolded protein in the ER, which may alleviate stress on cells and some inflammatory-like responses that may be contributing factors in Fabry disease.

Because migalastat HCl increases levels of a patient's naturally produced a-GAL, those Fabry disease patients with a missense mutation or other genetic mutations that result in production of a-Gal A that is less stable but with some residual enzyme activity are the ones most likely to respond to treatment with migalastat HCl. We estimate that approximately fifty percent of patients with Fabry disease may have alpha-Gal A mutations that are amenable to migalastat HCl as a monotherapy. Patients with genetic mutations leading to a partially made a-Gal A enzyme or a-Gal A enzyme with an irreversible loss of activity are less likely to respond to treatment with migalastat HCl as a monotherapy. However, we believe that all Fabry patients are potentially treatable with migalastat HCl in combination with ERT.

#### ***Fabry Disease Background***

The clinical manifestations of Fabry disease span a broad spectrum of severity and roughly correlate with a patient's residual a-Gal A levels. The majority of currently treated patients are referred to as classic Fabry disease patients, most of whom are males. These patients experience disease of various organs, including the kidneys, heart and brain, with disease symptoms first appearing in adolescence and typically progressing in severity until death in the fourth or fifth decade of life. A number of studies suggest that there are a large number of undiagnosed males and females that have a range of Fabry disease symptoms, such as impaired cardiac or renal function and strokes, that usually first appear in adulthood.



Individuals with this type of Fabry disease, referred to as later-onset Fabry disease, tend to have higher residual a-Gal A levels than classic Fabry disease patients. Although the symptoms of Fabry disease span a spectrum of severity, it is useful to classify patients as having classic or later-onset Fabry disease when discussing the disease and the associated treatable population.

#### ***Classic Fabry Disease***

Individuals with classic Fabry disease are in most instances males. They have little or no detectable a-Gal A levels and are the most severely affected. These patients first experience disease symptoms in adolescence, including pain and tingling in the extremities, skin lesions, a decreased ability to sweat and clouded eye lenses. If these patients are not treated, their life expectancy is reduced and death usually occurs in the fourth or fifth decade of life from renal failure, cardiac dysfunction or stroke. Studies reported in the Journal of the American Medical Association (January 1999) and The Metabolic and Molecular Bases of Inherited Disease (8th edition 2001) suggest the annual incidence of Fabry disease in newborn males is 1:40,000-1:60,000. Current estimates from the University of Iowa and the National Kidney Foundation suggest that there are a total of approximately 5,000 classic Fabry disease patients worldwide.

#### ***Later-Onset Fabry Disease***

Individuals with later-onset Fabry disease can be male or female. They typically first experience disease symptoms in adulthood, and often have disease symptoms focused on a single organ. For example, many males and females with later-onset Fabry disease have enlargement of the left ventricle of the heart. As the patients advance in age, the cardiac complications of the disease progress and can lead to death. Studies reported in Circulation and Journal of the American Heart Association (March 2002 and August 2004), estimated that 6-12% of patients between 40 and 60 years of age with an unexplained enlargement of the left ventricle of the heart, a condition referred to as left ventricular hypertrophy, have Fabry disease.

A number of males and females also have later-onset Fabry disease with disease symptoms focused on the kidney that progress to end stage renal failure and eventually death. Studies reported in Nephrology Dialysis Transplant (2003), Clinical and Experimental Nephrology (2005) and Nephrology Clinical Practice (2005) estimate that 0.20% to 0.94% of patients on dialysis have Fabry disease.

In addition, later-onset Fabry disease may also present in the form of strokes of unknown cause. A study reported in The Lancet (November 2005) found that approximately 4% of 721 male and female patients in Germany between the ages of 18 to 55 with stroke of unknown cause have Fabry disease.

It was previously believed to be rare for female Fabry disease patients to develop overt clinical manifestations of Fabry disease. Fabry disease is known as an X-linked disease because the inherited a-Gal A gene mutation is located only on the X chromosome. Females inherit an X chromosome from each parent and therefore can inherit a Fabry mutation from either parent. By contrast, males inherit an X chromosome (and potentially a Fabry mutation) only from their mothers. For this reason, there are expected to be roughly twice as many females as males that have Fabry disease mutations. Several studies reported in the Journal of Medical Genetics (2001), the Internal Medicine Journal (2002) and the Journal of Inherited Metabolic Disease (2001) report that, while the majority of females with Fabry disease mutations have mild symptoms, many have severe symptoms, including enlargement of the left ventricle of the heart and/or renal failure.

Newborn screening studies in Italy, Taiwan and Austria, published in the American Journal of Human Genetics (2006), Human Mutation (2009) and the Lancet (2011) respectively, report that the incidence of Fabry mutations in newborns is over ten times higher than previous estimates for classic patients. Combined these studies screened over two-hundred and sixty-three thousand newborns, and found the incidence of Fabry mutations to be between 1:2,400 to 1: 3859. This high incidence was attributed to a large number of newborn males with a-Gal A mutations often associated with later-onset Fabry disease, which may not have been identified in previous screening studies that relied on diagnosis based on development of symptoms of classic Fabry disease.

#### ***Fabry Disease Market Opportunity***

Fabry disease is a relatively rare disorder. The current estimates of approximately 5,000 patients worldwide are generally based on a small number of studies in single ethnic populations in which people were screened for classic Fabry disease. The results of these studies were subsequently extrapolated to the broader world population assuming similar prevalence rates across populations. We believe these previously reported studies did not account for the prevalence of later-onset Fabry disease and, as described above, a number of recent studies suggest that the prevalence of Fabry disease could be many times higher than previously reported.

We expect that as awareness of later-onset Fabry disease grows, the number of patients diagnosed with the disease will increase. Increased awareness of all forms of Fabry disease, particularly for specialists not accustomed to treating Fabry disease patients, may lead to increased testing and diagnosis of patients with the disease





Based on published data from the Human Gene Mutation Database and our experience in the field, we believe the majority of the known genetic mutations that cause Fabry disease are missense mutations. There are few widely-occurring genetic mutations reported for Fabry disease, suggesting that the frequency of a specific genetic mutation reported in the Human Gene Mutation Database reflects the approximate frequency of that mutation in the general Fabry patient population. In addition, data presented at the 11th International Conference on Health Problems Related to the Chinese (2002) suggest that the vast majority of newly diagnosed patients with later-onset Fabry disease also have missense mutations. Because missense mutations often result in less stable, misfolded  $\alpha$ -Gal A with some residual enzyme activity, we believe patients with these mutations may benefit from treatment with migalastat HCl. We also believe that other types of genetic mutations may result in misfolded  $\alpha$ -Gal A and therefore may respond to treatment with migalastat HCl. Based on this, we believe that approximately fifty percent of the Fabry disease patient population may benefit from treatment with migalastat HCl as a monotherapy.

#### ***Existing Products for the Treatment of Fabry Disease and Potential Advantages of Migalastat HCl***

Currently, two ERT products are approved for the treatment of Fabry disease: Fabrazyme<sup>®</sup> (agalsidase beta) and Replagal<sup>®</sup> (agalsidase alfa). Fabrazyme<sup>®</sup> is approved globally and commercialized by sanofi aventis through Genzyme Corporation, while Replagal<sup>®</sup> is commercialized by Shire and approved in the EU and other countries but not in the U.S. Orphan drug exclusivity for both Fabrazyme<sup>®</sup> and Replagal<sup>®</sup> has expired in the EU and for Fabrazyme<sup>®</sup>, in the U.S. as well. The net product sales of Fabrazyme<sup>®</sup> and Replagal<sup>®</sup> for 2011 were approximately \$150 million as publicly reported by sanofi aventis and \$475 million as publicly reported by Shire, respectively.

Prior to the availability of ERT, treatments for Fabry disease were directed at ameliorating symptoms without treating the underlying disease. Some of these treatments include opiates, anticonvulsants, antipsychotics and antidepressants to control pain and other symptoms, and beta-blockers, calcium channel blockers, ACE inhibitors, angiotensin receptor antagonists and other agents to treat blood pressure and vascular disease.

For Fabry disease patients who respond to migalastat HCl, we believe that the use of migalastat HCl may have advantages relative to the use of Fabrazyme<sup>®</sup> and Replagal<sup>®</sup>. Published data for patients treated with Fabrazyme<sup>®</sup> and Replagal<sup>®</sup> for periods of up to five years demonstrate that these drugs can lead to the reduction of GL-3 in multiple cell types in the skin, heart and kidney. However, because they are large protein molecules, Fabrazyme<sup>®</sup> and Replagal<sup>®</sup> are believed to have difficulty penetrating some tissues and cell types. In particular, it is widely believed that Fabrazyme<sup>®</sup> and Replagal<sup>®</sup> are unable to cross the blood-brain barrier and thus are unlikely to address the neurological symptoms of Fabry disease. As a small molecule therapy that has demonstrated high oral bioavailability and good biodistribution properties in preclinical testing, migalastat HCl has the potential to reach cells of all the target tissues of Fabry disease. Furthermore, treatment with Fabrazyme<sup>®</sup> and Replagal<sup>®</sup> requires intravenous infusions every other week, frequently on-site at health care facilities, presenting an inconvenience to Fabry patients. Oral treatment with migalastat HCl may be much more convenient for patients and may not have the safety risks associated with intravenous infusions.

In addition, as discussed above, we believe that migalastat HCl co-administered with ERT may improve key characteristics of the infused enzymes used in ERT by allowing for increased transport of enzymes to the lysosomes and degradation of substrate, thereby potentially increasing ERT's safety and efficacy. Importantly, patients who may not have  $\alpha$ -Gal A mutations amenable to migalastat HCl monotherapy treatment may benefit from migalastat HCl in combination with ERT, making migalastat HCl potentially available to all Fabry patients.

In February 2004, migalastat HCl was granted orphan drug designation by the FDA for the treatment of Fabry disease and in March 2006 the EMEA recommended orphan medicinal product designation. See Government Regulation.

#### **Chaperone-ERT Co-administration Therapy for Pompe and Other Lysosomal Storage Diseases**

In addition to Study 013 under the GSK collaboration, we are conducting clinical and preclinical studies examining co-administration of pharmacological chaperones that we exclusively own with ERTs for other lysosomal storage diseases. In December 2011, we announced the initial infusion of the first subject in an open-label Phase 2 drug-drug interaction study (Study 010) of AT2220 (duglucostat HCl) co-administered with ERT in individuals with Pompe disease. The purpose of Study 010 is to evaluate whether AT2220, an orally available, investigational pharmacological chaperone owned exclusively by Amicus, can be safely co-administered with the ERT  $\alpha$ -glucosidase alfa, the only approved therapy for Pompe disease. The study will enroll up to 22 male or female subjects who have been on a stable dose and regimen of ERT for at least three months. All subjects will be given a regularly scheduled ERT infusion. One hour prior to the initiation of the next ERT infusion, subjects will receive a single oral dose of AT2220. Plasma enzyme activity and protein levels will be evaluated during each infusion. Muscle biopsies will be taken seven days after each infusion to measure tissue ERT activity with and without the chaperone, as well as the level of AT2220.

Data from preclinical studies in Pompe knock-out mice presented in 2011 at several scientific symposia demonstrated that AT2220 co-administered with ERT significantly enhanced the uptake of the active enzyme into key organs involved in Pompe

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disease, including heart, diaphragm, and skeletal muscles. These preclinical data also showed a greater reduction of glycogen in key organs with the co-administration of AT2220 versus ERT alone.

In 2012, we intend to increase our commitment to the broader application of the chaperone-ERT combination technology as a potential next-generation treatment approach for multiple LSDs. We will continue our preclinical combination studies in Gaucher disease (afegostat tartrate +/- Cerezyme and AT3375 +/- Cerezyme) and we have initiated new undisclosed pharmacological chaperone research and development programs to investigate the use of chaperones in combination with other ERTs to potentially improve treatment outcomes.

### ***Pompe and Gaucher Disease Background***

Like Fabry disease, Pompe and Gaucher disease are lysosomal storage diseases resulting from a deficiency in an enzyme,  $\alpha$ -glucosidase (GAA) for Pompe and GCase for Gaucher. Signs and symptoms of both diseases can be severe and debilitating. For Pompe, they include progressive muscle weakness throughout the body, particularly the heart and skeletal muscles; while patients suffering from Gaucher may experience an enlarged liver and spleen, abnormally low levels of red blood cells and platelets, and skeletal complications. In some forms of Gaucher disease, there is also significant impairment of the central nervous system. The enzyme deficiencies in Pompe and Gaucher patients are caused by inherited genetic mutations. Certain of these mutations cause changes in the amino acid sequence of the enzyme that may result in the production of an enzyme with reduced stability that does not fold into its correct three-dimensional shape. Although the enzymes produced in patient cells often retain the potential for some level of biological activity, the cell's quality control mechanisms recognize and retain the misfolded enzyme in the ER until it is ultimately moved to another part of the cell for degradation and elimination. Consequently, little or no GAA in Pompe patients or GCase in Gaucher patients moves to the lysosome, where it normally breaks down its substrate, a complex lipid called glycogen in Pompe patients and glucocerebroside in Gaucher patients. This leads to accumulation of glycogen or glucocerebroside in cells, which is believed to result in the clinical manifestations of Pompe and Gaucher disease, respectively. In addition, the accumulation of the misfolded enzyme in the ER may lead to cellular stress and inflammatory-like responses, which may contribute to cellular dysfunction and disease.

### **AT3375 for Parkinson's Disease**

We are also conducting preclinical studies on the use of our pharmacological chaperone technology to treat Parkinson's disease, with an initial focus on Parkinson's disease patients who are also Gaucher disease carriers. Amicus has been a leader in investigating the link between Gaucher and Parkinson's disease, and has been exploring the possibility of using pharmacological chaperones that target GCase, the enzyme deficient in Gaucher disease, for more than five years. In 2011, numerous peer-reviewed publications in leading scientific journals reported additional information on the underlying mechanisms that link Gaucher and Parkinson's, and further validated GCase as a target for the treatment of this disease. In particular, these new papers demonstrated a direct connection between GCase and alpha-synuclein, whose accumulation in the brain is a hallmark of Parkinson's, and showed that increased GCase activity in the brain of mouse models could correct alpha-synuclein pathology and other deficits.

We believe the knowledge we have gained from exploring the use of pharmacological chaperones in rare genetic diseases, including Gaucher, can be applied to non-lysosomal storage disease applications. We believe that pharmacological chaperones may be used to stabilize mutated proteins and further stabilize normal or wild-type proteins, and may therefore increase the cellular amounts and activities of specifically chosen target proteins that may be important for the treatment of Parkinson's disease. Thus, while our initial efforts are focused on subpopulations of Parkinson's patients, we believe the characteristics of chaperones may make treatment of broader populations within this disease possible.

In 2012, we will continue preclinical and IND-enabling studies for AT3375, which are anticipated to be complete by year-end 2012 and are funded in part by a grant awarded by the Michael J. Fox Foundation.

### **Parkinson's Disease Background**

Parkinson's disease is a chronic, degenerative neurological disorder of the central nervous system that results from the loss of cells in various parts of the brain, including a region called the substantia nigra. The substantia nigra cells produce dopamine, a chemical messenger responsible for transmitting signals within the brain that allow for coordination of movement. Loss of dopamine causes neurons to fire without normal control, leaving patients less able to direct or control their movement. The key signs of Parkinson's disease are resting tremor, slowness of movement (bradykinesia), postural instability (balance problems) and rigidity. Other symptoms include stiff facial expression, shuffling walk, muffled speech and depression.

Parkinson's disease affects both men and women in almost equal numbers and shows no social, ethnic, economic or geographic boundaries. While the condition usually develops after the age of 65, 15% of those diagnosed are under 50. It is estimated that approximately 1 million people in the United States suffer from Parkinson's disease.

## Strategic Alliances and Arrangements

On October 28, 2010, we entered into a License and Collaboration Agreement with Glaxo Group Limited, an affiliate of GSK, to develop and commercialize migalastat HCl. Under the terms of the License and Collaboration Agreement, GSK received an exclusive worldwide license to develop, manufacture and commercialize migalastat HCl. In consideration of the license grant, we received an upfront, license payment of \$30 million from GSK and are eligible to receive further payments of up to \$173.5 million upon the successful achievement of development, regulatory and commercialization milestones, as well as tiered double-digit royalties on global sales of migalastat HCl. Potential payments include up to (i) \$13.5 million related to the attainment of certain clinical development objectives and the acceptance of regulatory filings in select worldwide markets, (ii) \$80 million related to market approvals for migalastat HCl in selected territories throughout the world, and (iii) \$80 million associated with the achievement of certain sales thresholds. We are jointly funding development costs with GSK in accordance with an agreed upon development plan pursuant to which we funded 50% of development costs in 2011 and will fund only 25% of such costs in 2012 and beyond, subject to annual and aggregate caps. Additionally, GSK purchased approximately 6.9 million shares of our common stock at a price of \$4.56 per share. The total value of this equity investment was approximately \$31 million and represents a 19.8% ownership position in the Company as of December 31, 2011.

Under the terms of the agreement, while we will collaborate with GSK, GSK will have decision-making authority over clinical, regulatory and commercial matters. Additionally, GSK will have primary responsibility for interactions with regulatory agencies and prosecuting applications for marketing and reimbursement approvals worldwide.

We will continue to evaluate other business development opportunities as appropriate that build shareholder value and provide us with access to the financial, technical, clinical and commercial resources necessary to develop and market pharmacological chaperone therapeutics and other technologies or products. We are exploring potential collaborations, alliances and other business development opportunities on a regular basis. These opportunities may include the acquisition of preclinical-stage, clinical-stage or marketed products so long as such transactions are consistent with our strategic plan to develop and provide therapies to patients living with rare and orphan diseases and support our continued transformation from a development stage company into a commercial biotechnology company.

## Intellectual Property

### *Patents and Trade Secrets*

Our success depends in part on our ability to maintain proprietary protection surrounding 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 policy is to seek to protect our proprietary position by filing U.S. and foreign patent applications related to our proprietary technology, including both new inventions and improvements of existing technology, that are important to the development of our business, unless this proprietary position would be better protected using trade secrets. Our patent strategy includes obtaining patent protection, where possible, on compositions of matter, methods of manufacture, methods of use, combination therapies, dosing and administration regimens, formulations, therapeutic monitoring, screening methods and assays. We also rely on trade secrets, know-how, continuing technological innovation, in-licensing and partnership opportunities to develop and maintain our proprietary position. Lastly, we monitor third parties for activities that may infringe our proprietary rights, as well as the progression of third party patent applications that may have the potential to create blocks to our products or otherwise interfere with the development of our business. We are aware, for example, of U.S. patents, and corresponding international counterparts, owned by third parties that contain claims related to treating protein misfolding. If any of these patents were to be asserted against us we do not believe that our proposed products would be found to infringe any valid claim of these patents. There is no assurance that a court would find in our favor or that, if we choose or are required to seek a license, a license to any of these patents would be available to us on acceptable terms or at all.

We own or license rights to several issued patents in the U.S., current member states of the European Patent Convention and numerous pending foreign applications, which are foreign counterparts of many of our U.S. patents. We also own or license rights to several pending U.S. applications. Our patent portfolio includes patents and patent applications with claims relating to methods of increasing deficient enzyme activity to treat genetic diseases. The patent positions for migalastat HCl, pharmacological chaperone and ERT combination therapy, diseases of neurodegeneration, afegostat tartrate and its derivatives including AT3375 for Gaucher disease and AT2220 (dovoglustat HCl) for Pompe disease are described below and include both patents and patent applications we own or exclusively license:

We have an exclusive license to six issued U.S. patents that cover use of migalastat HCl to treat Fabry disease, as well as corresponding European, Japanese and Canadian patents. These exclusively licensed U.S. patents relating to migalastat HCl expire in 2018 (not including the Hatch-Waxman statutory extension, which is described below), while the European, Japanese and Canadian patents, will expire in 2019 (not including the Supplemental Protection Certificates or SPC extensions, which are described below).

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The patents include claims covering methods of increasing the activity of and preventing the degradation of a-GAL, and methods for the treatment of Fabry disease using migalastat HCl. In addition, we own pending U.S. applications directed to specific

dosing regimens with migalastat HCl, which, if granted, may result in patents that expire in 2027 - 2028. Further, we own an issued U.S. patent directed to synthetic steps related to the commercial process for preparing migalastat HCl, which may result in a patent that expires in 2026. We jointly own one issued U.S. patent covering a method of determining whether male Fabry patients are likely to respond to treatment with migalastat HCl which expires in 2027 and a divisional application is pending therefrom. Lastly, we have one pending U.S. application covering a method of determining which *a*-Gal A mutations are likely to be amendable to therapy with migalastat HCl which, if granted, will expire in 2029. We have filed, or plan to file, U.S. and foreign counterparts of these applications, where appropriate, by the applicable deadlines.

We have an exclusive license to pending patent applications covering the co-administration of migalastat HCl with ERT (recombinant  $\alpha$ -galactosidase A), afegostat tartrate with ERT (recombinant glucocerebrosidase) and AT2220 (duvoglustat HCl) with ERT (recombinant acid  $\alpha$ -glucosidase). These applications are pending in the U.S., Europe, Canada, Brazil, China, Israel, Japan and Mexico while the application in India has issued. If patents issue from these applications, expiration will be in 2024. We also own a U.S. provisional patent application covering specific doses and dosing regimens of migalastat hydrochloride to treat Fabry disease in combination with ERT (recombinant  $\alpha$ -galactosidase A). Similarly, we own a U.S. provisional patent application that covers specific doses and dosing regimens of duvoglustat HCl to treat Pompe disease in combination with ERT (recombinant acid  $\alpha$ -glucosidase). If a patents issue from these applications, expiration will be in 2032.

As part of our License and Collaboration Agreement with GSK, we have licensed or sub-licensed to GSK all of our worldwide rights in our patents and applications to the extent that said patents and applications claim the use of migalastat HCl as a monotherapy or co-administered with ERT.

We own several US and foreign pending patent applications which cover the use of pharmacological chaperones to treat diseases of neurodegeneration. In particular we own two issued patents and two U.S. patent applications that cover the use of afegostat tartrate and/or its derivatives to treat Parkinson's disease as well as one patent application covering novel compounds, including AT3375, for the treatment of Parkinson's disease. We own another patent application covering the use of the same novel compounds, including AT3375, for the treatment of Gaucher disease as a monotherapy as well as in combination with ERT. If patents issue from these applications expiration dates range from 2026 to 2030.

We have an exclusive license to several U.S. patents covering the use of afegostat tartrate to treat Gaucher disease. These patents expire in 2018 (not including the Hatch-Waxman statutory extension, which is described below). There are no ex-U.S. counterparts to the exclusively licensed U.S. patents, which expire in 2018 in the U.S., covering afegostat tartrate to treat Gaucher disease. We also have an exclusive license to two U.S. patents claiming afegostat tartrate, the active chemical moiety in afegostat tartrate, which expire in 2015 and 2016 (not including the Hatch-Waxman statutory extension, which is described below); and corresponding patents in the UK, France, Sweden, Germany, Switzerland and Japan all of which expire in 2015 (not including the SPC extensions, which are described below). We own a U.S. patent and its corresponding foreign patents covering afegostat tartrate, which is the specific salt form or the active pharmaceutical ingredient in afegostat tartrate, which expires in 2027. We own several other pending U.S. applications directed to the synthesis of afegostat tartrate, as well as specific treatment and monitoring regimens with afegostat tartrate which, if granted, will expire in 2028. We have filed, or plan to file, foreign counterparts of these applications, where appropriate, by the applicable deadlines.

We have an exclusive license to several U.S. patents that cover the use of AT2220 to treat Pompe disease. These U.S. patents will expire in 2018 (not including the Hatch-Waxman statutory extension, which is described below). There are no ex-U.S. counterparts to the exclusively licensed U.S. patents, which expire in 2018 in the U.S., covering AT2220 to treat Pompe disease.

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 U.S. 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

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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.

The U.S. Drug Price Competition and Patent Term Restoration Act of 1984, more commonly known as the Hatch-Waxman Act, provides for an extension of one patent, known as a Hatch-Waxman statutory extension, for each NCE to compensate for a portion of the time spent in clinical development and regulatory review. However, the maximum extension is five years and the extension

cannot extend the patent beyond 14 years from New Drug Application (NDA) approval. Similar extensions are available in European countries, known as SPC extensions, Japan and other countries. However, we will not know what, if any, extensions are available until a drug is approved. In addition, in the U.S., under provisions of the Best Pharmaceuticals for Children's Act, we may be entitled to an additional six month period of patent protection Market Exclusivity and Orphan Drug Exclusivity, for completing pediatric clinical studies in response to a FDA issued Pediatric Written Request before said exclusivities expire.

The patent positions of companies like ours are generally uncertain and involve complex legal, technical, scientific and factual questions. Our ability to maintain and solidify our proprietary position for our technology will depend on our success in promptly filing patent applications on new discoveries, and in obtaining effective claims and enforcing those claims once granted. We focus special attention on filing patent applications for formulations and delivery regimens for our products in development to further enhance our patent exclusivity for those products. We seek to protect our proprietary technology and processes, in part, by contracting with our employees, collaborators, scientific advisors and our commercial consultants to ensure that any inventions resulting from the relationship are disclosed promptly, maintained in confidence until a patent application is filed and preferably until publication of the patent application, and assigned to us or subject to a right to obtain a license. We do not know whether any of our own patent applications or those patent applications that are licensed to us will result in the issuance of any patents. Our issued patents and those that may issue in the future, or those licensed to us, may be challenged, narrowed, invalidated or circumvented or be found to be invalid or unenforceable, which could limit our ability to stop competitors from marketing related products and reduce the term of patent protection that we may have for our products. Neither we nor our licensors can be certain that we were the first to invent the inventions claimed in our owned or licensed patents or patent applications. In addition, our competitors may independently develop similar technologies or duplicate any technology developed by us and the rights granted under any issued patents may not provide us with any meaningful competitive advantages against these competitors. Furthermore, because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that any related patent may expire prior to or shortly after commencing commercialization, thereby reducing the advantage of the patent to our business and products.

We may rely, in some circumstances, on trade secrets to protect our technology. However, trade secrets are difficult to protect. We seek to protect our trade secret technology and processes, in part, by entering into confidentiality agreements with commercial partners, collaborators, employees, consultants, scientific advisors and other contractors, and by contracting with our employees and some of our commercial consultants to ensure that any trade secrets resulting from such employment or consulting are owned by us. We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in these individuals, organizations and systems, agreements or security measures may be breached, and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be discovered independently by others. To the extent that our consultants, contractors or collaborators use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

### *License Agreements*

We have acquired rights to develop and commercialize our product candidates through licenses granted by various parties. The following summarizes our material rights and obligations under those licenses:

*Mt. Sinai School of Medicine* We have acquired exclusive worldwide patent rights to develop and commercialize migalastat HCl, afegostat tartrate and AT2220 and other pharmacological chaperones for the prevention or treatment of human diseases or clinical conditions by increasing the activity of wild-type and mutant enzymes pursuant to a license agreement with Mt. Sinai School of Medicine (MSSM) of New York University. In connection with this agreement, we issued 232,266 shares of our common stock to MSSM in April 2002. In October 2006, we issued MSSM an additional 133,333 shares of common stock and made a payment of \$1.0 million in consideration of an expanded field of use under that license. Under this agreement, to date we have paid no upfront or annual license fees and we have no milestone or future payments other than royalties on net sales. However, on October 31, 2008, we amended and restated this license agreement to, among other items, provide us with the sole right to control the prosecution of patent rights under such agreement and to clarify the portion of royalties and milestone payments we received from Shire that were payable to MSSM. In connection therewith, we agreed to pay MSSM \$2.6 million in connection with the \$50 million upfront payment that we received in November 2007 from Shire, our former collaborator, which was already accrued for at year-end 2007, and an additional \$2.6 million for the sole right to and control over the prosecution of patent rights. In addition, we paid MSSM \$3 million of the \$30 million upfront payment received from GSK in the fourth quarter of 2010. This agreement expires upon expiration of the last of the licensed patent rights, which will be in 2019, subject to any patent term extension that may be granted, or 2024 if we develop a product for combination therapy (pharmacological chaperone plus ERT) and a patent issues from the pending application covering the combination therapy, subject to any patent term extension that may be granted.



*University of Maryland, Baltimore County* We have acquired exclusive U.S. patent rights to develop and commercialize afegostat tartrate for the treatment of Gaucher disease from the University of Maryland, Baltimore County. Under this agreement, to date we have paid aggregate upfront and annual license fees of \$45 thousand. We are required to make a milestone payment upon the demonstration of safety and efficacy of afegostat tartrate for the treatment of Gaucher disease in a Phase 2 study, and another payment upon receiving FDA approval for afegostat tartrate for the treatment of Gaucher disease. We are also required to pay royalties on net sales. Upon satisfaction of both milestones, we could be required to make up to \$0.2 million in aggregate payments. This agreement expires upon expiration of the last of the licensed patent rights in 2015.

*Novo Nordisk A/S* We have acquired exclusive patent rights to develop and commercialize afegostat tartrate for all human indications. Under this agreement, to date we have paid an aggregate of \$0.4 million in license fees. We are also required to make milestone payments based on clinical progress of afegostat tartrate, with a payment due after initiation of a Phase 3 clinical trial for afegostat tartrate for the treatment of Gaucher disease and a payment due upon each filing for regulatory approval of afegostat tartrate for the treatment of Gaucher disease in any of the U.S., Europe or Japan. An additional payment is due upon approval of afegostat tartrate for the treatment of Gaucher disease in the U.S. and a payment is also due upon each approval of afegostat tartrate for the treatment of Gaucher disease in either of Europe or Japan. Assuming successful development of afegostat tartrate for the treatment of Gaucher disease in the U.S., Europe and Japan, total milestone payments would be \$7.8 million. We are also required to pay royalties on net sales. This license will terminate in 2016.

Under our license agreements, if we owe royalties on net sales for one of our products to more than one of the above licensors, then we have the right to reduce the royalties owed to one licensor for royalties paid to another. The amount of royalties to be offset is generally limited in each license and can vary under each agreement. For migalastat HCl and AT2220, we will owe royalties only to MSSM and will owe no milestone payments. We would expect to pay royalties to all three licensors with respect to afegostat tartrate.

Our rights with respect to these agreements to develop and commercialize migalastat HCl, afegostat tartrate and AT2220 may terminate, in whole or in part, if we fail to meet certain development or commercialization requirements or if we do not meet our obligations to make royalty payments.

#### **Trademarks**

In addition to our patents and trade secrets, we own certain trademarks in the U.S. and/or abroad, including A AMICUS THERAPEUTICS® & design and AMICUS THERAPEUTICS®. At present, all of the U.S. trademark applications for these marks have been either registered or approved by the U.S. Patent and Trademark Office. Although we previously obtained approval of the tradename Amigal, we will re-apply for registration of a new tradename for migalastat HCl based on feedback from FDA prohibiting the use of Amigal for migalastat HCl. As part of our License and Collaboration Agreement with GSK, GSK will select and own the tradename for migalastat HCl.

#### **Manufacturing**

We continue to rely on contract manufacturers to supply the active pharmaceutical ingredients and clinical supplies for migalastat HCl and our other product candidates. The active pharmaceutical ingredients for these products are manufactured under current good manufacturing practices (cGMP), at kilogram scale initiated with commercially available starting materials. The components in the final formulation for each product are commonly used in other encapsulated products and are well characterized ingredients. We have implemented appropriate controls for assuring the quality of both active pharmaceutical ingredients and capsules. Product specifications will be established in concurrence with regulatory bodies at the time of product registration. As of the end of 2011, in accordance with our collaboration agreement with GSK, GSK has assumed all Chemistry, Manufacturing and Controls (CMC) responsibilities for migalastat HCl.

#### **Competition**

##### **Overview**

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. In addition, several large pharmaceutical companies are increasingly focused on developing therapies for the treatment of rare diseases, both through organic growth and acquisitions and partnerships. While we believe that our technologies, knowledge, experience and scientific resources, along with our collaboration with GSK, provide us with competitive advantages, we face potential competition from many different sources, including commercial enterprises, academic institutions, government agencies and private and public research institutions. Any product candidates that we successfully develop and commercialize will compete with both existing and new therapies that may become available in the future.



Many of our competitors may have significantly greater financial resources and expertise associated with research and development, regulatory approvals and marketing approved products. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel, as well as in acquiring technologies complementary to, or necessary for, our programs. Smaller or early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

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

### **Major Competitors**

Our major competitors include pharmaceutical and biotechnology companies in the U.S. and abroad that have approved therapies or therapies in development for lysosomal storage disorders within our core programs. Other competitors are pharmaceutical and biotechnology companies that have approved therapies or therapies in development for genetic diseases for which pharmacological chaperone technology may be applicable. Additionally, we are aware of several early-stage, niche pharmaceutical and biotechnology companies whose core business revolves around protein misfolding; however, we are not aware that any of these companies is currently working to develop products that would directly compete with ours. The key competitive factors affecting the success of our product candidates are likely to be their efficacy, safety, convenience and price.

Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future. The following table lists our principal competitors and publicly available information on the status of their product offerings (U.S. dollars in millions):

Competitor	September 30, Indication	September 30, Product	September 30, Class of Product	September 30, Status	September 30, 2011 Sales (in millions)
sanofi aventis	Fabry disease	Fabrazyme®	Enzyme Replacement Therapy	Marketed	\$ 150
	Gaucher disease	Cerezyme®	Enzyme Replacement Therapy	Marketed	\$ 625
	Pompe disease	Myozyme®/	Enzyme Replacement Therapy	Marketed	
		Lumizyme®			\$ 435
	Gaucher disease	Eliglustat tartrate	Substrate Reduction Therapy	Phase 3	N/A
Shire	Fabry disease	Replagal®	Enzyme Replacement Therapy	Marketed	\$ 475
	Gaucher disease	VPRIV®	Enzyme Replacement Therapy	Marketed	\$ 256
Actelion, Ltd.	Gaucher disease	Zavesca®	Substrate Reduction Therapy	Marketed	\$ 73
Protalix Biotherapeutics	Gaucher disease	Taliglucerase alfa D	Enzyme Replacement Therapy	NDA filed	
				December 2009	N/A

### **Government Regulation**

#### **FDA Approval Process**

In the U.S., pharmaceutical products are subject to extensive regulation by the FDA. The Federal Food, Drug, and Cosmetic Act and other federal and state statutes and regulations, govern, among other things, the research, development, testing, manufacture, storage, recordkeeping, approval, labeling, promotion and marketing, distribution, post-approval monitoring and reporting, sampling, and import and export of pharmaceutical products. Failure to comply with applicable U.S. requirements may subject a company to a variety of administrative or judicial sanctions, such as FDA refusal to approve pending new drug applications (NDAs), warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, civil penalties, litigation, government investigation and criminal prosecution.

Pharmaceutical product development in the U.S. typically involves nonclinical laboratory and animal tests, the submission to the FDA of an investigational new drug application (IND), which must become effective before clinical testing may commence, and adequate and well-controlled clinical trials to establish the safety and effectiveness of the drug for each indication for which FDA approval is sought. Satisfaction of FDA pre-market approval requirements typically takes many years and the actual time required may vary substantially based upon the type, complexity and novelty of the product or disease. Preclinical tests include laboratory evaluation of product chemistry, formulation and toxicity, as well as animal trials to assess the characteristics and potential safety and efficacy of the product. The conduct of the preclinical tests must comply with federal regulations and requirements including good laboratory practices. The results of preclinical testing are submitted to the FDA as part of an IND along with other information including information about product chemistry, manufacturing and controls and a proposed clinical trial protocol. Long-term preclinical tests, such as animal tests of reproductive toxicity and carcinogenicity, may continue after the IND is submitted.

A 30-day waiting period after the submission of an IND is required prior to the commencement of clinical testing in humans. The IND becomes effective 30 days after its receipt by the FDA, and trials may begin at that point unless the FDA notifies the sponsor that the investigations are subject to a clinical hold.

Clinical trials involve the administration of the investigational new drug to healthy volunteers or patients under the supervision of a qualified investigator. Clinical trials must be conducted in compliance with applicable government regulations, good clinical practices (GCP), as well as under protocols detailing the objectives of the trial, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. Each protocol involving testing on U.S. patients and subsequent protocol amendments must be submitted to the FDA as part of the IND.

The FDA may order the temporary or permanent discontinuation of a clinical trial at any time or impose other sanctions if it believes that the clinical trial is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical trial patients. The study protocol and informed consent information for patients in clinical trials must also be submitted to an institutional review board (IRB), for approval. An IRB may also require the clinical trial at the site to be halted, either temporarily or permanently, for failure to comply with the IRB's requirements, or may impose other conditions.

Clinical trials to support a new drug application (NDA) for marketing approval are typically conducted in three sequential phases, but the phases may overlap. In Phase 1, the initial introduction of the drug into healthy human subjects or patients, the drug is tested to assess metabolism, pharmacokinetics, pharmacological actions, side effects associated with increasing doses and, if possible, early evidence on effectiveness. Phase 2 usually involves trials in a limited patient population, to determine the effectiveness of the drug for a particular indication or indications, dosage tolerance and optimum dosage, and identify common adverse effects and safety risks. If a compound demonstrates evidence of effectiveness and an acceptable safety profile in Phase 2 evaluations, Phase 3 trials are undertaken to obtain the additional information about clinical efficacy and safety in a larger number of patients, typically at geographically dispersed clinical trial sites, to permit FDA to evaluate the overall benefit-risk relationship of the drug and to provide adequate information for the labeling of the drug.

After completion of the required clinical testing, an NDA is prepared and submitted to the FDA. FDA approval of the NDA is required before marketing of the product may begin in the U.S. The NDA must include the results of all preclinical, clinical and other testing and a compilation of data relating to the product's pharmacology, chemistry, manufacture, and controls. The cost of preparing and submitting an NDA is substantial. Under federal law, the submission of most NDAs is additionally subject to a substantial application user fee, and the holder of an approved NDA is also subject to annual product and establishment user fees. These fees are typically increased annually.

The FDA has 60 days from its receipt of a NDA to determine whether the application will be accepted for filing based on the agency's threshold determination that it is sufficiently complete to permit substantive review. Once the submission is accepted for filing, the FDA begins an in-depth review. The FDA has agreed to certain performance goals in the review of new drug applications. Most such applications for non-priority drug products are reviewed within ten months. However, the FDA attempts to review a drug candidate that is eligible for priority review within six months, as discussed below. The review process may be extended by FDA for three additional months to evaluate major amendments to information already provided in the initial submission. The FDA may also refer applications for novel drug products or drug products which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved. The FDA is not bound by the recommendation of an advisory committee, but it generally follows such recommendations. Before approving an NDA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP. Additionally, the FDA will inspect the facility or the facilities at which the drug is manufactured. FDA will not approve the product unless compliance with current good manufacturing practices is satisfactory and the NDA contains data that provide substantial evidence that the drug is safe and effective in the indication studied and to be marketed.

After FDA evaluates the NDA and the manufacturing facilities, it issues an approval letter or a complete response letter. Complete response letters outline the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. If and when those deficiencies have been addressed to the FDA's satisfaction in an amendment submitted to the NDA, the FDA will issue an approval letter. FDA has committed to reviewing such resubmissions in 2 or 6 months depending on the type of information included.

An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. As a condition of NDA approval, the FDA may require substantial post-approval testing and surveillance to monitor the drug's safety or efficacy and may impose other conditions, including labeling restrictions which can materially affect the potential market and profitability of the drug. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

#### ***The Hatch-Waxman Act***

In seeking approval for a drug through an NDA, applicants are required to list with the FDA each patent with claims that cover the applicant's product. Upon approval of a drug, each of the patents listed in the application for the drug is then published in the FDA's Approved Drug Products with Therapeutic Equivalence Evaluations, commonly known as the Orange Book. Drugs listed in the Orange Book can, in turn, be cited by potential competitors in support of approval of an abbreviated new drug application (ANDA). An ANDA provides for marketing of a drug product that has the same route of administration, active ingredients strength and dosage form as the listed drug and has been shown through bioequivalence testing to be therapeutically equivalent to the listed drug. ANDA applicants are not required to conduct or submit results of preclinical or clinical tests to prove the safety or effectiveness of their drug product, other than the requirement for bioequivalence testing. Drugs approved in this way are commonly referred to as generic equivalents to the listed drug, and can often be substituted by pharmacists under prescriptions written for the original listed drug.

The ANDA applicant is required to certify to the FDA concerning any patents listed for the approved product in the FDA's Orange Book. Specifically, the applicant must certify that: (i) the required patent information has not been filed; (ii) the listed patent has expired; (iii) the listed patent has not expired, but will expire on a particular date and approval is sought after patent expiration; or (iv) the listed patent is invalid or will not be infringed by the new product. A certification that the new product will not infringe the already approved product's listed patents or that such patents are invalid is called a Paragraph 4 certification. If the applicant does not challenge the listed patents, the ANDA application will not be approved until all the listed patents claiming the referenced product have expired.

If the ANDA applicant has provided a Paragraph 4 certification to the FDA, the applicant must also send notice of the Paragraph 4 certification to the NDA and patent holders once the ANDA has been accepted for filing by the FDA. The NDA and patent holders may then initiate a patent infringement lawsuit in response to the notice of the Paragraph 4 certification. The filing of a patent infringement lawsuit within 45 days of the receipt of a Paragraph 4 certification automatically prevents the FDA from approving the ANDA until the earlier of 30 months, expiration of the patent, settlement of the lawsuit or a decision in the infringement case that is favorable to the ANDA applicant.

The ANDA application also will not be approved until any non-patent exclusivity, such as exclusivity for obtaining approval of a new chemical entity, listed in the Orange Book for the referenced product has expired (New Chemical Entity Market Exclusivity). Federal law provides a period of five years following approval of a drug containing no previously approved active ingredients, during which ANDAs for generic versions of those drugs cannot be submitted unless the submission contains a Paragraph 4 challenge to a listed patent, in which case the submission may be made four years following the original product approval. Federal law provides for a period of three years of exclusivity following approval of a listed drug that contains previously approved active ingredients but is approved in a new dosage form, route of administration or combination, or for a new use, the approval of which was required to be supported by new clinical trials conducted by or for the sponsor, during which FDA cannot grant effective approval of an ANDA based on that listed drug for the same new dosage form, route of administration or combination, or new use.

#### ***Other Regulatory Requirements***

Once an NDA is approved, a product will be subject to certain post-approval requirements. For instance, FDA closely regulates the post-approval marketing and promotion of drugs, including standards and regulations for direct-to-consumer advertising, communications regarding unindicated uses, industry-sponsored scientific and educational activities and promotional activities involving the internet.

Drugs may be marketed only for the approved indications and in accordance with the provisions of the approved labeling. Changes to some of the conditions established in an approved application, including changes in indications, labeling, or manufacturing processes or facilities, require submission and FDA approval of a new NDA or NDA supplement before the change can be implemented. An NDA supplement for a new indication typically requires clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing NDA supplements as it does in reviewing NDAs.



Adverse event reporting and submission of periodic reports is required following FDA approval of an NDA. The FDA also may require post-marketing testing, known as Phase 4 testing, risk evaluation and mitigation strategies and surveillance to monitor the effects of an approved product, or place conditions on an approval that could restrict the distribution or use of the product. In addition, quality control as well as drug manufacture, packaging, and labeling procedures must continue to conform to current good manufacturing practices, or cGMPs, after approval. Drug manufacturers and certain of their subcontractors are required to register their establishments with FDA and certain state agencies, and are subject to routine inspections by the FDA during which the agency inspects manufacturing facilities to access compliance with cGMPs. Accordingly, manufacturers must continue to expend time, money and effort in the areas of production and quality control to maintain compliance with cGMPs. Regulatory authorities may withdraw product approvals or request product recalls if a company fails to comply with regulatory standards, if it encounters problems following initial marketing, or if previously unrecognized problems are subsequently discovered.

### ***Orphan Drugs***

Under the Orphan Drug Act, the FDA may grant orphan drug designation to drugs intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the U.S. Orphan drug designation must be requested before submitting an NDA. After the FDA grants orphan drug designation, the generic identity of the drug and its potential orphan use are disclosed publicly by the FDA. Orphan drug designation does not convey any advantage in or shorten the duration of the regulatory review and approval process. The first NDA applicant with FDA orphan drug designation for a particular active ingredient to receive FDA approval of the designated drug for the disease indication for which it has such designation, is entitled to a seven-year exclusive marketing period (Orphan Drug Exclusivity) in the U.S. for that product, for that indication. During the seven-year period, the FDA may not finally approve any other applications to market the same drug for the same disease, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity or if the license holder cannot supply sufficient quantities of the product. Orphan drug exclusivity does not prevent FDA from approving a different drug for the same disease or condition, or the same drug for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the NDA application user fee for the orphan indication.

### ***Pediatric Information***

Under the Pediatric Research Equity Act of 2007 (PREA), NDAs or supplements to NDAs must contain data to assess the safety and effectiveness of the drug for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the drug is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers. Unless otherwise required by regulation, PREA does not apply to any drug for an indication for which orphan designation has been granted.

### ***Fast Track Designation***

Under the fast track program, the sponsor of an IND may request FDA to designate the drug candidate as a fast track drug if it is intended to treat a serious condition and fulfill an unmet medical need. FDA must determine if the drug candidate qualifies for fast track designation within 60 days of receipt of the sponsor's request. Once FDA designates a drug as a fast track candidate, it is required to facilitate the development and expedite the review of that drug by providing more frequent communication with and guidance to the sponsor.

In addition to other benefits such as the ability to use surrogate endpoints and have greater interactions with FDA, FDA may initiate review of sections of a fast track drug's NDA before the application is complete. This rolling review is available if the applicant provides and FDA approves a schedule for the submission of the remaining information and the applicant pays applicable user fees. However, FDA's time period goal for reviewing an application does not begin until the last section of the NDA is submitted. Additionally, the fast track designation may be withdrawn by FDA if FDA believes that the designation is no longer supported by data emerging in the clinical trial process.

### ***Priority Review***

Under FDA policies, a drug candidate is eligible for priority review, or review within a six-month time frame from the time a complete NDA is accepted for filing, if the drug candidate provides a significant improvement compared to marketed drugs in the treatment, diagnosis or prevention of a disease. A fast track designated drug candidate would ordinarily meet FDA's criteria for priority review. The FDA makes its determination of priority or standard review during the 60-day filing period after an initial NDA submission.

### ***Accelerated Approval***

Under FDA's accelerated approval regulations, FDA may approve a drug for a serious or life-threatening illness that provides meaningful therapeutic benefit to patients over existing treatments based upon a surrogate endpoint that is reasonably likely to predict clinical benefit. In clinical trials, a surrogate endpoint is a measurement of laboratory or clinical signs of a disease or condition that substitutes for a direct measurement of how a patient feels, functions, or survives. Surrogate endpoints can often be measured more easily or more rapidly than clinical endpoints. A drug candidate approved on this basis is subject to rigorous post-marketing compliance requirements, including the completion of Phase 4 or post-approval clinical trials to confirm the effect on the clinical endpoint. Failure to conduct required post-approval studies, or confirm a clinical benefit during post-marketing studies, will allow FDA to withdraw the drug from the market on an expedited basis. All promotional materials for drug candidates approved under accelerated regulations are subject to prior review by FDA.

### ***Section 505(b)(2) New Drug Applications***

Most drug products obtain FDA marketing approval pursuant to an NDA or an ANDA. A third alternative is a special type of NDA, commonly referred to as a Section 505(b)(2) NDA, which enables the applicant to rely, in part, on the safety and efficacy data of an existing product, or published literature, in support of its application.

505(b)(2) NDAs often provide an alternate path to FDA approval for new or improved formulations or new uses of previously approved products. Section 505(b)(2) permits the submission of a NDA where at least some of the information required for approval comes from studies not conducted by or for the applicant and for which the applicant has not obtained a right of reference. The applicant may rely upon certain preclinical or clinical studies conducted for an approved product. The FDA may also require companies to perform additional studies or measurements to support the change from the approved product. The FDA may then approve the new product candidate for all or some of the label indications for which the referenced product has been approved, as well as for any new indication sought by the Section 505(b)(2) applicant.

To the extent that the Section 505(b)(2) applicant is relying on studies conducted for an already approved product, the applicant is required to certify to the FDA concerning any patents listed for the approved product in the Orange Book to the same extent that an ANDA applicant would. Thus approval of a 505(b)(2) NDA can be stalled until all the listed patents claiming the referenced product have expired, until any non-patent exclusivity, such as exclusivity for obtaining approval of a new chemical entity, listed in the Orange Book for the referenced product has expired, and, in the case of a Paragraph 4 certification and subsequent patent infringement suit, until the earlier of 30 months, settlement of the lawsuit or a decision in the infringement case that is favorable to the Section 505(b)(2) applicant.

### ***Anti-Kickback, False Claims Laws & The Prescription Drug Marketing Act***

In addition to FDA restrictions on marketing of pharmaceutical products, several other types of state and federal laws have been applied to restrict certain marketing practices in the pharmaceutical industry in recent years. These laws include anti-kickback statutes and false claims statutes. The federal healthcare program anti-kickback statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce or in return for purchasing, leasing, ordering or arranging for the purchase, lease or order of any healthcare item or service reimbursable under Medicare, Medicaid or other federally financed healthcare programs. This statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers and formulary managers on the other. Violations of the anti-kickback statute are punishable by imprisonment, criminal fines, civil monetary penalties and exclusion from participation in federal healthcare programs. Although there are a number of statutory exemptions and regulatory safe harbors protecting certain common activities from prosecution or other regulatory sanctions, the exemptions and safe harbors are drawn narrowly, and practices that involve remuneration intended to induce prescribing, purchases or recommendations may be subject to scrutiny if they do not qualify for an exemption or safe harbor.

Federal false claims laws prohibit any person from knowingly presenting, or causing to be presented, a false claim for payment to the federal government, or knowingly making, or causing to be made, a false statement to have a false claim paid. Recently, several pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly inflating drug prices they report to pricing services, which in turn were used by the government to set Medicare and Medicaid reimbursement rates, and for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. In addition, certain marketing practices, including off-label promotion, may also violate false claims laws. The majority of states also have statutes or regulations similar to the federal anti-kickback law and false claims laws, which apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor.



### ***Physician Drug Samples***

As part of the sales and marketing process, pharmaceutical companies frequently provide samples of approved drugs to physicians. The Prescription Drug Marketing Act (the PDMA) imposes requirements and limitations upon the provision of drug samples to physicians, as well as prohibits states from licensing distributors of prescription drugs unless the state licensing program meets certain federal guidelines that include minimum standards for storage, handling and record keeping. In addition, the PDMA sets forth civil and criminal penalties for violations.

### ***Regulation Outside the U.S.***

In addition to regulations in the U.S., we will be subject to a variety of regulations in other jurisdictions governing clinical studies and commercial sales and distribution of our products. Most countries outside the U.S. require that clinical trial applications be submitted to and approved by the local regulatory authority for each clinical study. In addition, whether or not we obtain FDA approval for a product, we must obtain approval of a product by the comparable regulatory authorities of countries outside the U.S. before we can commence clinical studies 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.

To obtain regulatory approval of a drug under EU regulatory systems, we may submit marketing authorizations either under a centralized or decentralized procedure. The centralized procedure, which is compulsory for medicines produced by certain biotechnological processes and optional for those which are highly innovative, provides for the grant of a single marketing authorization that is valid for all EU member states. The decentralized procedure provides for approval by one or more other, or concerned, member states of an assessment of an application performed by one member state, known as the reference member state. Under this procedure, an applicant submits an application, or dossier, and related materials including a draft summary of product characteristics, and draft labeling and package leaflet, to the reference member state and concerned member states. The reference member state prepares a draft assessment and drafts of the related materials within 120 days after receipt of a valid application. Within 90 days of receiving the reference member state's assessment report, each concerned member state must decide whether to approve the assessment report and related materials. If a member state cannot approve the assessment report and related materials on the grounds of potential serious risk to the public health, the disputed points may eventually be referred to the European Commission, whose decision is binding on all member states.

We have obtained an orphan medicinal product designation in the EU from the EMEA for migalastat HCl for the treatment of Fabry disease and for afegostat tartrate for the treatment of Gaucher disease. We anticipate filing for orphan medicinal product designation from the EMEA for AT2220 for the treatment of Pompe disease. The EMEA grants orphan drug designation to promote the development of products that may offer therapeutic benefits for life-threatening or chronically debilitating conditions affecting not more than five in 10,000 people in the EU. In addition, orphan drug designation can be granted if the drug is intended for a life threatening, seriously debilitating or serious and chronic condition in the EU and that without incentives it is unlikely that sales of the drug in the EU would be sufficient to justify developing the drug. Orphan drug designation is only available if there is no other satisfactory method approved in the EU of diagnosing, preventing or treating the condition, or if such a method exists, the proposed orphan drug will be of significant benefit to patients.

Orphan drug designation provides opportunities for fee reductions for protocol assistance and access to the centralized regulatory procedures before and during the first year after marketing approval, which reductions are not limited to the first year after marketing approval for small and medium enterprises. In addition, if a product which has an orphan drug designation subsequently receives EMEA marketing approval for the indication for which it has such designation, the product is entitled to orphan drug exclusivity, which means the EMEA may not approve any other application to market the same drug for the same indication for a period of ten years. The exclusivity period may be reduced to six years if the designation criteria are no longer met, including where it is shown that the product is sufficiently profitable not to justify maintenance of market exclusivity. Competitors may receive marketing approval of different drugs or biologics for the indications for which the orphan product has exclusivity. In order to do so, however, they must demonstrate that the new drugs or biologics provide a significant benefit over the existing orphan product. This demonstration of significant benefit may be done at the time of initial approval or in post-approval studies, depending on the type of marketing authorization granted.

### **Pharmaceutical Pricing and Reimbursement**

In the U.S. and markets in other countries, sales of any products for which we receive regulatory approval for commercial sale will depend in part on the availability of reimbursement from third party payors. Third party payors include government health administrative authorities, managed care providers, private health insurers and other organizations. These third party payors are

increasingly challenging the price and examining the cost-effectiveness of medical products and services. In addition, significant uncertainty exists as to the reimbursement status of newly approved healthcare product candidates. We may need to conduct expensive pharmacoeconomic studies in order to demonstrate the cost-effectiveness of our products. Our product candidates may not be considered cost-effective. Adequate third party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development.

In 2003, the U.S. government enacted legislation providing a partial prescription drug benefit for Medicare recipients that began in 2006. Government payment for some of the costs of prescription drugs may increase demand for any products for which we receive marketing approval. However, to obtain payments under this program, we would be required to sell products to Medicare recipients through managed care organizations and other health care delivery systems operating pursuant to this legislation. These organizations would negotiate prices for our products, which are likely to be lower than we might otherwise obtain. Federal, state and local governments in the U.S. continue to consider legislation to limit the growth of healthcare costs, including the cost of prescription drugs. Future legislation could limit payments for pharmaceuticals such as the drug candidates that we are developing.

The marketability of any products for which we receive regulatory approval for commercial sale may suffer if the government and third party payors fail to provide adequate coverage and reimbursement. In addition, an increasing emphasis on managed care in the U.S. has increased and will continue to increase the pressure on pharmaceutical pricing.

### **Employees**

As of December 31, 2011, we had 96 full-time employees, 71 of whom were primarily engaged in research and development activities and 25 of whom provide administrative services. A total of 26 employees have an M.D. or Ph.D. degree. None of our employees are represented by a labor union. We have not experienced any work stoppages and consider our employee relations to be good.

### **Our Corporate Information**

We were incorporated under the laws of the State of Delaware on February 4, 2002. Our principal executive offices are located at 1 Cedar Brook Drive, Cranbury, NJ 08512 and our telephone number is (609) 662-2000. Our website address is [www.amicustherapeutics.com](http://www.amicustherapeutics.com). We make available free of charge on our website our annual, quarterly and current reports, including amendments to such reports, as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the U.S. Securities and Exchange Commission.

Information relating to corporate governance at Amicus Therapeutics, including our Code of Business Conduct for Employees, Executive Officers and Directors, Corporate Governance Guidelines, and information concerning our senior management team, Board of Directors, including Board Committees and Committee charters, and transactions in our securities by directors and executive officers, is available on our website at [www.amicustherapeutics.com](http://www.amicustherapeutics.com) under the Investors Corporate Governance caption and in print to any stockholder upon request. Any waivers to the Codes by directors or executive officers and any material amendment to the Code of Business Conduct and Ethics for Employees, Executive Officers and Directors will be posted promptly on our website.

We have filed applications to register certain trademarks in the U.S. and abroad, including A AMICUS THERAPEUTICS® and design and AMICUS THERAPETUICS® Fabrazyme®, Cerezyme®, Myozyme®, Lumizyme®, Replagal®, VPRIV® and Zavesca® are the property of their respective owners.

## ITEM 1A. RISK FACTORS

*The occurrence of any of the following risks could harm our business, financial condition, results of operations and/or growth prospects. In that case, the trading price of our common stock could decline, and you may lose all or part of your investment. You should understand that it is not possible to predict or identify all such risks. Consequently, you should not consider the following to be a complete discussion of all potential risks or uncertainties.*

### **Risks Related to Our Financial Position and Need for Additional Capital**

**We have incurred significant operating losses since our inception. We currently do not, and since inception never have had, any products available for commercial sale. We expect to incur operating losses for the foreseeable future and may never achieve or maintain profitability.**

Since inception, we have incurred significant operating losses. Our cumulative net loss attributable to common stockholders since inception was \$290.3 million and we had an accumulated deficit of \$270.1 million as of December 31, 2011. To date, we have financed our operations primarily through private placements of our redeemable convertible preferred stock, proceeds from our initial public offering and March 2010 registered direct offering, and from our collaboration agreement with GSK and prior collaboration agreement with Shire. We have devoted substantially all of our efforts to research and development, including our preclinical development activities and clinical trials. We have not completed development of any drugs. We expect to continue to incur significant and increasing operating losses for at least the next several years and we are unable to predict the extent of any future losses as we:

continue our ongoing Phase 3 clinical trials of migalastat HCl for the treatment of Fabry disease to support regulatory approval in the United States (Study 011) and worldwide (Study 012);

continue our ongoing Phase 2 clinical trial of migalastat HCl co-administered with ERT for Fabry disease and our Phase 2 clinical trial of AT2220 co-administered with ERT for Pompe disease;

continue our preclinical studies on the use of pharmacological chaperones for the treatment of Parkinson's Disease;

continue our preclinical studies on the use of pharmacological chaperones co-administered with ERT for other lysosomal storage diseases;

continue the research and development of additional product candidates;

seek regulatory approvals for our product candidates that successfully complete clinical trials; and

establish a sales and marketing infrastructure to commercialize products for which we may obtain regulatory approval.

To become and remain profitable, we must succeed in developing and commercializing drugs with significant market potential. This will require us to be successful in a range of challenging activities, including the discovery of product candidates, successful completion of preclinical testing and clinical trials of our product candidates, obtaining regulatory approval for these product candidates and manufacturing, marketing and selling those products for which we may obtain regulatory approval. We are only in the preliminary stages of these activities. We may never succeed in these activities and may never generate revenues that are large enough to achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become or remain profitable could 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.

**We will need substantial funding and may be unable to raise capital when needed, which would force us to delay, reduce or eliminate our product development programs or commercialization efforts.**

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We expect to continue to incur substantial research and development expenses in connection with our ongoing activities, particularly as we continue our Phase 3 development of migalastat HCl. Further, subject to obtaining regulatory approval of any of our product candidates besides migalastat HCl, we expect to incur significant commercialization expenses for product sales and marketing, securing commercial quantities of product from our manufacturers and product distribution. While research and development costs associated with our migalastat HCl program will be shared with GSK so long as our collaboration continues, we remain responsible for all costs related to our other programs.

We believe that our existing cash and cash equivalents and marketable securities, along with reimbursements of development costs and achievement of milestones under our collaboration with GSK, will be sufficient to enable us to fund our operating expenses and capital expenditure requirements into the middle of the third quarter of 2013. However, should GSK terminate our collaboration agreement, we would likely need to seek additional funding in order to complete any clinical trials related to migalastat HCl, seek regulatory approvals of migalastat HCl, and launch the product candidate and continue our other clinical and preclinical programs. Capital may not be available when needed on terms that are acceptable to us, or at all, especially in light of the current challenging economic environment. If adequate funds are not available to us on a timely basis, we may be required to reduce or eliminate research development programs or commercial efforts.

Our future capital requirements will depend on many factors, including:

the progress and results of our clinical trials of migalastat HCl ;

the continuation of, and our achievement of milestone payments under, our collaboration agreement with GSK;

the scope, progress, results and costs of preclinical development, laboratory testing and clinical trials for our other product candidates including those testing the use of pharmacological chaperones co-administered with ERT and for the treatment of diseases of neurodegeneration;

the costs, timing and outcome of regulatory review of our product candidates;

the number and development requirements of other product candidates that we pursue;

the costs of commercialization activities, including product marketing, sales and distribution;

the emergence of competing technologies and other adverse market developments;

the costs of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property related claims;

the extent to which we acquire or invest in businesses, products or technologies; and

our ability to establish additional collaborations and obtain milestone, royalty or other payments from any such collaborators.

**Any capital that we obtain may not be on terms favorable to us or our stockholders or may require us to relinquish valuable rights.**

Until such time, if ever, as we generate product revenue to finance our operations, we expect to finance our cash needs through public or private equity offerings and debt financings, corporate collaboration and licensing arrangements and grants from patient advocacy groups, foundations and government agencies. If we are able to raise capital by issuing equity securities, as we did in March 2010, our stockholders will experience dilution. In addition, stockholders may experience dilution if the holders of the warrants issued in connection with our March 2010 offering exercise their warrants. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends and may include rights that are senior to the holders of our common stock. Each of our current loan and security agreements with Silicon Valley Bank includes a covenant where by we must maintain a minimum amount of liquidity measured at the end of each month where unrestricted cash, cash equivalents, and marketable securities is greater than \$20 million plus outstanding debt due to Silicon Valley Bank. Any debt financing or additional equity that we raise may contain terms, such as liquidation and other preferences, which are not favorable to us or our stockholders. If we raise capital through additional collaboration and licensing arrangements with third parties, it may be necessary to relinquish valuable rights to our technologies, future revenue

streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us or our stockholders.

**We may acquire other assets or businesses, or form collaborations or make investments in other companies or technologies, that could harm our operating results, dilute our stockholders' ownership, increase our debt or cause us to incur significant expense.**

As part of our business strategy, we may pursue acquisitions of assets or businesses, or strategic alliances and collaborations to expand our existing technologies and operations. We may not identify or complete these transactions in a timely manner, on a cost-effective basis, or at all, and we may not realize the anticipated benefits of any such transaction, any of which could have a detrimental effect on our financial condition, results of operations and cash flows. We have no experience with acquiring other companies and limited experience with forming collaborations. We may not be able to find suitable acquisition candidates, and if we make any acquisitions, we may not be able to integrate these acquisitions successfully into our existing business and we may incur additional debt or assume unknown or contingent liabilities in connection therewith. Integration of an acquired company or assets may also disrupt ongoing operations, require the hiring of additional personnel and the implementation of additional internal systems and infrastructure, especially the acquisition of commercial assets, and require management resources that would otherwise focus on developing our existing business. We may not be able to find suitable collaboration partners or identify other investment opportunities, and we may experience losses related to any such investments.

To finance any acquisitions or collaborations, we may choose to issue debt or shares of our common stock as consideration. Any such issuance of shares would dilute the ownership of our stockholders. If the price of our common stock is low or volatile, we may not be able to acquire other assets or companies or fund a transaction, using our stock as consideration. Alternatively, it may be necessary for us to raise additional funds for acquisitions through public or private financings. Additional funds may not be available on terms that are favorable to us, or at all.

**Our short operating history may make it difficult to evaluate the success of our business to date and to assess our future viability.**

We are a development stage company. We commenced operations in February 2002. Our operations to date have been limited to organizing and staffing our company, acquiring and developing our technology and undertaking preclinical studies and clinical trials of our most advanced product candidates. We have not yet generated any commercial sales for any of our product candidates. We have not yet demonstrated our ability to successfully complete large-scale, clinical trials, obtain regulatory approvals, manufacture a commercial-scale product or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, any predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, if we are successful in obtaining marketing approval for any of our lead product candidates or if we acquire commercial assets, we will need to transition from a company with a research focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

**Risks Related to the Development and Commercialization of Our Product Candidates**

**We depend heavily on the success of our most advanced product candidate, migalastat HCl. All of our product candidates are still in either preclinical or clinical development. Clinical trials of our product candidates may not be successful. If we are unable to commercialize migalastat HCl, or experience significant delays in doing so, our business will be materially harmed.**

We have invested a significant portion of our efforts and financial resources in the development of our most advanced product candidates, including migalastat HCl. Our ability to generate product revenue, which may never occur, will depend heavily on the successful development and commercialization of these product candidates, and upon the continuation and success of any collaborations we may enter into, in particular our collaboration with GSK. The successful commercialization of our product candidates will depend on several factors, including the following:

successful enrollment of patients in our clinical trials on a timely basis;

obtaining supplies of our product candidates and, where required, third party marketed products including ERTs, for completion of our clinical trials on a timely basis;

successful completion of preclinical studies and clinical trials;

obtaining regulatory agreement in the structure and design of our clinical programs;

obtaining marketing approvals from the United States Food and Drug Administration (FDA), and similar regulatory authorities outside the U.S.;

establishing commercial-scale manufacturing arrangements with third party manufacturers whose manufacturing facilities are operated in compliance with current good manufacturing practice (cGMP) regulations;

launching commercial sales of the product, whether alone or in collaboration with others;

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acceptance of the product by patients, the medical community and third party payors;

competition from other companies and their therapies;

successful protection of our intellectual property rights from competing products in the U.S. and abroad; and

a continued acceptable safety and efficacy profile of our product candidates following approval.

**If the market opportunities for our product candidates are smaller than we believe they are, then our revenues may be adversely affected and our business may suffer.**

Each of the diseases that our most advanced product candidates are being developed to address is rare. Our projections of both the number of people who have these diseases, as well as the subset of people with these diseases who have the potential to benefit from treatment with our product candidates, are based on estimates.

Currently, most reported estimates of the prevalence of these diseases are based on studies of small subsets of the population of specific geographic areas, which are then extrapolated to estimate the prevalence of the diseases in the broader world population. In addition, as new studies are performed the estimated prevalence of these diseases may change. In fact, as a result of some recent studies, we believe that previously reported studies do not accurately account for the prevalence of Fabry disease and that the prevalence of Fabry disease could be many times higher than previously reported. There can be no assurance that the prevalence of Fabry disease or Pompe disease in the study populations, particularly in these newer studies, accurately reflects the prevalence of these diseases in the broader world population.



We estimate the number of potential patients in the broader world population who have those diseases and may respond to treatment with our product candidates by further extrapolating estimates of the prevalence of specific types of genetic mutations giving rise to these diseases. For example, we base our estimate of the percentage of Fabry patients who may respond to treatment with migalastat HCl on the frequency of missense and other similar mutations that cause Fabry disease reported in the Human Gene Mutation Database. As a result of recent studies that estimate that the prevalence of Fabry disease could be many times higher than previously reported, we believe that the number of patients diagnosed with Fabry disease will increase and estimate that the number of Fabry patients who may benefit from the use of migalastat HCl is significantly higher than some previously reported estimates of Fabry disease generally. If our estimates of the prevalence of Fabry disease or of the number of patients who may benefit from treatment with our product candidates prove to be incorrect, the market opportunities for our product candidates may be smaller than we believe they are, our prospects for generating revenue may be adversely affected and our business may suffer.

**Initial results from a clinical trial do not ensure that the trial will be successful and success in early stage clinical trials does not ensure success in later-stage clinical trials.**

We will only obtain regulatory approval to commercialize a product candidate if we can demonstrate to the satisfaction of the FDA or the applicable non-U.S. regulatory authority, in well-designed and conducted 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 processes 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.

Success in preclinical testing and early clinical trials does not ensure that later clinical trials will be successful, and initial results from a clinical trial do not necessarily predict final results. We cannot be assured that these trials will ultimately be successful. In addition, patients may not be compliant with their dosing regimen or trial protocols or they may withdraw from the study at any time for any reason.

Even if our early stage clinical trials are successful, we will need to conduct additional clinical trials with larger numbers of patients receiving the drug for longer periods for all of our product candidates before we are able to seek approvals to market and sell these product candidates from the FDA and regulatory authorities outside the U.S. In addition, each of our product candidates is based on our pharmacological chaperone technology. To date, we are not aware that any product based on chaperone technology has been approved by the FDA. As a result, while we have reached agreement with the FDA on the use of a surrogate primary endpoint in our Phase 3 study for migalastat HCl, we cannot be sure what endpoints the FDA will require us to measure in later-stage clinical trials of our other product candidates. If the FDA requires different endpoints than the endpoints we anticipate using, it may be more difficult for us to obtain, or we may be delayed in obtaining, FDA approval of our product candidates. If we are not successful in commercializing any of our lead product candidates, or are significantly delayed in doing so, our business will be materially harmed.

**We have limited experience in conducting and managing the preclinical development activities and clinical trials necessary to obtain regulatory approvals, including approval by the FDA.**

We have limited experience in conducting and managing the preclinical development activities and clinical trials necessary to obtain regulatory approvals, including approval by the FDA. We have not obtained regulatory approval nor commercialized any of our product candidates. Although we recently completed enrollment in our first Phase 3 study of migalastat HCl, we have not yet completed a Phase 3 clinical trial for any of our product candidates. Our limited experience might prevent us from successfully designing or implementing a clinical trial. We have limited experience in conducting and managing the application process necessary to obtain regulatory approvals and we might not be able to demonstrate that our product candidates meet the appropriate standards for regulatory approval. If we are not successful in conducting and managing our preclinical development activities or clinical trials or obtaining regulatory approvals, we might not be able to commercialize our lead product candidates, or might be significantly delayed in doing so, which will materially harm our business.

**We may find it difficult to enroll patients in our clinical trials.**

Each of the diseases that our lead product candidates are intended to treat is rare and we expect only a subset of the patients with these diseases to be eligible for our clinical trials. We may not be able to initiate or continue clinical trials for each or all of our product candidates if we are unable to locate a sufficient number of eligible patients to participate in the clinical trials required by the FDA or other non-U.S. regulatory agencies. For example, the entry criteria for our ongoing Phase 3 study in migalastat HCl for Fabry disease to support approval in the United States (Study 011) requires that patients must have a genetic mutation that we believe is responsive to migalastat HCl, and may not have received ERT in the past or must have stopped treatment for at least six months prior to enrolling in the study. As a result, enrollment of the study lasted for over two years.

In addition, the requirements of our clinical testing mandate that a patient cannot be involved in another clinical trial for the same indication. We are aware that our competitors have ongoing clinical trials for products that are competitive with our product candidates and patients who would otherwise be eligible for our clinical trials may be involved in such testing, rendering them unavailable for testing of our product candidates. Our inability to enroll a sufficient number of patients for any of our current or future clinical trials would result in significant delays or may require us to abandon one or more clinical trials altogether.

**If our preclinical studies do not produce positive results, if our clinical trials are delayed or if serious side effects are identified during drug development, we may experience delays, incur additional costs and ultimately be unable to commercialize our product candidates.**

Before obtaining regulatory approval for the sale of our product candidates, we must conduct, at our own expense, extensive preclinical tests to demonstrate the safety of our product candidates in animals, and clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Preclinical and clinical testing is expensive, difficult to design and implement and can take many years to complete. A failure of one or more of our preclinical studies or clinical trials can occur at any stage of testing. We may experience numerous unforeseen events during, or as a result of, preclinical testing and the clinical trial process that could delay or prevent our ability to obtain regulatory approval or commercialize our product candidates, including:

our preclinical tests or clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional preclinical testing or clinical trials or we may abandon projects that we expect to be promising;

we may decide to amend existing protocols for on-going clinical trials;

regulators or institutional review boards may not authorize us to commence a clinical trial or conduct a clinical trial at a prospective trial site;

conditions imposed on us by the FDA or any non-U.S. regulatory authority regarding the scope or design of our clinical trials may require us to resubmit our clinical trial protocols to institutional review boards for re-inspection due to changes in the regulatory environment;

the number of patients required for our clinical trials may be larger than we anticipate or participants may drop out of our clinical trials at a higher rate than we anticipate;

our third party contractors or clinical investigators may fail to comply with regulatory requirements or fail to meet their contractual obligations to us in a timely manner;

we might have to suspend or terminate one or more of our clinical trials if we, the regulators or the institutional review boards determine that the participants are being exposed to unacceptable health risks;

regulators or institutional review boards may require that we hold, suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements;

the cost of our clinical trials may be greater than we anticipate;

the supply or quality of our product candidates or other materials necessary to conduct our clinical trials, such as existing treatments like ERT, may be insufficient or inadequate or we may not be able to reach agreements on acceptable terms with prospective clinical research organizations;

a continued shortage in the supply of ERT, which we require to conduct Study 012 and may be required for future studies; and

the effects of our product candidates may not be the desired effects or may include undesirable side effects or the product candidates may have other unexpected characteristics.

If we are required to conduct additional clinical trials or other testing of our product candidates beyond those that we currently contemplate, if we are unable to successfully complete our clinical trials or other testing, if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, we may:

be delayed in obtaining, or may not be able to obtain, marketing approval for one or more of our product candidates and milestone payments from our collaborators;

obtain approval for indications that are not as broad as intended or entirely different than those indications for which we sought approval; or

have the product removed from the market after obtaining marketing approval.

Our product development costs will also increase if we experience delays in testing or approvals. We do not know whether any preclinical tests or clinical trials will be initiated as planned, will need to be restructured or will be completed on schedule, if at all. Significant preclinical or clinical trial delays also could shorten the patent protection period during which we may have the exclusive right to commercialize our product candidates. Such delays could allow our competitors to bring products to market before we do and impair our ability to commercialize our products or product candidates. In addition, GSK has significant influence on the conduct of our migalastat HCl program, and could compel us to perform unanticipated clinical trials of migalastat HCl or delay the approval process for a variety of reasons.

**The commercial success of any product candidates that we may develop, including migalastat HCl, will depend upon the degree of market acceptance by physicians, patients, third party payors and others in the medical community.**

Any products that we bring to the market, including migalastat HCl, may not gain market acceptance by physicians, patients, third party payors and others in the medical community. If these products do not achieve an adequate level of acceptance, we may not generate significant product revenue and we may not become profitable. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

prevalence and severity of any side effects, including any limitations or warnings contained in a product's approved labeling;

efficacy and potential advantages over alternative treatments;

pricing;

relative convenience and ease of administration;

willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;

strength of marketing and distribution support, which in the case of migalastat HCl will be the responsibility of our collaborator, GSK, and timing of market introduction of competitive products;

publicity concerning our products or competing products and treatments; and

sufficient third party insurance coverage or reimbursement.

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Even if a product candidate displays a favorable efficacy and safety profile in preclinical and clinical trials, market acceptance of the product will not be known until after it is launched. Our efforts to educate the medical community and third party payors on the benefits of our product candidates may require significant resources and may never be successful. In the case of migalastat HCl, we will be relying in large part on the efforts of our collaborator, GSK for such efforts. Such efforts to educate the marketplace may require more resources than are required by the conventional technologies marketed by our competitors.

**If we are unable to obtain adequate reimbursement from governments or third party payors for any products that we may develop or if we are unable to obtain acceptable prices for those products, our prospects for generating revenue and achieving profitability will suffer.**

Our prospects for generating revenue and achieving profitability will depend heavily upon the availability of adequate reimbursement for the use of our approved product candidates from governmental and other third party payors, both in the U.S. and in other markets. Reimbursement by a third party payor may depend upon a number of factors, including the third party payor's determination that use of a product is:

a covered benefit under its health plan;

safe, effective and medically necessary;

appropriate for the specific patient;

cost-effective; and

neither experimental nor investigational.

Obtaining reimbursement approval for a product from each government or other third party payor is a time consuming and costly process that could require us to provide supporting scientific, clinical and cost effectiveness data for the use of our products to each payor. We may not be able to provide data sufficient to gain acceptance with respect to reimbursement or we might need to conduct post-marketing studies in order to demonstrate the cost-effectiveness of any future products to such payors' satisfaction. Such studies might require us to commit a significant amount of management time and financial and other resources. Even when a payor determines that a product is eligible for reimbursement, the payor may impose coverage limitations that preclude payment for some uses that are approved by the FDA or non-U.S. regulatory authorities. In addition, there is a risk that full reimbursement may not be available for high priced products. Moreover, eligibility for coverage does not imply that any product will be reimbursed in all cases or at a rate that allows us to make a profit or even cover our costs. Interim payments for new products, if applicable, may also not be sufficient to cover our costs and may not be made permanent. In the case of migalastat HCl, we will be reliant on GSK to seek reimbursement approvals from governments and third-party payors.

A primary trend in the U.S. healthcare industry and elsewhere is toward cost containment. We expect recent changes in the Medicare program and increasing emphasis on managed care to continue to put pressure on pharmaceutical product pricing. For example, the Medicare Prescription Drug Improvement and Modernization Act of 2003 provides a new Medicare prescription drug benefit that began in 2006 and mandates other reforms. While we cannot predict the full outcome of the implementation of this legislation, it is possible that the new Medicare prescription drug benefit, which will be managed by private health insurers and other managed care organizations, will result in additional government reimbursement for prescription drugs, which may make some prescription drugs more affordable but may further exacerbate industry wide pressure to reduce prescription drug prices. If one or more of our product candidates reaches commercialization, such changes may have a significant impact on our ability to set a price we believe is fair for our products and may affect our ability to generate revenue and achieve or maintain profitability.

**Governments outside the U.S. tend to impose strict price controls and reimbursement approval policies, which may adversely affect our prospects for generating revenue.**

In some countries, particularly European Union (EU) countries, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time (6 to 12 months or longer) 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. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our prospects for generating revenue, if any, could be adversely affected and our business may suffer.

**If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may be unable to generate product revenue.**

At present, we have no sales or marketing personnel. In order to commercialize any of our product candidates, we must either acquire or internally develop sales, marketing and distribution capabilities, or enter into collaborations with partners to perform these services for us, as we have done with GSK for the commercialization of migalastat HCl. We may not be able to establish sales and distribution partnerships for other product candidates on acceptable terms or at all, and if we do enter into a distribution arrangement, our success will be dependent upon the performance of our partner.

In the event that we attempt to acquire or develop our own in-house sales, marketing and distribution capabilities, factors that may inhibit our efforts to commercialize our products without strategic partners or licensees include:

our inability to recruit and retain adequate numbers of effective sales and marketing personnel;

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the inability of sales personnel to obtain access to or successfully market to adequate numbers of physicians to prescribe our products;

the lack of additional products to be marketed by our sales personnel, which may put us at a competitive disadvantage against companies with broader product lines;

unforeseen costs associated with creating our own sales and marketing team or with entering into a partnering agreement with an independent sales and marketing organization; and

efforts by our competitors to commercialize products at or about the time when our product candidates would be coming to market. We may co-promote our product candidates in various markets with pharmaceutical and biotechnology companies in instances where we believe that a larger sales and marketing presence will expand the market or accelerate penetration. If we do enter into arrangements with third parties to perform sales and marketing services, our product revenues will be lower than if we directly sold and marketed our products and any revenues received under such arrangements will depend on the skills and efforts of others.

We may not be successful in entering into distribution arrangements and marketing alliances with third parties. Our failure to enter into these arrangements on favorable terms could delay or impair our ability to commercialize our product candidates and could increase our costs of commercialization. Dependence on distribution arrangements and marketing alliances to commercialize our product candidates will subject us to a number of risks, including:

we may not be able to control the amount and timing of resources that our distributors may devote to the commercialization of our product candidates;

our distributors may experience financial difficulties;

business combinations or significant changes in a distributor's business strategy may also adversely affect a distributor's willingness or ability to complete its obligations under any arrangement; and

these arrangements are often terminated or allowed to expire, which could interrupt the marketing and sales of a product and decrease our revenue.

If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, we may not be able to generate product revenue and may not become profitable.

**Product liability lawsuits against us could cause us to incur substantial liabilities and to limit commercialization of any products that we may develop.**

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and will face an even greater risk if we commercially sell any products that are approved for sale. We may be exposed to product liability claims and product recalls, including those which may arise from misuse or malfunction of, or design flaws in, such products, whether or not such problems directly relate to the products and services we have provided. If we cannot successfully defend ourselves against claims that our product candidates or products caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

decreased demand for any product candidates or products;

damage to our reputation;

regulatory investigations, prosecutions or enforcement actions that could require costly recalls or product modifications;

withdrawal of clinical trial participants;



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costs to defend the related litigation;

substantial monetary awards to trial participants or patients, including awards that substantially exceed our product liability insurance, which we would then be required to pay from other sources, if available, and would damage our ability to obtain liability insurance at reasonable costs, or at all, in the future;

loss of revenue;

the diversion of management's attention from managing our business; and

the inability to commercialize any such product candidates or products.

We have liability insurance policies for our clinical trials in the geographies in which we are conducting trials. The amount of insurance that we currently hold may not be adequate to cover all liabilities that we may incur. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost and we may not be able to obtain insurance coverage that will be adequate to satisfy any liability that may arise. On occasion, large judgments have been awarded in class action lawsuits based on drugs that had unanticipated side effects. A successful product liability claim or a series of claims brought against us could cause our stock price to fall and, if judgments exceed our insurance coverage, could decrease our available cash and adversely affect our business.

**We face substantial competition which may result in others discovering, developing or commercializing products before or more successfully than we do.**

The development and commercialization of new drugs is highly competitive and competition is expected to increase. We face competition with respect to our current product candidates and any products we may seek to develop, acquire or commercialize in the future from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. For example, several large pharmaceutical and biotechnology companies currently market and sell products for the treatment of lysosomal storage diseases, including Fabry disease. These products include sanofi aventis Fabrazyme<sup>®</sup> and Shire plc's Replagal<sup>®</sup>. In addition, sanofi aventis, Shire and Actelion, Ltd. market and sell Cerezyme<sup>®</sup>, VPRIV and Zavesca<sup>®</sup>, respectively, for the treatment of Gaucher disease, and sanofi aventis markets and sells Myozyme<sup>®</sup> and Lumizyme<sup>®</sup> for the treatment of Pompe disease. We are also aware of other enzyme replacement and substrate reduction therapies in development by third parties, including eliglustat tartrate, an oral treatment developed by sanofi aventis and in Phase 3 development for the treatment of Gaucher disease, and taliglucerase alfa, a new enzyme replacement therapy for the treatment of Gaucher disease which is being developed by Protalix BioTherapeutics.

Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization. Our competitors may develop products that are more effective, safer, more convenient or less costly than any that we are developing or that would render our product candidates obsolete or noncompetitive. Our competitors may also obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours. We may also face competition from off-label use of other approved therapies. There can be no assurance that developments by others will not render our product candidates or any acquired products obsolete or noncompetitive either during the research phase or once the products reach commercialization.

We believe that many competitors, including academic institutions, government agencies, public and private research organizations, large pharmaceutical companies and smaller more focused companies, are attempting to develop therapies for many of our target indications. Many of our competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals, prosecuting intellectual property rights and marketing approved products than we do. Smaller and other early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to or necessary for our programs or advantageous to our business. In addition, if we obtain regulatory approvals for our products, manufacturing efficiency and marketing capabilities are likely to be significant competitive factors. We currently have no commercial manufacturing capability, sales force or marketing infrastructure. Further, many of our competitors have substantial resources and expertise in conducting collaborative arrangements, sourcing in-licensing arrangements and acquiring new business lines or businesses that are greater than our own.

**Our business activities involve the use of hazardous materials, which require compliance with environmental and occupational safety laws regulating the use of such materials. If we violate these laws, we could be subject to significant fines, liabilities or other adverse consequences.**

Our research and development programs involve the controlled use of hazardous materials, including microbial agents, corrosive, explosive and flammable chemicals and other hazardous compounds in addition to certain biological hazardous waste. Ultimately, the activities of our third party product manufacturers when a product candidate reaches commercialization will also require the use of hazardous materials. Accordingly, we are subject to federal, state and local laws governing the use, handling and disposal of these materials. Although we believe that our safety procedures for handling and disposing of these materials comply in all material respects with the standards prescribed by local, state and federal regulations, we cannot completely eliminate the risk of accidental contamination or injury from these materials. In addition, our collaborators may not comply with these laws. In the event of an accident or failure to comply with environmental laws, we could be held liable for damages that result, and any such liability could exceed our assets and resources or we could be subject to limitations or stoppages related to our use of these materials which may lead to an interruption of our business operations or those of our third party contractors. While we believe that our existing insurance

coverage is generally adequate for our normal handling of these hazardous 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. Changes in environmental laws may impose costly compliance requirements on us or otherwise subject us to future liabilities and additional laws relating to the management, handling, generation, manufacture, transportation, storage, use and disposal of materials used in or generated by the manufacture of our products or related to our clinical trials. In addition, we cannot predict the effect that these potential requirements may have on us, our suppliers and contractors or our customers.

#### **Risks Related to Our Dependence on Third Parties**

**Use of third parties to manufacture our product candidates may increase the risk that we will not have sufficient quantities of our product candidates or such quantities at an acceptable cost, and clinical development and commercialization of our product candidates could be delayed, prevented or impaired.**

We do not own or operate manufacturing facilities for clinical or commercial production of our product candidates. We lack the resources and the capabilities to manufacture any of our product candidates on a clinical or commercial scale. We currently outsource all manufacturing and packaging of our preclinical and clinical product candidates to third parties. The manufacture of pharmaceutical products requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of pharmaceutical products often encounter difficulties in production, particularly in scaling up initial production. These problems include difficulties with production costs and yields and quality control, including stability of the product candidate. The occurrence of any of these problems could significantly delay our clinical trials or the commercial availability of our products.

We do not currently have any agreements with third party manufacturers for the long-term commercial supply of any of our product candidates. We may be unable to enter into agreements for commercial supply with third party manufacturers, or may be unable to do so on acceptable terms. Even if we enter into these agreements, the manufacturers of each product candidate will be single source suppliers to us for a significant period of time.

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 regulatory compliance and quality assurance;

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

impact on our reputation in the marketplace if manufacturers of our products, once commercialized, fail to meet the demands of our customers;

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

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.

The failure of any of our contract manufacturers to maintain high manufacturing standards could result in injury or death of clinical trial participants or patients using products. Such failure could also result in product liability claims, product recalls, product seizures or withdrawals, delays or failures in testing or delivery, cost overruns or other problems that could seriously harm our business or profitability.

Our contract manufacturers are required to adhere to FDA regulations setting forth cGMP. These regulations cover all aspects of the manufacturing, testing, quality control and recordkeeping relating to our product candidates and any products that we may commercialize. Our manufacturers may not be able to comply with cGMP regulations or similar regulatory requirements outside the U.S. Our failure, or the failure of our third party manufacturers, to comply with applicable regulations could significantly and adversely affect regulatory approval and supplies of our product candidates.

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Our product candidates and any products that we may develop or acquire may compete with other product candidates and products for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that are both capable of manufacturing for us and willing to do so. If the third parties that we engage to manufacture products for our preclinical tests and clinical trials should cease to continue to do so for any reason, we likely would experience delays in advancing these trials while we identify and qualify replacement suppliers and we may be unable to obtain replacement supplies on terms that are favorable to us. Later relocation to another manufacturer will also require notification, review and other regulatory approvals from the FDA and other regulators and will subject our production to further cost and instability in the availability of our product candidates. In addition, if we are not able to obtain adequate supplies of our product candidates or the drug substances used to manufacture them, it will be more difficult for us to develop our product candidates and compete effectively.

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 product candidates and commercialize any products that obtain regulatory approval on a timely and competitive basis.

**Materials necessary to manufacture our product candidates may not be available on commercially reasonable terms, or at all, which may delay the development and commercialization of our product candidates.**

We rely on the manufacturers of our product candidates to purchase from third party suppliers the materials necessary to produce the compounds for our preclinical and clinical studies and will rely on these other manufacturers for commercial distribution if we obtain marketing approval for any of our product candidates. Suppliers may not sell these materials to our manufacturers at the time we need them or on commercially reasonable terms and all such prices are susceptible to fluctuations in price and availability due to transportation costs, government regulations, price controls and changes in economic climate or other foreseen circumstances. We do not have any control over the process or timing of the acquisition of these materials by our manufacturers. Moreover, we currently do not have any agreements for the commercial production of these materials. If our manufacturers are unable to obtain these materials for our preclinical and clinical studies, product testing and potential regulatory approval of our product candidates would be delayed, significantly impacting our ability to develop our product candidates. If our manufacturers or we are unable to purchase these materials after regulatory approval has been obtained for our product candidates, the commercial launch of our product candidates would be delayed or there would be a shortage in supply, which would materially affect our ability to generate revenues from the sale of our product candidates.

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

We do not independently conduct clinical trials for our product candidates or certain preclinical development activities of our product candidates, such as long-term safety studies in animals. We rely on, or work in conjunction with, third parties, such as contract research organizations, medical institutions and clinical investigators, to perform these functions. For example, we rely heavily on a contract research organization to help us conduct our ongoing Phase 3 clinical trials in migalastat HCl for the treatment of Fabry disease. Our reliance on these third parties for preclinical and clinical development activities reduces our control over these activities. We are responsible for ensuring that each of our preclinical development activities and our clinical trials is conducted in accordance with the applicable general investigational plan and protocols, however, we have no direct control over these researchers or contractors (except by contract), as they are not our employees. Moreover, the FDA requires us to comply with standards, commonly referred to as Good Clinical Practices for conducting, recording and reporting the results of our preclinical development activities and our clinical trials to assure that data and reported results are credible and accurate and that the rights, safety and confidentiality of trial participants are protected. Our reliance on third parties that we do not control does not relieve us of these responsibilities and requirements. Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our preclinical development activities or our clinical trials in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, regulatory approvals for our product candidates and will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates. Moreover, these third parties may be bought by other entities or they may go out of business, thereby preventing them from meeting their contractual obligations.

We also rely on other third parties to store and distribute drug supplies for our preclinical development activities and our clinical trials. Any performance failure on the part of our existing or future distributors could delay clinical development or regulatory approval of our product candidates or commercialization of our products, producing additional losses and depriving us of potential product revenue.

Extensions, delays, suspensions or terminations of our preclinical development activities or our clinical trials as a result of the performance of our independent clinical investigators and contract research organizations will delay, and make more costly, regulatory approval for any product candidates that we may develop. Any change in a contract research organization during an ongoing preclinical development activity or clinical trial could seriously delay that trial and potentially compromise the results of the activity or trial.

**We may not be successful in maintaining or establishing collaborations, which could adversely affect our ability to develop and, particularly in international markets, commercialize products.**

For each of our product candidates, we are collaborating with physicians, patient advocacy groups, foundations and government agencies in order to assist with the development of our products. We plan to pursue similar activities in future programs and plan to evaluate the merits of retaining commercialization rights for ourselves or entering into selective collaboration arrangements with leading pharmaceutical or biotechnology companies, such as our collaboration for migalastat HCl with GSK. We also may seek to establish collaborations for the sales, marketing and distribution of our products. If we elect to seek collaborators in the future but are unable to reach agreements with suitable collaborators, we may fail to meet our business objectives for the affected product or program. We face, and will continue to face, significant competition in seeking appropriate collaborators. Moreover, collaboration arrangements are complex and time consuming to negotiate, document and implement. We may not be successful in our efforts, if any, to establish and implement collaborations or other alternative arrangements. The terms of any collaboration or other arrangements that we establish, if any, may not be favorable to us.

Any collaboration that we enter into may not be successful. The success of our collaboration arrangements, if any, will depend heavily on the efforts and activities of our collaborators. It is likely that any collaborators of ours will have significant discretion in determining the efforts and resources that they will apply to these collaborations. The risks that we may be subject to in possible future collaborations include the following:

our collaboration agreements are likely to be for fixed terms and subject to termination by our collaborators;

our collaborators are likely to have the first right to maintain or defend our intellectual property rights and, although we would likely have the right to assume the maintenance and defense of our intellectual property rights if our collaborators do not, our ability to do so may be compromised by our collaborators' acts or omissions; and

our collaborators may utilize our intellectual property rights in such a way as to invite litigation that could jeopardize or invalidate our intellectual property rights or expose us to potential liability.

Collaborations with pharmaceutical companies and other third parties often are terminated or allowed to expire by the other party. Such terminations or expirations may adversely affect us financially and could harm our business reputation in the event we elect to pursue collaborations that ultimately expire or are terminated.

**Our collaboration with GSK is important to our business. If this collaboration is unsuccessful or if GSK terminates this collaboration, our business could be adversely affected.**

We expect that a substantial amount of the funding for our operations will come from our collaboration with GSK. We and GSK are jointly developing migalastat HCl and sharing costs associated with the development program in accordance with an agreed upon development plan. Under the plan, we are responsible for 25% of joint development costs of migalastat HCl in 2012 and beyond, subject to annual and aggregate caps. We are also eligible to receive up to \$173.5 million if certain clinical, regulatory and sales milestones are met, as well as tiered double-digit royalties on sales of migalastat HCl. Our business plan and financial guidance currently include assumptions regarding GSK's cost-sharing obligations and our achievement of milestones. However, GSK may elect to terminate this collaboration at its discretion. If this collaboration is unsuccessful, or if it is terminated in whole or in part, our business could be adversely affected. As a result, we could require additional financing earlier than we currently expect, or need to take additional steps to manage the financial risk associated with such termination, including actions that may affect our other programs.

In addition, while we are collaborating with GSK on the development of migalastat HCl, GSK has decision making authority with respect to clinical development, regulatory and commercialization matters. The collaboration provides GSK with exclusive worldwide commercialization rights to migalastat HCl, and we, therefore, are solely reliant on GSK for the commercialization of the product candidate.

**Risks Related to Our Intellectual Property**

**If we are unable to obtain and maintain protection for the intellectual property relating to our technology and products, the value of our technology and product candidates will be adversely affected.**

Our success will depend in large part on our ability to obtain and maintain protection in the U.S. and other countries for the intellectual property covering or incorporated into our technology and product candidates. The patent situation in the field of biotechnology and pharmaceuticals

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generally is highly uncertain and involves complex legal, technical, scientific and factual questions. We may not be able to obtain additional issued patents relating to our technology or product candidates. Even if issued, patents issued to us or our licensors may be challenged, narrowed, invalidated, held to be unenforceable or circumvented, which could limit our ability to stop competitors from marketing similar products or reduce the term of patent protection we may have for our product candidates. Changes in either patent laws or in interpretations of patent laws in the U.S. and other countries may diminish the value of our intellectual property or narrow the scope of our patent protection.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

we or our licensors were the first to make the inventions covered by each of our pending patent applications;

we or our licensors were the first to file patent applications for these inventions;

others will not independently develop similar or alternative technologies or duplicate any of our technologies;

any patents issued to us or our licensors will provide a basis for commercially viable products, will provide us with any competitive advantages or will not be challenged by third parties;

we will develop additional proprietary technologies that are patentable;

we will file patent applications for new proprietary technologies promptly or at all;

our patents will not expire prior to or shortly after commencing commercialization of a product; or

the patents of others will not have a negative effect on our ability to do business.

In addition, we cannot be assured that any of our pending patent applications will result in issued patents. In particular, we have filed patent applications in the European Patent Office and other countries outside the U.S. that have not been issued as patents. These pending applications include, among others, the patent applications we license pursuant to a license agreement with Mount Sinai School of Medicine of New York University. If patents are not issued in respect of our pending patent applications, we may not be able to stop competitors from marketing similar products in Europe and other countries in which we do not have issued patents.

The patents and patent applications that we have licensed from Mt. Sinai School of Medicine relating to use of migalastat HCl to treat Fabry disease expire in 2018 in the U.S., 2019 in Europe and Japan and 2019 in Canada. These patents covering migalastat HCl to treat Fabry disease have been sublicensed by us to GSK, which now controls the prosecution and enforcement of said patents and patent applications to the extent they relate to migalastat HCl. Patents that we have licensed claiming afegostat tartrate (the active chemical moiety in afegostat tartrate) expire between 2015 and 2016 in the U.S. and in 2015 in the UK, France, Sweden, Germany, Switzerland and Japan. In the U.S., we have several issued patents that were licensed from the Mt. Sinai School of Medicine covering afegostat tartrate's methods of use which expire in 2018. We own a U.S. patent and its corresponding foreign applications covering afegostat tartrate and its use to treat Gaucher disease, which expires in 2027. Other than the patent application covering afegostat tartrate and its use to treat Gaucher disease, we currently have no pending or issued patents covering methods of using afegostat tartrate outside of the U.S. other than the pending applications covering the use of afegostat tartrate in combination with ERT to treat Gaucher disease. Patents and patent applications that we own or have licensed relating to the use of AT2220 expire in 2018 in the U.S. (not including the Hatch-Waxman statutory extension, which is described above). Further, we currently do not have composition of matter protection for AT2220 in the U.S. or either composition of matter or method of use protection outside of the U.S. Where we lack patent protection outside of the U.S., we intend to seek orphan medicinal product designation and to rely on statutory data exclusivity provisions in jurisdictions outside the U.S. where such protections are available, including Europe. If we are unable to obtain such protection outside the U.S., our competitors may be free to use and sell afegostat tartrate and/or AT2220 outside of the U.S. and there will be no liability for infringement or any other barrier to competition. The patent rights that we own or have licensed relating to our product candidates are limited in ways that may affect our ability to exclude third parties from competing against us if we obtain regulatory approval to market these product candidates. In particular:

We do not hold composition of matter patents covering migalastat HCl and AT2220. Composition of matter patents can provide protection for pharmaceutical products to the extent that the specifically covered compositions are important. For our product



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candidates for which we do not hold composition of matter patents, competitors who obtain the requisite regulatory approval can offer products with the same composition as our products so long as the competitors do not infringe any method of use patents that we may hold.

For some of our product candidates, the principal patent protection that covers or those we expect will cover, our product candidate is a method of use patent. This type of patent only protects the product when used or sold for the specified method. However, this type of patent does not limit a competitor from making and marketing a product that is identical to our product that is labeled for an indication that is outside of the patented method, or for which there is a substantial use in commerce outside the patented method.

Moreover, physicians may prescribe such a competitive identical product for indications other than the one for which the product has been approved, or off-label indications, that are covered by the applicable patents. Although such off-label prescriptions may infringe or induce infringement of method of use patents, the practice is common and such infringement is difficult to prevent or prosecute.

Our patents also may not afford us protection against competitors with similar technology. Because patent applications in the U.S. and many other 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 the actual discoveries, neither we nor our licensors can be certain that we or they were the first to make the inventions claimed in our or their issued patents or pending patent applications, or that we or they were the first to file for protection of the inventions set forth in these patent applications. If a third party has also filed a U.S. patent application covering our product candidates or a similar invention, we may have to participate in an adversarial proceeding, known as an interference, declared by the U.S. Patent and Trademark Office to determine priority of invention in the U.S. The costs of these proceedings could be substantial and it is possible that our efforts could be unsuccessful, resulting in a loss of our U.S. patent position.

**If we fail to comply with our obligations in our intellectual property licenses with third parties, we could lose license rights that are important to our business.**

We are a party to a number of license agreements including agreements with the Mount Sinai School of Medicine of New York University, the University of Maryland, Baltimore County and Novo Nordisk A/S, pursuant to which we license key intellectual property relating to our lead product candidates. We expect to enter into additional licenses in the future. Under our existing licenses, we have the right to enforce the licensed patent rights. Our existing licenses impose, and we expect that future licenses will impose, various diligence, milestone payment, royalty, insurance and other obligations on us. If we fail to comply with these obligations, the licensor may have the right to terminate the license, in which event we might not be able to market any product that is covered by the licensed patents.

**If we are unable to protect the confidentiality of our proprietary information and know-how, the value of our technology and products could be adversely affected.**

We seek to protect our know-how and confidential information, in part, by confidentiality agreements with our employees, corporate partners, outside scientific collaborators, sponsored researchers, consultants and other advisors. We also have confidentiality and invention or patent assignment agreements with our employees and our consultants. If our employees or consultants breach these agreements, we may not have adequate remedies for any of these breaches. In addition, our trade secrets may otherwise become known to or be independently developed by others. Enforcing a claim that a party illegally obtained and is using our trade secrets is difficult, expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the U.S. may be less willing to protect trade secrets. Costly and time consuming litigation could be necessary to seek to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

**If we infringe or are alleged to infringe the intellectual property rights of third parties, it will adversely affect our business.**

Our research, development and commercialization activities, as well as any product candidates or products resulting from these activities, may infringe or be accused of infringing one or more claims of an issued patent or may fall within the scope of one or more claims in a published patent application that may subsequently issue and to which we do not hold a license or other rights. Third parties may own or control these patents or patent applications in the U.S. and abroad. These third parties could bring claims against us that would cause us to incur substantial expenses and, if successful against us, could cause us to pay substantial damages. Further, if a patent infringement suit were brought against us, we or they could be forced to stop or delay research, development, manufacturing or sales of the product or product candidate that is the subject of the suit.

No assurance can be given that patents do not exist, have not been filed, or could not be filed or issued, which contain claims covering our product candidates technology or methods. Because of the number of patents issued and patent applications filed in our field, we believe there is a risk that third parties may allege they have patent rights encompassing our product candidates technology or methods.

We are aware, for example, of U.S. patents, and corresponding international counterparts, owned by third parties that contain claims related to treating protein misfolding. If any of these patents were to be asserted against us, while we do not believe that our product candidates would be found to infringe any valid claim of such patents, there is no assurance that a court would find in our favor or that, if we choose or are required to seek a license with respect to such patents, such license would be available to us on acceptable terms or at all. If we were to challenge the validity of any issued U.S. patent in court, we would need to overcome a presumption of validity that attaches to every patent. This burden is high and would require us to present clear and convincing evidence as to the invalidity of the patent's claims. There is no assurance that a court would find in our favor on infringement or validity.



In order to avoid or settle potential claims with respect to any of the patent rights described above or any other patent rights of third parties, we may choose or be required to seek a license from a third party and be required to pay license fees or royalties or both. These licenses may not be available on acceptable terms, or at all. Even if we or our collaborators were able to obtain a license, the rights may be nonexclusive, which could result in our competitors gaining access to the same intellectual property. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations, if, as a result of actual or threatened patent infringement claims, we are unable to enter into licenses on acceptable terms. This could harm our business significantly.

Others may sue us for infringing their patent or other intellectual property rights or file nullity, opposition or interference proceedings against our patents, even if such claims are without merit, which would similarly harm 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.

There has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the pharmaceutical and biotechnology industries. In addition to infringement claims against us, we may become a party to other patent litigation and other proceedings, including interference proceedings declared by the U.S. Patent and Trademark Office and opposition proceedings in the European Patent Office, regarding intellectual property rights with respect to our products and technology. Even if we prevail, the cost to us of any patent litigation or other proceeding could be substantial.

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 any litigation could significantly limit our ability to continue our operations. Patent litigation and other proceedings may also absorb significant management time.

Many of our employees were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We try to ensure that our employees do not use the proprietary information or know-how of others in their work for us. However, 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 to us or be distracting to our management. If we fail to defend any such claims, in addition to paying monetary damages, we may jeopardize valuable intellectual property rights, disclose confidential information or lose personnel.

#### **Risks Related to Regulatory Approval of Our Product Candidates**

**If we are not able to obtain and maintain required regulatory approvals, we will not be able to commercialize our product candidates, and our ability to generate revenue will be materially impaired.**

Our product candidates, including migalastat HCl, and the activities associated with their development and commercialization, including their testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, are subject to comprehensive regulation by the FDA and other regulatory agencies in the U.S. and by comparable authorities in other countries. Failure to obtain regulatory approval for a product candidate will prevent us from commercializing the product candidate in the jurisdiction of the regulatory authority. We have not obtained regulatory approval to market any of our product candidates in any jurisdiction. We have only limited experience in filing and prosecuting the applications necessary to obtain regulatory approvals and expect to rely on third party contract research organizations to assist us in this process. In the case of migalastat HCl, GSK will have primary responsibility for the preparation, filing and prosecution of applications for approval with regulatory agencies.

Securing FDA approval requires the submission of extensive preclinical and clinical data and supporting information to the FDA for each therapeutic indication to establish the product candidate's safety and efficacy. Securing FDA approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the FDA. Our future products may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining regulatory approval or prevent or limit commercial use.

Our product candidates may fail to obtain regulatory approval for many reasons, including:

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

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

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

our inability to demonstrate that the product candidate is at least as effective as existing therapies;

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

the FDA's or comparable regulatory authorities' failure to approve the manufacturing processes, quality procedures or manufacturing facilities of third party manufacturers with which we contract for clinical or commercial supplies; and

a change in the approval policies or regulations of the FDA or comparable regulatory authorities or a change in the laws governing the approval process.

The process of obtaining regulatory approvals is expensive, often takes many years, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Changes in regulatory approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application may cause delays in the approval or rejection of an application. The FDA and non-U.S. regulatory authorities have substantial discretion in the approval process and may refuse to accept any application or may decide that our data is insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent regulatory approval of a product candidate. Any regulatory approval we ultimately obtain may be limited or subject to restrictions or post approval commitments that render the approved product not commercially viable. Any FDA or other regulatory approval of our product candidates, once obtained, may be withdrawn, including for failure to comply with regulatory requirements or if clinical or manufacturing problems follow initial marketing. Under the terms of our collaboration with GSK, GSK will have considerable influence and decision making authority over matters relating to the submission of an NDA for migalastat HCl in the U.S. and applications for approval outside the U.S. GSK will also have primary responsibility for interactions with the FDA and other regulatory agencies outside the U.S. We, therefore, are heavily reliant on GSK for the prosecution of such applications.

**Our product candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval or commercialization.**

Undesirable side effects caused by our product candidates could interrupt, delay or halt clinical trials and could result in the denial of regulatory approval by the FDA or other regulatory authorities for any or all targeted indications, and in turn prevent us from commercializing our product candidates and generating revenues from their sale. In addition, if any of our product candidates receive marketing approval and we or others later identify undesirable side effects caused by the product:

regulatory authorities may require the addition of restrictive labeling statements;

regulatory authorities may withdraw their approval of the product; and

we may be required to change the way the product is administered or conduct additional clinical trials.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product or could substantially increase the costs and expenses of commercializing the product candidate, which in turn could delay or prevent us from generating significant revenues from its sale or adversely affect our reputation.

**We may not be able to obtain orphan drug exclusivity for our product candidates. If our competitors are able to obtain orphan drug exclusivity for their products that are the same drug as our product candidates, we may not be able to have competing products approved by the applicable regulatory authority for a significant period of time.**

Regulatory authorities in some jurisdictions, including the U.S. and Europe, may designate drugs for relatively small patient populations as orphan drugs. We obtained orphan drug designations from the FDA for migalastat HCl for the treatment of Fabry disease on February 25, 2004, for the active ingredient in afegostat tartrate for the treatment of Gaucher disease on January 10, 2006 and for AT2220 for the treatment of Pompe disease on June 18, 2007. We also obtained orphan medicinal product designation in the EU for migalastat HCl on May 22, 2006 and for afegostat tartrate on October 23, 2007. We anticipate filing for orphan drug designation in the EU for AT2220 for the treatment of Pompe

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disease. Generally, if a product with an orphan drug designation subsequently receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the applicable regulatory authority from approving another marketing application for the same drug for that time period. The applicable period is 7 years in the U.S. and 10 years in Europe. For a drug composed of small molecules, the FDA defines "same drug" as a drug that contains the same active molecule and is intended for the same use. Obtaining orphan drug exclusivity for

migalastat HCl and afegostat tartrate may be important to each of the product candidate's success. Even if we obtain orphan drug exclusivity for our products, we may not be able to maintain it. For example, if a competitive product that is the same drug as our product candidate is shown to be clinically superior to our product candidate, any orphan drug exclusivity we have obtained will not block the approval of such competitive product and we may effectively lose what had previously been orphan drug exclusivity.

**Any product for which we obtain marketing approval could be subject to restrictions or withdrawal from the market and we may be subject to penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with our products, when and if any of them are approved.**

Any product for which we obtain marketing approval, along with the manufacturing processes, post approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA and comparable regulatory authorities. These requirements include submissions of safety and other post marketing information and reports, registration requirements, cGMP requirements relating to quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping. Even if we obtain regulatory approval of a product, the approval may be subject to limitations on the indicated 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. We also may be subject to state laws and registration requirements covering the distribution of our products. Later discovery of previously unknown problems with our products, manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in actions such as:

restrictions on such products, manufacturers or manufacturing processes;

warning letters;

withdrawal of the products from the market;

refusal to approve pending applications or supplements to approved applications that we submit;

voluntary or mandatory recall;

fines;

suspension or withdrawal of regulatory approvals or refusal to approve pending applications or supplements to approved applications that we submit;

refusal to permit the import or export of our products;

product seizure or detentions;

injunctions or the imposition of civil or criminal penalties; and

adverse publicity.

If we, or our suppliers, third party contractors, clinical investigators or collaborators are slow to adapt, or are unable to adapt, to changes in existing regulatory requirements or adoption of new regulatory requirements or policies, we or our collaborators may lose marketing approval



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for our products when and if any of them are approved, resulting in decreased revenue from milestones, product sales or royalties.

### **Failure to obtain regulatory approval in international jurisdictions would prevent us from marketing our products abroad.**

We intend to have our products marketed outside the U.S. In order to market our products in the EU and many other jurisdictions, we must obtain separate regulatory approvals and comply with numerous and varying regulatory requirements. The approval procedures vary among countries and can involve additional testing and clinical trials. The time required to obtain approval may differ from that required to obtain FDA approval. The regulatory approval process outside the U.S. may include all of the risks associated with obtaining FDA approval. In addition, in many countries outside the U.S., it is required that the product be approved for reimbursement by government-backed healthcare regulators or insurance providers before the product can be approved for sale in that country. We may not obtain approvals from regulatory authorities outside the U.S. on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside

the U.S. does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. We may not be able to file for regulatory approvals and may not receive necessary approvals to commercialize our products in any market. Under the terms of our collaboration with GSK, GSK will have considerable influence and decision making authority over matters relating to the submission of applications for approval of migalastat HCl outside the U.S. GSK will also have primary responsibility for interactions with regulatory agencies outside the U.S. We, therefore, are heavily reliant on GSK for the prosecution of such applications.

#### **Risks Related to Employee Matters**

##### **Our future success depends on our ability to retain our Chief Executive Officer and other key executives and to attract, retain and motivate qualified personnel.**

We are highly dependent on John F. Crowley, our Chairman and Chief Executive Officer, Bradley L. Campbell, our Chief Business Officer, David J. Lockhart, Ph.D., our Chief Scientific Officer and Pol F. Boudes, M.D., our Chief Medical Officer. These executives each have significant pharmaceutical industry experience. Mr. Crowley is a commissioned officer in the U.S. Navy (Reserve), and he may be called to active duty service at any time. The loss of Mr. Crowley for protracted military duty could materially adversely affect our business. The loss of the services of any of these executives might impede the achievement of our research, development and commercialization objectives and materially adversely affect our business. We do not maintain key person insurance on Mr. Crowley or on any of our other executive officers.

Recruiting and retaining qualified scientific, clinical and sales and marketing personnel will also be critical to our success. In addition, maintaining a qualified finance and legal department is key to our ability to meet our regulatory obligations as a public company and important in any potential capital raising activities. Our industry has experienced a high rate of turnover in recent years. 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, particularly in New Jersey and surrounding areas. Although we believe we offer competitive salaries and benefits, we may have to increase spending in order to retain personnel. If we fail to retain our remaining qualified personnel or replace them when they leave, we may be unable to continue our development and commercialization activities.

In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

#### **Risks Related to Our Common Stock**

##### **Our executive officers, directors and principal stockholders maintain the ability to control all matters submitted to our stockholders for approval.**

Our executive officers, directors and affiliated stockholders beneficially own shares representing approximately 61% of our common stock as of December 31, 2011. As a result, if these stockholders were to choose to act together, they would be able to control all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons, if they choose to act together, will control the election of directors and approval of any merger, consolidation, sale of all or substantially all of our assets or other business combination or reorganization. This concentration of voting power could delay or prevent an acquisition of us on terms that other stockholders may desire. The interests of this group of stockholders may not always coincide with the interests of other stockholders, and they may act, whether by meeting or written consent of stockholders, in a manner that advances their best interests and not necessarily those of other stockholders, including obtaining a premium value for their common stock, and might affect the prevailing market price for our common stock.

##### **Provisions in our corporate charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.**

Provisions in our corporate charter and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which our stockholders might otherwise receive a

premium for their shares. These provisions could also 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. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Because our board of directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. Among others, these provisions:

establish a classified board of directors, and, as a result, not all directors are elected at one time;

allow the authorized number of our directors to be changed only by resolution of our board of directors;

limit the manner in which stockholders can remove directors from our board of directors;

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

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

limit who may call stockholder meetings;

authorize our board of directors to issue preferred stock, without stockholder approval, which could be used to institute a poison pill that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and

require the approval of the holders of at least 67% of the outstanding voting stock to amend or repeal certain provisions of our charter or bylaws.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

**An active trading market for our common stock may not develop.**

We completed our initial public offering of equity securities in June 2007, and prior to such offering, there was no public market for our common stock. Although we are listed on The NASDAQ Global Market, an active trading market for our common stock may never develop or be sustained. If an active market for our common stock does not develop or is not sustained, it may be difficult for our stockholders to sell shares without depressing the market price for our common stock.

**If the price of our common stock is volatile, purchasers of our common stock could incur substantial losses.**

The price of our common stock is volatile. The stock market in general and the market for biotechnology companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. The market price for our common stock may be influenced by many factors, including:

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results of clinical trials of our product candidates or those of our competitors;

our entry into or the loss of a significant collaboration;

regulatory or legal developments in the U.S. and other countries, including changes in the health care payment systems;

variations in our financial results or those of companies that are perceived to be similar to us;

changes in the structure of healthcare payment systems;

market conditions in the pharmaceutical and biotechnology sectors and issuance of new or changed securities analysts' reports or recommendations;

general economic, industry and market conditions;

results of clinical trials conducted by others on drugs that would compete with our product candidates;

developments or disputes concerning patents or other proprietary rights;

public concern over our product candidates or any products approved in the future;

litigation;

acquisitions of business or assets;

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

the other factors described in this Risk Factors section.

For these reasons and others potential purchasers of our common stock should consider an investment in our common stock as risky and invest only if they can withstand a significant loss and wide fluctuations in the marked value of their investment.

**If securities or industry analysts do not publish research or reports or publish unfavorable research about our business, the price of our common stock and trading volume could decline.**

The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about us or our business. If securities or industry analysts do not initiate or continue coverage of us, the trading price for our common stock would be negatively affected. In the event we obtain securities or industry analyst coverage, if one or more of the analysts who covers us downgrades our common stock, the price of our common stock would likely decline. If one or more of these analysts ceases to cover us or fails to publish regular reports on us, interest in the purchase of our common stock could decrease, which could cause the price of our common stock or trading volume to decline.

**Item 1B. UNRESOLVED STAFF COMMENTS.**

None.

**Item 2. PROPERTIES.**

We currently lease approximately 73,646 square feet of office and laboratory space in Cranbury, New Jersey and 7,700 square feet of office and laboratory space in San Diego, California under certain lease agreements. The initial term of the Cranbury, New Jersey lease runs to February 28, 2019 and may be extended by us for two additional five-year periods. The lease for the San Diego, California location runs until September 2013 and may be extended by us for two additional five-year periods. We believe that our current office and laboratory facilities are adequate and suitable for our current and anticipated needs.

**Item 3. LEGAL PROCEEDINGS.**

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

**Item 4. MINE SAFETY DISCLOSURES.**  
None.

**PART II****Item 5. MARKET FOR THE REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES.****Market For Our Common Stock**

Our common stock has been traded on the NASDAQ Global Market under the symbol FOLD since May 31, 2007. Prior to that time, there was no public market for our common stock. The following table sets forth the range of high and low closing sales prices of our common stock as quoted on the NASDAQ Global Market for the periods indicated.

	September 30, High	September 30, Low
<b>2011</b>		
First Quarter	\$ 7.09	\$ 4.17
Second Quarter	7.94	5.71
Third Quarter	7.71	3.58
Fourth Quarter	4.15	2.10

	September 30, High	September 30, Low
<b>2010</b>		
First Quarter	\$ 4.47	\$ 3.04
Second Quarter	3.38	1.98
Third Quarter	4.05	1.88
Fourth Quarter	4.84	3.55

The closing price for our common stock as reported by the NASDAQ Global Market on February 18, 2012 was \$6.53 per share. As of February 17, 2012, there were 35 holders of record of our common stock.

**Dividends**

We have never declared or paid any dividends on our capital stock. We currently intend to retain any future earnings to finance our research and development efforts, the further development of our pharmacological chaperone technology and the expansion of our business. We do not intend to declare or pay cash dividends to our stockholders in the foreseeable future.

**Recent Sales of Unregistered Securities**

None.

**Use of Proceeds from the Sale of Registered Securities***Initial Public Offering*

Our initial public offering of common stock was effected through a Registration Statement on Form S-1 (File No. 333-141700) that was declared effective by the Securities and Exchange Commission (SEC) on May 30, 2007. We registered an aggregate of 5,750,000 shares of our common stock. On June 5, 2007, at the closing of the offering, 5,000,000 shares of common stock were sold on our behalf at an initial public offering price of \$15.00 per share, for aggregate offering proceeds of \$75.0 million. The initial public offering was underwritten and managed by Morgan Stanley, Merrill Lynch & Co., JPMorgan, Lazard Capital Markets and Pacific Growth Equities, LLC. Following the sale of the 5,000,000 shares, the public offering terminated.

After deducting expenses of approximately \$6.9 million, we received net offering proceeds of approximately \$68.1 million from our initial public offering. As of December 31, 2011, we have used the proceeds of approximately \$68.1 million for clinical development of our projects, research and development activities relating to additional preclinical projects and to fund working capital and other general corporate purposes.





*March 2010 Registered Direct Offering*

In March 2010, we sold 4,946,524 shares of our common stock and warrants to purchase 1,854,946 shares of common stock in a registered direct offering to a select group of institutional investors through a Registration Statement on Form S-3 (File No. 333-158405) that was declared effective by the SEC on May 27, 2009. The shares of common stock and warrants were sold in units consisting of one share of common stock and one warrant to purchase 0.375 shares of common stock at a price of \$3.74 per unit. The warrants have a term of four years and are exercisable any time on or after the six month anniversary of the date they were issued, at an exercise price of \$4.43 per share. The aggregate offering proceeds were \$18.5 million. Leerink Swann LLC served as sole placement agent for the offering. Following the sale of the common stock and warrants, the public offering terminated.

We paid Leerink Swann a placement agency fee equal to 5.7% of the aggregate offering proceeds, approximately \$1.05 million. The net proceeds of the offering were \$17.1 million after deducting the placement agency fee and all other estimated offering expenses. No offering expenses were paid directly or indirectly to any of our directors or officers (or their associates) or persons owning ten percent or more of any class of our equity securities or to any other affiliates.

As of December 31, 2011, approximately \$1.9 million in net proceeds from our registered direct offering were maintained in money market funds and in investment-grade, interest bearing instruments, pending their use. We have used the remaining proceeds from this offering to further advance the development of our lead product candidate, migalastat HCl, and the completion of certain activities required for the submission of a license application globally, as well as for general corporate matters.

The foregoing represents our best estimate of our use of proceeds for the period indicated.

**Performance Graph**

The following performance graph shows the total shareholder return of an investment of \$100 cash on May 31, 2007, the date our common stock first started trading on the NASDAQ Global Market, for (i) our common stock, (ii) the NASDAQ Composite Index (U.S.) and (iii) the NASDAQ Biotechnology Index as of December 31, 2011. Pursuant to applicable SEC rules, all values assume reinvestment of the full amount of all dividends, however no dividends have been declared on our common stock to date. The stockholder return shown on the graph below is not necessarily indicative of future performance, and we do not make or endorse any predictions as to future stockholder returns.

\* \$100 invested on May 31, 2007 in Amicus Therapeutics, Inc. stock or in index-including reinvestment of dividends.

	September 30, 5/31/2007	September 30, 12/31/2007	September 30, 12/31/2008	September 30, 12/31/2009	September 30, 12/31/2010	September 30, 12/31/2011
Amicus Therapeutics, Inc.	100	74	55	28	33	24
NASDAQ Composite	100	102	61	87	102	100
NASDAQ Biotechnology	100	100	87	101	116	130

*The stock price performance included in this graph is not necessarily indicative of future stock price performance.*

**Issuer Purchases of Equity Securities**

There were no purchases of our common stock for the three months ended December 31, 2011.

**Item 6. SELECTED FINANCIAL DATA.**  
(in thousands except share and per share data)

	September 30, 2007	September 30, 2008	Year Ended December 31, 2009		September 30, 2010	September 30, 2011	September 30, Period from February 4, 2002 (inception) to December 31, 2011
<b>Statement of Operations Data:</b>							
Revenue:							
Research revenue	\$ 1,375	\$ 12,189	\$ 17,545	\$ 922	\$ 14,794	\$ 45,902	
Collaboration revenue	409	2,778	46,813		6,640	57,562	
<b>Total revenue</b>	<b>1,784</b>	<b>14,967</b>	<b>64,358</b>	<b>922</b>	<b>21,434</b>	<b>103,464</b>	
Operating expenses:							
Research and development	31,074	37,764	48,081	39,042	50,856	265,620	
General and administrative	15,278	19,666	19,973	15,660	19,880	113,249	
Restructuring charges			1,522			1,522	
Impairment of leasehold improvements							1,030
Depreciation and amortization	1,237	1,493	2,132	2,058	1,585	10,063	
In-process research and development							418
<b>Total operating expenses</b>	<b>47,589</b>	<b>58,923</b>	<b>71,708</b>	<b>56,760</b>	<b>72,321</b>	<b>391,902</b>	
Loss from operations	(45,805)	(43,956)	(7,350)	(55,838)	(50,887)	(288,438)	
Other income (expenses):							
Interest income	5,135	4,819	997	156	160	14,073	
Interest expense	(348)	(218)	(278)	(260)	(148)	(2,333)	
Change in fair value of warrant liability	(149)			(1,410)	2,764	900	
Other income			64	1,277	70	231	
Loss before tax benefit	(41,167)	(39,355)	(6,567)	(56,075)	(48,041)	(275,567)	
Income tax benefit				1,139	3,629	5,463	
Net loss	(41,167)	(39,355)	(6,567)	(54,936)	(44,412)	(270,104)	
Deemed dividend						(19,424)	
Preferred stock accretion	(351)					(802)	
<b>Net loss attributable to common stockholders</b>	<b>\$ (41,518)</b>	<b>\$ (39,355)</b>	<b>\$ (6,567)</b>	<b>\$ (54,936)</b>	<b>\$ (44,412)</b>	<b>(290,330)</b>	

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Net loss attributable to common stockholders per common share basic and diluted	\$	(3.14)	\$	(1.75)	\$	(0.29)	\$	(1.98)	\$	(1.28)
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Weighted-average common shares outstanding basic and diluted	13,235,755	22,493,803	22,624,134	27,734,797	34,569,642
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	September 30, 2007	September 30, 2008	September 30, As of December 31, 2009	September 30, 2010	September 30, 2011
<b>Balance Sheet Data:</b>					
Cash and cash equivalents and marketable securities	\$ 161,527	\$ 121,124	\$ 78,224	\$ 107,445	\$ 55,702
Working capital	147,247	110,209	69,293	93,458	47,392
Total assets	167,097	128,773	85,370	112,552	69,795
Total liabilities	63,800	57,730	13,537	47,618	40,203
Redeemable convertible preferred stock					
Deficit accumulated during the development stage	(124,834)	(164,189)	(170,756)	(225,692)	(270,104)
Total stockholders equity	\$ 103,297	\$ 71,043	\$ 71,833	\$ 64,934	\$ 29,592

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

**Overview**

Amicus Therapeutics, Inc. (Amicus) is a biopharmaceutical company focused on the discovery, development and commercialization of orally-administered, small molecule drugs known as pharmacological chaperones, a novel, first-in-class approach to treating a broad range of diseases including lysosomal storage diseases and diseases of neurodegeneration. We believe that our pharmacological chaperone technology, our advanced product pipeline, especially our lead product candidate, migalastat HCl, and our strategic collaboration with GSK uniquely position us as a leader in the development of treatments for rare and orphan diseases.

We are focused on the development of pharmacological chaperone monotherapy programs and pharmacological chaperones in combination with enzyme replacement therapy (ERT), the current standard of treatment for Fabry and other lysosomal storage disease. In 2012, we are advancing two pharmacological chaperone monotherapy programs for genetic diseases:

Migalastat HCl for patients with Fabry disease identified as having alpha-galactosidase A (alpha-Gal A) mutations amenable to chaperone therapy, and

AT3375 for Parkinson's disease in Gaucher disease carriers and potentially the broader Parkinson's population. Our pharmacological chaperone-ERT combination programs for 2012 include:

Migalastat HCl co-administered with ERT for patients with Fabry disease receiving ERT treatment with any genetic mutation,

AT2220 (duvoglustat HCl) co-administered with ERT for Pompe disease,

AT3375 and afegostat tartrate co-administered with ERT for Gaucher disease, and

Several new, undisclosed pharmacological chaperone programs focused on the combination of chaperones with ERTs for additional lysosomal storage diseases.

Our novel approach to the treatment of human genetic diseases consists of using pharmacological chaperones that selectively bind to the target protein, increasing the stability of the protein and helping it fold into the correct three-dimensional shape. This allows proper trafficking of the protein within the cell, thereby increasing protein activity, improving cellular function and potentially reducing cell stress. We have also demonstrated in preclinical studies that pharmacological chaperones can further stabilize normal, or wild-type proteins. This stabilization could lead to a higher percentage of the target proteins folding correctly and more stably, which can increase cellular levels of that target protein and improve cellular function, making chaperones potentially applicable to a wide range of diseases.

Our lead product candidate, migalastat HCl for Fabry disease, is in late Phase 3 development. We are developing and commercializing migalastat HCl with an affiliate of GSK pursuant to a License and Collaboration Agreement entered into in October 2010. Our partnership with GSK allows us to utilize GSK's significant expertise in clinical, regulatory, commercial and manufacturing matters in the development in migalastat HCl. In addition, the cost-sharing arrangements and potential milestone and royalty payments under the License and Collaboration Agreement provide us with financial strength and allow us to continue the development of migalastat HCl while also advancing our other programs. We also believe this collaboration is important in validating our status as a leader in the development of treatments for rare diseases given the increasing focus placed on the rare disease field.

Our Phase 3 clinical development program for the use of migalastat HCl as monotherapy in Fabry disease includes two global registration studies for patients with Fabry disease identified as having alpha-Gal A mutations amenable to migalastat HCl: Study 011 and Study 012. We completed enrollment of 67 total patients in Study 011, our placebo-controlled Phase 3 study, in December 2011 and expect results in the third quarter of 2012. We plan to use the data from Study 011 to support the submission of a New Drug Application, or NDA, to the FDA for marketing approval in the United States and to potentially support marketing applications for other regulatory agencies. Study 012 is our second phase 3 study for migalastat HCl intended to support the worldwide registration of migalastat HCl for Fabry disease. We dosed the first patient in Study 012 in September 2011 to compare the safety and efficacy of migalastat HCl and ERT (agalactosidase beta or agalactosidase alpha) and expect to

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complete enrollment of approximately 50 patients by the end of 2012, although timelines may be influenced by the continuing ERT shortage.

While our initial clinical efforts have focused on the use of pharmacological chaperones to treat lysosomal storage diseases, we believe that our technology may be applicable to the treatment of certain diseases of neurodegeneration.

We have been a pioneer in investigating the link between Gaucher and Parkinson's disease, and have been exploring the possibility of using pharmacological chaperones that target glucocerebrosidase (GCase), the enzyme deficient in Gaucher disease, for more than five years. In 2011, numerous peer-reviewed publications in leading scientific journals reported additional information on the underlying mechanisms that link Gaucher and Parkinson's, and further validated GCase as a target for the treatment of the disease. In particular, these new papers demonstrated a direct connection between GCase and alpha-synuclein, whose accumulation in the brain is a hallmark of Parkinson's, and showed that increased GCase activity in the brain of mouse models could correct alpha-synuclein pathology and other deficits. We will continue preclinical and IND-enabling studies for the pharmacological chaperone AT3375, which targets the same GCase enzyme that is deficient in Gaucher disease. These preclinical studies are anticipated to be complete by year-end 2012 and are funded in part by a grant awarded by the Michael J. Fox Foundation.

We have generated significant losses to date and expect to continue to generate losses as we continue the clinical development of our drug candidates, including migalastat HCl, and conduct preclinical studies on other programs. These activities are budgeted to expand over time and will require further resources if we are to be successful. From our inception in February 2002 through December 31, 2011, we have accumulated a deficit of \$270.1 million. As we have not yet generated commercial sales revenue from any of our product candidates, our losses will continue and are likely to be substantial in the near term.

#### ***Collaboration with GSK***

On October 28, 2010, we entered into the License and Collaboration Agreement with Glaxo Group Limited, an affiliate of GSK, to develop and commercialize migalastat HCl. Under the terms of the License and Collaboration Agreement, GSK received an exclusive worldwide license to develop, manufacture and commercialize migalastat HCl. In consideration of the license grant, we received an upfront, license payment of \$30 million from GSK and we are eligible to receive further payments of up to \$173.5 million upon the successful achievement of development, regulatory and commercialization milestones, as well as tiered double-digit royalties on global sales of migalastat HCl. Potential payments include up to (i) \$13.5 million related to the attainment of certain clinical development objectives and the acceptance of regulatory filings in select worldwide markets, (ii) \$80 million related to market approvals for migalastat HCl in selected territories throughout the world, and (iii) \$80 million associated with the achievement of certain sales thresholds. We and GSK are jointly funding development costs in accordance with an agreed upon development plan pursuant to which we funded 50% of the development costs in 2011 and we will fund only 25% of the development costs in 2012 and beyond, subject to annual and aggregate caps. Additionally, GSK purchased approximately 6.9 million shares of our common stock at a price of \$4.56 per share. The total value of this equity investment to us was approximately \$31 million and represents a 19.8% ownership position in us as of December 31, 2011. Under the terms of the collaboration agreement, while we will collaborate with GSK, GSK will have decision-making authority over clinical, regulatory and commercial matters. Additionally, GSK will have primary responsibility for interactions with regulatory agencies and prosecuting applications for marketing and reimbursement approvals worldwide.

#### ***Other Potential Alliances and Collaborations***

We continually evaluate other potential collaborations and business development opportunities that would bolster our ability to develop therapies for rare and orphan diseases including licensing agreements and acquisitions of businesses and assets. We believe such opportunities may be important to the advancement of our current product candidate pipeline, the expansion of the development of our current technology, gaining access to new technologies and in our transformation from a development stage Company to a commercial biotechnology Company.

#### **Financial Operations Overview**

##### ***Revenue***

In November 2010, GSK paid us an initial, non-refundable license fee of \$30 million and a premium of \$3.2 million related to GSK's purchase of an equity investment in us. The total upfront consideration received of \$33.2 million will be recognized as Collaboration Revenue on a straight-line basis over the development period of the collaboration agreement which is approximately 5.2 years. For the year ended December 31, 2011, we recognized approximately \$6.6 million of the total upfront consideration as Collaboration Revenue and approximately \$14.8 million of Research Revenue for reimbursed research and development costs.

##### ***Research and Development Expenses***

We expect to continue to incur substantial research and development expenses as we continue to develop our product candidates and explore new uses for our pharmacological chaperone technology. However, we will share future research and development costs related to migalastat HCl with GSK in accordance with the License and Collaboration Agreement. Research and development expense consists of:

internal costs associated with our research and clinical development activities;



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payments we make to third party contract research organizations, contract manufacturers, investigative sites, and consultants;

technology license costs;

manufacturing development costs;

personnel related expenses, including salaries, benefits, travel, and related costs for the personnel involved in drug discovery and development;

activities relating to regulatory filings and the advancement of our product candidates through preclinical studies and clinical trials; and

facilities and other allocated expenses, which include direct and allocated expenses for rent, facility maintenance, as well as laboratory and other supplies.

We have multiple research and development projects ongoing at any one time. We utilize our internal resources, employees and infrastructure across multiple projects. We record and maintain information regarding external, out-of-pocket research and development expenses on a project specific basis.

We expense research and development costs as incurred, including payments made to date under our license agreements. We believe that significant investment in product development is a competitive necessity and plan to continue these investments in order to realize the potential of our product candidates. From our inception in February 2002 through December 31, 2011, we have incurred research and development expense in the aggregate of \$265.6 million.

The following table summarizes our principal product development projects through December 31, 2011, including the related stages of development for each project, and the out-of-pocket, third party expenses incurred with respect to each project (in thousands).

	September 30,	September 30,	September 30,	September 30,
	2009	Years Ended December 31, 2010	2011	Period from February 4, 2002 (Inception) to December 31, 2011
<b>Projects</b>				
Third party direct project expenses				
Migalastat HCl (Fabry Disease Phase 3)	\$ 8,634	\$ 11,956	\$ 19,305	\$ 65,335
Afegostat tartrate (Gaucher Disease Phase 2*)	6,961	362	(112)	26,115
AT2220 (Pompe Disease Phase 2)	1,874	236	109	13,243
Neurodegenerative Diseases (Preclinical)	3,194	784	2,209	8,608
Co-Administration studies (Fabry & Pompe Disease Phase 2; Gaucher Preclinical)		212	2,738	2,950
Total third party direct project expenses	20,663	13,550	24,249	116,251
<b>Other project costs <sup>(1)</sup></b>				
Personnel costs	18,801	16,671	18,814	93,251
Other costs <sup>(2)</sup>	8,617	8,821	7,793	56,118
Total other project costs	27,418	25,492	26,607	149,369

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Total research and development costs	\$	48,081	\$	39,042	\$	50,856	\$	265,620
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- (1) Other project costs are leveraged across multiple projects.
- (2) Other costs include facility, supply, overhead, and licensing costs that support multiple projects.

\* We do not plan to advance our afegostat tartrate monotherapy program into Phase 3 development at this time. The successful development of our product candidates is highly uncertain. At this time, we cannot reasonably estimate or know the nature, timing and costs of the efforts that will be necessary to complete the remainder of the development of our product candidates. As a result, we are not able to reasonably estimate the period, if any, in which material net cash inflows may commence from our product candidates, including migalastat HCl or any of our other preclinical product candidates. This uncertainty is due to the numerous risks and uncertainties associated with the conduct, duration and cost of clinical trials, which vary significantly over the life of a project as a result of evolving events during clinical development, including:

the number of clinical sites included in the trials;

the length of time required to enroll suitable patients;

the number of patients that ultimately participate in the trials;

the results of our clinical trials; and

any mandate by the FDA or other regulatory authority to conduct clinical trials beyond those currently anticipated.

Our expenditures are subject to additional uncertainties, including the terms and timing of regulatory approvals, and the expense of filing, prosecuting, defending and enforcing any patent claims or other intellectual property rights. We may obtain unexpected results from our clinical trials. We may elect to discontinue, delay or modify clinical trials of some product candidates or focus on others. In addition, GSK has considerable influence over and decision-making authority related to our migalastat HCl program. A change in the outcome of any of the foregoing variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development, regulatory approval and commercialization of that product candidate. For example, if the FDA or other regulatory authorities were to require us to conduct clinical trials beyond those which we currently anticipate, or if we experience significant delays in enrollment in any of our clinical trials, we could be required to expend significant additional financial resources and time on the completion of clinical development. Drug development may take several years and millions of dollars in development costs.

#### ***General and Administrative Expense***

General and administrative expense consists primarily of salaries and other related costs, including stock-based compensation expense, for persons serving in our executive, finance, accounting, legal, information technology and human resource functions. Other general and administrative expense includes facility-related costs not otherwise included in research and development expense, promotional expenses, costs associated with industry and trade shows, and professional fees for legal services, including patent-related expense and accounting services. From our inception in February 2002 through December 31, 2011, we spent \$113.2 million on general and administrative expense.

#### ***Interest Income and Interest Expense***

Interest income consists of interest earned on our cash and cash equivalents and marketable securities. Interest expense consists of interest incurred on our capital lease facility and our equipment financing agreements.

#### **Critical Accounting Policies and Significant Judgments and Estimates**

The discussion and analysis of our financial condition and results of operations are based on our financial statements, which we have prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenues and expenses during the reporting periods. On an ongoing basis, we evaluate our estimates and judgments, including those described in greater detail below. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe that the following discussion represents our critical accounting policies.

#### ***Revenue Recognition***

We recognize revenue when amounts are realized or realizable and earned. Revenue is considered realizable and earned when the following criteria are met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services have been rendered; (3) the price is fixed or determinable; and (4) collection of the amounts due are reasonably assured.

In multiple element arrangements, revenue is allocated to each separate unit of accounting and each deliverable in an arrangement is evaluated to determine whether it represents separate units of accounting. A deliverable constitutes a separate unit of accounting when it has standalone value and there is no general right of return for the delivered elements. In instances when the aforementioned criteria are not met, the deliverable is combined with the undelivered elements and the allocation of the arrangement consideration and revenue recognition is determined for the combined unit as a single unit of accounting. Allocation of the consideration is determined at arrangement inception on the basis of each unit's relative selling price. In instances where there is determined to be a single unit of accounting, the total consideration is applied as revenue for the single unit of accounting and is recognized over the period of inception through the date where the last deliverable within the single unit of

accounting is expected to be delivered.

Our current revenue recognition policies, which were applied in fiscal 2010, provide that, when a collaboration arrangement contains multiple deliverables, such as license and research and development services, we allocate revenue to each separate unit of accounting based on a selling price hierarchy. The selling price hierarchy for a deliverable is based on (i) its vendor specific objective

evidence (VSOE) if available, (ii) third party evidence (TPE) if VSOE is not available, or (iii) estimated selling price (BESP) if neither VSOE nor TPE is available. We would establish the VSOE of selling price using the price charged for a deliverable when sold separately. The TPE of selling price would be established by evaluating largely similar and interchangeable competitor products or services in standalone sales to similarly situated customers. The best estimate of selling price would be established considering internal factors such as an internal pricing analysis or an income approach using a discounted cash flow model.

The revenue associated with reimbursements for research and development costs under collaboration agreements is included in Research Revenue and the costs associated with these reimbursable amounts are included in research and development expenses. We record these reimbursements as revenue and not as a reduction of research and development expenses as we have not commenced our planned principal operations (i.e., selling commercial products) and we are a development stage enterprise, therefore development activities are part of our ongoing central operations.

Our collaboration agreement with GSK provides for, and any future collaboration agreements we may enter into also may provide for contingent milestone payments. In order to determine the revenue recognition for these contingent milestones, we evaluate the contingent milestones using the criteria as provided by the FASB guidance on the milestone method of revenue recognition at the inception of a collaboration agreement. The criteria requires that (i) we determine if the milestone is commensurate with either our performance to achieve the milestone or the enhancement of value resulting from our activities to achieve the milestone, (ii) the milestone be related to past performance, and (iii) the milestone be reasonable relative to all deliverable and payment terms of the collaboration arrangement. If these criteria are met then the contingent milestones can be considered as substantive milestones and will be recognized as revenue in the period that the milestone is achieved.

**Accrued Expenses**

When we are required to estimate accrued expenses because we have not yet been invoiced or otherwise notified of actual cost, we identify services that have been performed on our behalf and estimate the level of service performed and the associated cost incurred. The majority of our service providers invoice us monthly in arrears for services performed. We make estimates of our accrued expenses as of each balance sheet date in our financial statements based on facts and circumstances known to us. Examples of estimated accrued expenses include:

fees owed to contract research organizations in connection with preclinical and toxicology studies and clinical trials;

fees owed to investigative sites in connection with clinical trials;

fees owed to contract manufacturers in connection with the production of clinical trial materials;

fees owed for professional services, and

unpaid salaries, wages and benefits.

**Stock-Based Compensation**

We apply the fair value method of measuring stock-based compensation, which requires a public entity to measure the cost of employee services received in exchange for an award of equity instruments based upon the grant-date fair value of the award. We chose the straight-line attribution method for allocating compensation costs and recognized the fair value of each stock option on a straight-line basis over the vesting period of the related awards.

We recognized stock-based compensation expense of \$7.8 million, \$6.2 million, and \$8.7 million for the years ended 2009, 2010 and 2011, respectively. The following table summarizes information related to stock compensation expense recognized in the income statement (in millions):

September 30,                      September 30,                      September 30,

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	Years Ended December 31,		
	2009	2010	2011
Stock compensation expense recognized in:			
Research and development expense	\$ 3.2	\$ 2.6	\$ 2.9
General and administrative expense	4.6	3.6	5.8
Total stock compensation expense	\$ 7.8	\$ 6.2	\$ 8.7

We use the Black-Scholes option pricing model when estimating the value for stock-based awards. Use of a valuation model requires management to make certain assumptions with respect to selected model inputs. Expected volatility was calculated based on a blended weighted average of historical information of our stock and the weighted average of historical information of similar public entities for which historical information was available. We will continue to use a blended weighted average approach using our own historical volatility and other similar public entity volatility information until our historical volatility is relevant to measure expected volatility for future option grants. The average expected life was determined using a simplified method of estimating the expected

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exercise term which is the mid-point between the vesting date and the end of the contractual term. As our stock price volatility has been over 75% and we have experienced significant business transactions (Shire and GSK collaborations), we believe that we do not have sufficient reliable exercise data in order to justify a change in the use of the simplified method of estimating the expected exercise term of employee stock option grants. The risk-free interest rate is based on U.S. Treasury, zero-coupon issues with a remaining term equal to the expected life assumed at the date of grant. Forfeitures are estimated based on voluntary termination behavior, as well as a historical analysis of actual option forfeitures. The weighted average assumptions used in the Black-Scholes option pricing model are as follows:

	September 30, 2009	September 30, Years Ended December 31, 2010	September 30, Years Ended December 31, 2011
Expected stock price volatility	80.6%	80.5%	78.8%
Risk free interest rate	2.4%	2.4%	2.0%
Expected life of options (years)	6.25	6.25	6.25
Expected annual dividend per share	\$ 0.00	\$ 0.00	\$ 0.00

The weighted-average grant-date fair value per share of options granted during 2009, 2010 and 2011 were \$4.83, \$2.09 and \$4.11, respectively.

### *Warrants*

The warrants issued in connection with our March 2010 registered direct offering are classified as a liability. The fair value of the warrant liability is evaluated at each balance sheet date using the Black-Scholes valuation model. This model uses inputs such as the underlying price of the shares issued when the warrant is exercised, volatility, risk free interest rate and expected life of the instrument.

Any changes in the fair value of the warrants liability is recognized in the consolidated statement of operations. The weighted average assumptions used in the Black-Scholes valuation model for the warrants for December 31, 2010 and 2011 are as follows:

	September 30, December 31, 2010	September 30, December 31, 2011
Expected stock price volatility	78.7%	67.3%
Risk free interest rate	1.15%	0.28%
Expected life of warrants (years)	3.17	2.17
Expected annual dividend per share	\$ 0.00	\$ 0.00

As a result, for the year ended December 31, 2011, we recorded a change in warrant liability gain of \$2.8 million. The resulting fair value of the warrant liability at December 31, 2011 was \$1.9 million.

### **Basic and Diluted Net Loss Attributable to Common Stockholders per Common Share**

We calculated net loss per share as a measurement of our performance while giving effect to all dilutive potential common shares that were outstanding during the reporting period. We had a net loss for all periods presented; accordingly, the inclusion of common stock options and warrants would be anti-dilutive. Therefore, the weighted average shares used to calculate both basic and diluted earnings per share are the same.

The following table provides a reconciliation of the numerator and denominator used in computing basic and diluted net loss attributable to common stockholders per common share (in thousands except share amounts):

	September 30, 2009	September 30, Years Ended December 31, 2010	September 30, Years Ended December 31, 2011
<b>Historical</b>			
Numerator:			
Net loss attributable to common stockholders	\$ (6,567)	\$ (54,936)	\$ (44,412)

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Denominator:

Weighted average common shares outstanding	basic and diluted	22,624,134	27,734,797	34,569,642
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Dilutive common stock equivalents would include the dilutive effect of common stock options and warrants for common stock equivalents. Potentially dilutive common stock equivalents totaled approximately 4.8 million, 7.0 million and 8.5 million for the years ended December 31, 2009, 2010 and 2011, respectively. Potentially dilutive common stock equivalents were excluded from the diluted earnings per share denominator for all periods because of their anti-dilutive effect.

## Results of Operations

### *Year Ended December 31, 2011 Compared to Year Ended December 31, 2010*

*Revenue.* Total revenue for the year ended December 31, 2011 consisted of payments received from GSK for shared development costs for migalastat HCl (research revenue) and the recognized portion of the \$33.2 million upfront cash payment received from GSK (collaboration revenue). For the year ended December 31, 2011, we recognized \$6.6 million of the total upfront consideration as Collaboration Revenue, compared to \$0.9 million in the prior year and \$14.8 million of Research Revenue for reimbursed research and development costs in 2011. We did not recognize any Research Revenue in 2010 and we have not generated any commercial sales revenue since our inception.

*Research and Development Expense.* Research and development expense was \$50.9 million in 2011 representing an increase of \$11.9 million or 31% from \$39.0 million in 2010. The variance was primarily attributable to a \$7.4 million increase in contract research related to clinical trials, a \$4.5 million increase in GSK collaboration fees, and higher personnel costs of \$2.1 million, partially offset by a \$3.0 million decrease in license fees and \$1.4 million decrease in manufacturing costs.

*General and Administrative Expense.* General and administrative expense was \$19.9 million in 2011, an increase of \$4.2 million or 27% from \$15.7 million in 2010. The variance was primarily due to additional stock option compensation expense recognized of \$2.7 million as a result of the change in the terms of the Chief Executive Officer's stock options resulting from his resignation and subsequent reappointment to the Chief Executive Officer position as well as a severance related compensation charge of \$0.6 million related to the resignation of our former President and the vesting of his restricted stock award. In addition, there were increases in recruitment fees, professional fees, and consulting fees of \$1.0 million.

*Depreciation and Amortization.* Depreciation and amortization expense was \$1.6 million in 2011, a decrease of \$0.5 million or 24% from \$2.1 million in 2010. The decrease in depreciation was due to a smaller depreciable asset base at December 31, 2011.

*Interest Income and Interest Expense.* Interest income was \$0.2 million in both 2011 and 2010. Interest expense was \$0.1 million in 2011, a decrease of \$0.2 million from \$0.3 million in 2010.

*Change in Fair Value of Warrant Liability.* In connection with the sale of our common stock and warrants from the registered direct offering in March 2010, we recorded the warrants as a liability at their fair value using a Black-Scholes model and will remeasure the fair value at each reporting date until exercised or expired. Changes in the fair value of the warrants are reported in the statements of operations as non-operating income or expense. For the year ended December 31, 2011, we reported a gain of \$2.8 million related to the decrease in fair value of these warrants from the year ended December 31, 2010. The market price for our common stock has been and may continue to be volatile. Consequently, future fluctuations in the price of our common stock may cause significant increases or decreases in the fair value of these warrants.

*Other Income/Expense.* Other income decreased due to funds received from the U.S. Treasury Department in 2010 of \$1.4 million compared to \$0.1 million in 2011 for the Qualified Therapeutic Discovery Projects tax credit and grant program.

*Tax Benefit.* During 2010 and 2011, we sold a portion of our New Jersey state net research and development credits, which resulted in the recognition of \$1.1 million and \$3.6 million in income tax benefits for the years ended December 31, 2010 and 2011, respectively. Assuming the State of New Jersey continues to fund this program, which is uncertain, the future amount of net operating loss and research and development credit carry forwards which we may sell will also depend upon the allocation among qualifying companies of an annual pool established by the State of New Jersey.

*Net Operating Loss Carry forwards.* As of December 31, 2011, the Company had federal and state net operating loss carry forwards, or NOLs, of approximately \$110 million and \$179 million, respectively. The federal carry forward will begin to expire in 2026 and will end in 2031. The state carry forwards acquired prior to 2009 will begin to expire in 2013 and will end in 2017. Section 382 of the Internal Revenue Code of 1986, as amended, contains provisions which limit the amount of NOLs that companies may utilize in any one year in the event of cumulative changes in ownership over a three-year period in excess of 50%. During 2011, there was no ownership change in excess of 50%; therefore there was no write-down to net realizable value of the federal NOLs subject to the 382 limitations.

### *Year Ended December 31, 2010 Compared to Year Ended December 31, 2009*

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*Revenue.* Total revenue for the year ended December 31, 2010 was \$0.9 million compared to \$64.5 million for the year ended December 31, 2009. In November 2010, GSK paid us an initial, non-refundable license fee of \$30 million and a premium of \$3.2 million related to GSK's purchase of an equity investment in Amicus. The total upfront consideration received of \$33.2 million will be recognized as Collaboration Revenue on a straight-line basis over the development period of the collaboration agreement which is approximately 5.2 years. For the year ended December 31, 2010, we recognized \$0.9 million of the total upfront consideration as Collaboration Revenue. We have not generated any commercial sales revenue since our inception.

*Research and Development Expense.* Research and development expense was \$39.0 million in 2010 representing a decrease of \$9.1 million or 19% from \$48.1 million in 2009. The variance was primarily attributable to lower personnel costs of \$2.1 million associated with the 2009 work force reduction, a \$0.7 million decrease in contract manufacturing costs due to the timing of batch production and a \$6.0 million decrease in contract research related to clinical trials.

*General and Administrative Expense.* General and administrative expense was \$15.7 million in 2010, a decrease of \$4.3 million or 22% from \$20.0 million in 2009. The variance was primarily attributable to lower personnel costs of \$2.2 million associated with the 2009 work force reduction and a decrease in legal and professional fees of \$1.6 million.

*Restructuring Charges.* Restructuring charges were \$1.5 million in 2009 due to the corporate restructuring implemented in the fourth quarter of 2009. The restructuring charges included \$0.9 million for employment termination costs payable in cash and a facilities consolidation restructuring charge of \$0.6 million, consisting of lease payments and the write-down of fixed assets in the vacated building. There were no restructuring costs in 2010.

*Depreciation and Amortization.* Depreciation and amortization expense was \$2.1 million in both 2009 and 2010. There was no increase in depreciation and amortization expense due to less property, plant and equipment purchased in 2010 as compared to prior years.

*Interest Income and Interest Expense.* Interest income was \$0.2 million in 2010, compared to \$1.0 million in 2009. The decrease of \$0.8 million or 80% was due to lower average cash and cash equivalents balances throughout the year. Interest expense was \$0.3 million in both 2010 and 2009.

*Change in Fair Value of Warrant Liability.* In connection with the sale of our common stock and warrants from the registered direct offering in March 2010, we recorded the warrants as a liability at their fair value using a Black-Scholes model and will remeasure the fair value at each reporting date until exercised or expired. Changes in the fair value of the warrants are reported in the statements of operations as non-operating income or expense. For the year ended December 31, 2010, we reported a loss of \$1.4 million related to the increase in fair value of these warrants from issuance dates. The market price for our common stock has been and may continue to be volatile. Consequently, future fluctuations in the price of our common stock may cause significant increases or decreases in the fair value of these warrants.

*Other Income/Expense.* Other Income increased due to funds received from the U.S. Treasury Department in 2010 of \$1.4 million for the Qualified Therapeutic Discovery Projects tax credit and grant program. Other expense increased during the year due to certain items from property and equipment being disposed of during the year resulting in a charge of \$0.1 million.

*Tax Benefit.* During 2010, we sold a portion of our New Jersey state net operating loss carry forwards, which resulted in the recognition of \$1.1 million in income tax benefits. Assuming the State of New Jersey continues to fund this program, which is uncertain, the future amount of net operating loss and research and development credit carry forwards which we may sell will also depend upon the allocation among qualifying companies of an annual pool established by the State of New Jersey.

*Net Operating Loss Carry forwards.* As of December 31, 2010, we had federal and state net operating loss carry forwards, or NOLs, of approximately \$71 million and \$133 million, respectively. The federal carry forward will begin to expire in 2026 and will end in 2031. The state carry forwards acquired prior to 2009 will begin to expire in 2013 and will end in 2017. Section 382 of the Internal Revenue Code of 1986, as amended, contains provisions which limit the amount of NOLs that companies may utilize in any one year in the event of cumulative changes in ownership over a three-year period in excess of 50%. We completed a detailed study of our NOLs and determined that as a result of our registered direct offering in March 2010, there was an ownership change in excess of 50% and the federal NOLs subject to the 382 limitations were written down to their net realizable value. Additionally, we determined that the annual limitation on the utilization of the pre-ownership change loss will be approximately \$3.0 million. Ownership changes in future periods may place additional limits on our ability to utilize net operating loss and tax credit carry forwards.

## Liquidity and Capital Resources

### Source of Liquidity

As a result of our significant research and development expenditures and the lack of any approved products to generate product sales revenue, we have not been profitable and have generated operating losses since we were incorporated in 2002. We have funded our operations principally with \$148.7 million of proceeds from redeemable convertible preferred stock offerings, \$75.0 million of gross proceeds from our IPO in June 2007, \$18.5 million of gross proceeds from our Registered Direct Offering in March 2010, \$80.0 million from the non-refundable license fees paid by our current and previous collaborators and \$31.0 million from GSK's investment in the Company at the time the collaboration was formed. In the future, we expect to fund our operations, in part, through the receipt of cost-sharing and milestone payments from GSK. The following table summarizes our significant funding sources as of December 31, 2011:

Funding <sup>(2)</sup>	September 30, Year	September 30, No. Shares	September 30, Approximate Amount <sup>(1)</sup> (in thousands)
Series A Redeemable Convertible Preferred Stock	2002	444,443	\$ 2,500
Series B Redeemable Convertible Preferred Stock	2004, 2005, 2006, 2007	4,917,853	31,189
Series C Redeemable Convertible Preferred Stock	2005, 2006	5,820,020	54,999
Series D Redeemable Convertible Preferred Stock	2006, 2007	4,930,405	60,000
Common Stock	2007	5,000,000	75,000
Upfront License Fee from Shire	2007		50,000
Registered Direct Offering	2010	4,946,525	18,500
Upfront License Fee from GSK	2010		30,000
Common Stock - GSK	2010	6,866,245	31,285
		32,925,491	\$ 353,473

(1) Represents gross proceeds

(2) The Series A, B, C and D Redeemable Convertible Preferred Stock was converted to common stock upon the effectiveness of our IPO. In addition, in conjunction with the GSK collaboration agreement, we received reimbursement of research and development expenditures from the date of the agreement (October 28, 2010) through December 31, 2011 of \$6.7 million. We also received \$31.1 million in reimbursement of research and development expenditures from the prior Shire collaboration from the date of the agreement (November 7, 2007) through October 29, 2009.

As of December 31, 2011, we had cash and cash equivalents and marketable securities of \$55.7 million. We invest cash in excess of our immediate requirements with regard to liquidity and capital preservation in a variety of interest-bearing instruments, including obligations of U.S. government agencies and money market accounts. Wherever possible, we seek to minimize the potential effects of concentration and degrees of risk. Although we maintain cash balances with financial institutions in excess of insured limits, we do not anticipate any losses with respect to such cash balances.

In March 2010, we sold 4.95 million shares of our common stock and warrants to purchase 1.85 million shares of common stock in a registered direct offering to a select group of institutional investors. The shares of common stock and warrants were sold in units consisting of one share of common stock and one warrant to purchase 0.375 shares of common stock at a price of \$3.74 per unit. The warrants have a term of four years and are exercisable any time on or after the six month anniversary of the date they were issued, at an exercise price of \$4.43 per share. The net proceeds of the offering were \$17.1 million after deducting the placement agency fee and all other estimated offering expenses.

In October 2010, we sold approximately 6.9 million shares of our common stock to GSK in connection with the collaboration agreement at a price of \$4.56 per share. The total value of this equity investment to us is approximately \$31 million and represents a 19.8% ownership position in the us as of December 31, 2011.

### Net Cash Used in Operating Activities

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Net cash used in operations for the year ended December 31, 2011 was \$49.4 million due primarily to the net loss for the year ended December 31, 2011 of \$44.4 million and the change in operating assets and liabilities of \$12.5 million. The change in operating assets and liabilities consisted of an increase in receivables from GSK related to the collaboration agreement of \$5.0 million; an increase of \$3.7 million in prepaid assets primarily related to a receivable from the sale of state net operating loss carry forwards, or NOLs; a decrease in deferred revenue of \$4.8 million related to the recognition of the upfront payment from GSK for the collaboration agreement; and an increase in accounts payable and accrued expenses of \$1.4 million related to program expenses.

Net cash used in operations for the year ended December 31, 2010 was \$14.0 million due primarily to the net loss for the year ended December 31, 2010 of \$54.9 million, partially offset by the change in operating assets and liabilities of \$31.2 million. The change in operating assets and liabilities of \$31.2 million was due primarily to deferred revenue related to the collaboration agreement with GSK.

***Net Cash Used in and Provided by Investing Activities***

Net cash provided by investing activities for the year ended December 31, 2011 was \$46.5 million. Net cash provided by investing activities reflects \$98.5 million for the sale and redemption of marketable securities, offset by \$50.6 million for the purchase of marketable securities and \$1.4 million for the acquisition of property and equipment.

Net cash used in investing activities for the year ended December 31, 2010 was \$19.4 million. Net cash used in investing activities reflects \$94.6 million for the sale and redemption of marketable securities, offset by \$113.7 million for the purchase of marketable securities and \$0.4 million for the acquisition of property and equipment.

***Net Cash Provided by and Used in Financing Activities***

Net cash used in financing activities for the year ended December 31, 2011 was \$0.9 million and reflects the \$1.3 million in payments of our secured loan agreement and capital lease obligations, partially offset by \$0.4 million of proceeds from exercise of stock options.

Net cash provided by financing activities for the year ended December 31, 2010 was \$43.7 and reflects the \$17.1 million from the issuance of common stock and the \$28.1 million from common stock issued to GSK as part of the collaboration agreement. These cash inflows were partially offset by the payments of our secured loan agreement and capital lease obligations of \$1.3 million and \$0.3 million, respectively.

***Funding Requirements***

We expect to incur losses from operations for the foreseeable future primarily due to research and development expenses, including expenses related to conducting clinical trials. Our future capital requirements will depend on a number of factors, including:

the progress and results of our clinical trials of our drug candidates, including migalastat HCl;

our ability to achieve development and commercialization milestone payments and sales royalties under our collaboration with GSK;

the scope, progress, results and costs of preclinical development, laboratory testing and clinical trials for our product candidates including those testing the use of pharmacological chaperones co-administered with ERT and for the treatment of diseases of neurodegeneration;

the costs, timing and outcome of regulatory review of our product candidates;

the number and development requirements of other product candidates that we pursue;

the costs of commercialization activities, including product marketing, sales and distribution;

the emergence of competing technologies and other adverse market developments;

the costs of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property related claims;

the extent to which we acquire or invest in businesses, products or technologies; and

our ability to establish collaborations and obtain milestone, royalty or other payments from any such collaborators.

We do not anticipate that we will generate revenue from commercial sales of our current product pipeline until at least 2013, if at all. In the absence of additional funding, we expect our continuing operating losses to result in increases in our cash used in operations over the next several quarters and years. However, we believe that our existing cash and cash equivalents and short-term investments, including anticipated payments from GSK in connection with the collaboration, is expected to be sufficient to fund our operating expenses and capital expenditure requirements through the middle of the third quarter of 2013.

**Financial Uncertainties Related to Potential Future Payments****Milestone Payments**

We have acquired rights to develop and commercialize our product candidates through licenses granted by various parties. While our license agreements for migalastat HCl and AT2220 do not contain milestone payment obligations, two of these agreements related to afegostat tartrate do require us to make such payments if certain specified pre-commercialization events occur. Upon the satisfaction of certain milestones and assuming successful development of afegostat tartrate, we may be obligated, under the agreements that we have in place, to make future milestone payments aggregating up to approximately \$7.9 million. However, such potential milestone payments are subject to many uncertain variables that would cause such payments, if any, to vary in size.

**Royalties**

Under our license agreements, if we owe royalties on net sales for one of our products to more than one licensor, then we have the right to reduce the royalties owed to one licensor for royalties paid to another. The amount of royalties to be offset is generally limited in each license and can vary under each agreement. For migalastat HCl and AT2220, we will owe royalties only to Mt. Sinai School of Medicine (MSSM). We would expect to pay royalties to all three licensors with respect to afegostat tartrate should we advance it to commercialization. To date, we have not made any royalty payments on sales of our products and believe we are at least a couple years away from selling any products that would require us to make any such royalty payments.

In accordance with our license agreement with MSSM, we paid \$3 million of the \$30 million upfront payment received from GSK to MSSM in the fourth quarter of 2010. We will also be obligated to pay MSSM royalties on worldwide net sales of migalastat HCl.

Whether we will be obligated to make milestone or royalty payments in the future is subject to the success of our product development efforts and, accordingly, is inherently uncertain.

**Contractual Obligations**

The following table summarizes our significant contractual obligations and commercial commitments at December 31, 2011 and the effects such obligations are expected to have on our liquidity and cash flows in future periods (in thousands).

	September 30, Total	September 30, Less than 1 Year	September 30, 1-3 Years	September 30, 3-5 Years	September 30, Over 5 Years
Operating lease obligations	\$ 11,990	\$ 1,764	\$ 3,012	\$ 3,369	\$ 3,845
Debt obligations	1,044	1,044			
<b>Total fixed contractual obligations (1)</b>	<b>\$ 13,034</b>	<b>\$ 2,808</b>	<b>\$ 3,012</b>	<b>\$ 3,369</b>	<b>\$ 3,845</b>

- (1) This table does not include (a) any milestone payments which may become payable to third parties under license agreements as the timing and likelihood of such payments are not known, (b) any royalty payments to third parties as the amounts of such payments, timing and/or the likelihood of such payments are not known, (c) amounts, if any, that may be committed in the future to construct additional facilities, and (d) contracts that are entered into in the ordinary course of business which are not material in the aggregate in any period presented above.

We currently lease laboratory and office space in Cranbury, New Jersey. The initial term of the lease, which commenced on March 1, 2012, runs for seven years and may be extended by us for two additional five-year periods. We also lease office and laboratory space in San Diego, California, which will expire by its terms in September 2013.

In May 2009, we entered into a loan and security agreement with Silicon Valley Bank (SVB) that provides for up to \$4 million of equipment financing through October 2012. Borrowings under the loan agreement are collateralized by equipment purchased with the proceeds of the loan



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and bear interest at a fixed rate of approximately 9%. We entered a second loan and security agreement with SVB in August 2011 ( 2011 Loan Agreement ) in order to finance certain capital expenditures to be made by us in connection with our recent move to our new corporate headquarters. The 2011 Loan Agreement provides for up to \$3 million of equipment financing through January 2014. Borrowings under the 2011 Loan Agreement are collateralized by equipment purchased with the proceeds of the loan and bear interest at a variable rate of SVB prime + 2.5%. The current SVB prime rate is 4.0%. The 2011 Loan Agreement contains the same financial covenant as the previous loan agreement.

On June 28, 2011, we entered into a new employment agreement with our chairman and chief executive officer, John F. Crowley, that provides for an annual base salary, a cash bonus of up to 60% of base salary, and monthly payments up to a maximum of \$1.8 million for out-of-pocket medical expenses and the corresponding tax gross-up payments. We entered into the employment agreement upon Mr. Crowley's return to the chief executive officer position following a brief term as executive chairman of the Company from April 2011 through August 2011 during which time he did not serve as chief executive officer. The terms of this current employment agreement are substantially similar to Mr. Crowley's prior employment agreement pursuant to which he served as chief executive officer. Notably, Mr. Crowley's base salary, bonus, severance and benefits under the current employment agreement are the same as provided under the previous agreement. The agreement will continue for successive one-year terms until either party provides written notice of termination to the other in accordance with the terms of the agreement.

We have entered into agreements with clinical research organizations and other outside contractors who are partially responsible for conducting and monitoring our clinical trials for our drug candidates including migalastat HCl. These contractual obligations are not reflected in the table above because we may terminate them without penalty.

We have no other lines of credit or other committed sources of capital. To the extent our capital resources are insufficient to meet future capital requirements, we will need to raise additional capital or incur indebtedness to fund our operations. We cannot assure you that additional debt or equity financing will be available on acceptable terms, if at all.

#### **Off-Balance Sheet Arrangements**

We had no off-balance sheet arrangements as of December 31, 2010 and 2011.

#### **Recent Accounting Pronouncements**

In June 2011, the FASB amended its guidance on the presentation of comprehensive income in financial statements to improve the comparability, consistency and transparency of financial reporting and to increase the prominence of items that are recorded in other comprehensive income. The new accounting guidance requires entities to report components of comprehensive income in either (1) a continuous statement of comprehensive income or (2) two separate but consecutive statements. The provisions of this guidance are effective for fiscal years, and interim periods within those years, beginning after December 15, 2011. We do not anticipate the adoption of this guidance will have a material impact on our financial statements.

In May 2011, the FASB amended the FASB Accounting Standards Codification to converge the fair value measurement guidance in U.S. GAAP and International Financial Reporting Standards. Some of the amendments clarify the application of existing fair value measurement requirements, while other amendments change particular principles in fair value measurement guidance. In addition, the amendments require additional fair value disclosures. The amendments are effective for fiscal years beginning after December 15, 2011 and should be applied prospectively. The Company is currently evaluating the impact, if any, that the provisions of the amendments will have on its consolidated results of operations or financial position.

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

Market risk is the risk of change in fair value of a financial instrument due to changes in interest rates, equity prices, creditworthiness, financing, exchange rates or other factors. Our primary market risk exposure relates to changes in interest rates in our cash, cash equivalents and marketable securities. We place our investments in high-quality financial instruments, primarily money market funds, corporate debt securities, asset backed securities and U.S. government agency notes with maturities of less than one year, which we believe are subject to limited interest rate and credit risk. The securities in our investment portfolio are not leveraged, are classified as available-for-sale and, due to the short-term nature, are subject to minimal interest rate risk. We currently do not hedge interest rate exposure and consistent with our investment policy, we do not use derivative financial instruments in our investment portfolio. At December 31, 2011, we held \$55.7 million in cash, cash equivalents and available for sale securities and due to the short-term maturities of our investments, we do not believe that a 10% change in average interest rates would have a significant impact on our interest income. As December 31, 2011, our cash, cash equivalents and available for sale securities were all due on demand or within one year. Our outstanding debt has a fixed interest rate and therefore, we have no exposure to interest rate fluctuations.

We have operated primarily in the U.S., although we do conduct some clinical activities with vendors outside the U.S. While most expenses are paid in U.S. dollars, there are minimal payments made in local foreign currency. If exchange rates undergo a change of 10%, we do not believe that it would have a material impact on our results of operations or cash flows.

**Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.**

**Management's Report on Consolidated Financial Statements and Internal Control over Financial Reporting**

The management of Amicus Therapeutics, Inc. has prepared, and is responsible for the Company's consolidated financial statements and related footnotes. These consolidated financial statements have been prepared in conformity with U.S. generally accepted accounting principles.

We are responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) or 15d-15(f) promulgated under the Securities Exchange Act of 1934 as a process designed by, or under the supervision of the Company's principal executive and principal financial officers and effected by the Company's board of directors, management, and other personnel, 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 and includes those policies and procedures that:

pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of Amicus Therapeutics, Inc.;

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 Amicus Therapeutics, Inc. are being made only in accordance with authorizations of management and directors of Amicus Therapeutics, Inc.; and

provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the assets of Amicus Therapeutics, Inc. 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.

We assessed the effectiveness of our internal control over financial reporting as of December 31, 2011. In making this assessment, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework. Based on our assessment we believe that, as of December 31, 2011, our internal control over financial reporting is effective based on those criteria.

Dated February 28, 2012

/s/ John F. Crowley  
Chairman and Chief Executive Officer

/s/ Daphne Quimi  
Corporate Controller

**Report of Independent Registered Public Accounting Firm**

The Board of Directors and Stockholders

Amicus Therapeutics Inc.

We have audited the accompanying consolidated balance sheets of Amicus Therapeutics, Inc. and subsidiary (a development stage company) as of December 31, 2011 and 2010, and the related consolidated statements of operations, stockholders' equity (deficiency) and cash flows for each of the three years in the period ended December 31, 2011 and the period from February 4, 2002 (inception) to December 31, 2011. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Company's internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Amicus Therapeutics, Inc. at December 31, 2011 and 2010, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 2011 and the period from February 4, 2002 (inception) to December 31, 2011, in conformity with U.S. generally accepted accounting principles.

/s/ Ernst & Young LLP

MetroPark, New Jersey

February 28, 2012

## Amicus Therapeutics, Inc.

(a development stage company)

## Consolidated Balance Sheets

(in thousands, except share and per share amounts)

	September 30, December 31, 2010	September 30, 2011
<b>Assets:</b>		
Current assets:		
Cash and cash equivalents	\$ 29,572	\$ 25,668
Available-for-sale securities	77,873	30,034
Receivable due from GSK		5,043
Prepaid expenses and other current assets	2,236	5,903
<b>Total current assets</b>	<b>109,681</b>	<b>66,648</b>
Property and equipment, less accumulated depreciation and amortization of \$8,095 and \$9,507 at December 31, 2010 and 2011, respectively	2,604	2,438
Other non-current assets	267	709
<b>Total Assets</b>	<b>\$ 112,552</b>	<b>\$ 69,795</b>
<b>Liabilities and Stockholders Equity</b>		
Current liabilities:		
Accounts payable and accrued expenses	\$ 8,290	\$ 9,708
Current portion of capital lease obligations	40	
Current portion of deferred revenue	6,640	8,504
Current portion of secured loan	1,253	1,044
<b>Total current liabilities</b>	<b>16,223</b>	<b>19,256</b>
Deferred revenue, less current portion	25,639	18,999
Warrant liability	4,712	1,948
Secured loan, less current portion	1,044	
Commitments and contingencies		
Stockholders equity:		
Common stock, \$.01 par value, 50,000,000 shares authorized, 34,508,932 shares issued and outstanding at December 31, 2010, 125,000,000 shares authorized, 34,654,206 shares issued and		
outstanding at December 31, 2011	406	407
Additional paid-in capital	290,248	299,285
Accumulated other comprehensive (loss)/income	(28)	4
Deficit accumulated during the development stage	(225,692)	(270,104)
<b>Total stockholders equity</b>	<b>64,934</b>	<b>29,592</b>
<b>Total Liabilities and Stockholders Equity</b>	<b>\$ 112,552</b>	<b>\$ 69,795</b>

*See accompanying notes to consolidated financial statements*

## Amicus Therapeutics, Inc.

(a development stage company)

## Consolidated Statements of Operations

(in thousands, except share and per share amounts)

	September 30, 2009	September 30, Years Ended December 31, 2010	September 30, 2011	September 30, Period from February 4, 2002 (Inception) to December 31, 2011
<b>Revenue:</b>				
Research revenue	\$ 17,545	\$	\$ 14,794	\$ 45,902
Collaboration revenue	46,813	922	6,640	57,562
Total revenue	64,358	922	21,434	103,464
<b>Operating Expenses:</b>				
Research and development	48,081	39,042	50,856	265,620
General and administrative	19,973	15,660	19,880	113,249
Restructuring charges	1,522			1,522
Impairment of leasehold improvements				1,030
Depreciation and amortization	2,132	2,058	1,585	10,063
In-process research and development				418
Total operating expenses	71,708	56,760	72,321	391,902
Loss from operations	(7,350)	(55,838)	(50,887)	(288,438)
<b>Other income (expenses):</b>				
Interest income	997	156	160	