maxygen

Maxygen Annual Report 2011

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 000-28401

MAXYGEN, INC.
(Exact name of registrant as specified in its charter)

Delaware	**77-0449487**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

411 Borel Avenue Suite 616
San Mateo, California 94402
(Address of principal executive offices)

Registrant's telephone number, including area code: **(650) 241-2292**

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

Title of Each Class	**Name of Each Exchange on Which Registered**
Common Stock, $0.0001 par value	The NASDAQ Stock Market LLC

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

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

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

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

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

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

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

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

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

As of June 30, 2011, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the voting stock held by non-affiliates, computed by reference to the closing price for the common stock as quoted by the Nasdaq Global Stock Market as of that date, was approximately $155,220,000. Shares of common stock held by each executive officer and director and by each person who owned 10% or more of the outstanding common stock have been excluded as such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of February 29, 2012, there were 27,770,920 shares of the registrant's common stock outstanding.

Documents Incorporated by Reference

Certain portions of the registrant's proxy statement for the 2012 Annual Meeting of Stockholders (hereinafter referred to as the "2012 Proxy Statement") are incorporated by reference into Part III of this report.

[THIS PAGE INTENTIONALLY LEFT BLANK]

TABLE OF CONTENTS

This report and the disclosures herein include, on a consolidated basis, the business and operations of Maxygen, Inc. and its wholly-owned subsidiaries, Maxygen Holdings (U.S.), Inc., Maxygen ApS and Maxygen Holdings, Inc., as well as its majority-owned subsidiary, Maxygen Holdings LLC. In this report, "Maxygen," the "company," "we," "us" and "our" refer to such consolidated entities, unless, in each case, the context indicates that the disclosure applies only to a named subsidiary.

We own or have rights to various copyrights, trademarks and trade names used in our business, including Maxygen®. Other service marks, trademarks and trade names referred to in this report are the property of their respective owners. The use of the word "partner" and "partnership" does not mean a legal partner or legal partnership.

Forward Looking Statements

This document contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These statements are based on the current expectations and beliefs of our management and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may," "can," "will," "should," "could," "expect," "plan," "anticipate," "believe," "estimate," "predict," "intend," "potential" or "continue" or the negative of these terms or other comparable terminology. In any forward-looking statement in which we express an expectation or belief as to future results, such expectation or belief is expressed in good faith and believed to have a reasonable basis, but there can be no assurance that the statement or expectation or belief will result or be achieved or accomplished. The following factors, among others, could cause actual results to differ materially from those described in the forward-looking statements:

- our ability or plans to recommence and/or continue the development of our MAXY-G34 product candidate for any indication, including our receipt of any government contract or other funding to develop MAXY-G34 and the potential timing of any such funding;
- strategic alternatives and transactions with respect to our business and the timing, likelihood and outcome thereof;
- whether we receive any portion of the payment from Bayer HealthCare LLC and the potential timing of such receipt, and any events related to Bayer's achievement, or failure to achieve, the development milestone related to such payment;
- our implementation, or our failure to implement, any additional distributions of our cash resources to stockholders;
- our ability to continue operations and our estimates for future performance and financial position of the company;
- our ability to retain key employees to maintain our ongoing operations and, if necessary, our ability to successfully grow our business and hire qualified personnel;
- the establishment, development and maintenance of any manufacturing or collaborative relationships;
- our ability to protect our intellectual property portfolio and rights;
- our ability to identify and develop new potential products;
- the attributes of any products we may develop;
- our business strategies and plans; and
- other economic, business, competitive, and/or regulatory factors affecting our business and the market we serve generally.

These statements are only predictions. Risks and uncertainties and the occurrence of other events could cause actual results to differ materially from these predictions. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of these statements. Important factors that could cause our actual results to differ materially from the forward-looking statements we make in this report are set forth in this report, including the factors described in the section entitled "Item 1A—Risk Factors" and "Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations," as well as those discussed in our Current Reports on Form 8-K and other SEC filings. While we may elect to update these forward-looking statements at some point in the future, Maxygen is under no obligation to (and expressly disclaims any such obligation to) update or alter its forward-looking statements whether as a result of new information, future events, or otherwise, except to the extent required by applicable law.

PART I

Item 1 BUSINESS

Overview

We are a biotechnology company focused on the potential further development of our MAXY-G34 product candidate, a next-generation pegylated, granulocyte colony stimulating factor, or G-CSF, for the treatment of chemotherapy-induced neutropenia and acute radiation syndrome, or ARS.

In May 2011, a subsidiary of Astellas Pharma Inc., or Astellas, acquired all of our interests in Perseid Therapeutics LLC, or Perseid, for $76.0 million in cash. Perseid, a former majority-owned subsidiary, included substantially all of our research and development operations and personnel. As a result of the acquisition of Perseid by Astellas, we have no further interests or obligations with respect to the business and operations of Perseid, except for the ongoing technology license agreement between the companies entered into as a part of the 2009 joint venture arrangement or as otherwise provided under the purchase agreement.

At December 31, 2011, we held approximately $159.6 million in cash, cash equivalents and short-term investments and remain eligible for a contingent payment of up to $30.0 million from Bayer HealthCare LLC, or Bayer, related to the sale of our hematology assets to Bayer in July 2008.

Our Strategy

The acquisition of Perseid by Astellas largely completed a multi-year strategic process to maximize stockholder value through sales, distributions and other arrangements involving our various assets. In July 2008, we sold our hematology assets, including MAXY-VII, our factor VIIa program, to Bayer. In September 2009, we consummated the joint venture transaction with Astellas that resulted in its acquisition of Perseid in May 2011. In January 2010, we sold our vaccine related assets, including the related government grants to Altravax, Inc., or Altravax, a privately-held biopharmaceutical company. In October 2010, we sold the patents and other intellectual property rights associated with the Molecular Breeding™ directed evolution platform to Codexis, Inc., or Codexis. In December 2010, we distributed substantially all of the shares of Codexis, Inc. common stock we held, together with approximately $29.2 million in cash, to our stockholders by way of pro rata special distributions that were classified as a return of capital to our stockholders for U.S. Federal income tax purposes. In addition, from December 2009 through December 31, 2011, we have repurchased approximately 12.2 million shares of our common stock at an aggregate cost of approximately $66.3 million.

We retain all rights to our MAXY-G34 program for development of all therapeutic areas, including the chemotherapy-induced neutropenia and ARS indications, and our current focus is to create value from this program for our stockholders, either through the potential further development of the product candidate for one or both indications, or through a sale, licensing, partnering or other transaction involving the program. We also continue to evaluate potential strategic options for our company as a whole, including a strategic business combination, other transaction, or a wind down of the company.

As noted above, we have previously distributed cash and property to our stockholders and have repurchased our common stock under various stock repurchase programs. We also have a current stock repurchase program under which we are authorized to purchase up to $10.0 million of our common stock through December 31, 2012. In addition, given that we continue to have large cash reserves, we expect to consider and evaluate additional distributions to our stockholders of a portion of our cash resources in excess of our current and longer term operational requirements, although none are currently contemplated. Such distributions may be accomplished through cash dividends, stock repurchases or other mechanisms and may be fully or partially taxable depending on the circumstances of such distribution. If appropriate opportunities become available, we may also consider and evaluate using a portion of our cash reserves to acquire additional businesses, assets, technologies, or products. Our plans with respect to any future distributions or acquisitions will be largely

dependent upon whether we receive the contingent payment from Bayer, any future developments related to our MAXY-G34 program, including any potential government funding for the program, and the future financial commitments and longer term operational requirements related to our remaining assets.

We currently have eight employees, all of whom are engaged in general and administrative activities, and we have significantly curtailed our operations and decreased our operating expenses. However, we expect our operating expenses to increase if we engage in any further development of our MAXY-G34 program or pursue any strategic combination or other transactions.

Our Assets

MAXY-G34

Our MAXY-G34 product candidate has been designed to be an improved next-generation pegylated, G-CSF for the treatment of chemotherapy-induced neutropenia. G-CSF is a natural protein that functions by stimulating the body's bone marrow to produce more white blood cells.

Chemotherapy-Induced Neutropenia

Neutropenia is a severe decrease in neutrophil cell counts in the blood and is a common side effect of chemotherapeutic treatments for many forms of cancer, including breast cancer, lung cancer, lymphomas and leukemias. Neutropenic patients are at increased risk of contracting bacterial infections, some of which can be life threatening. Further, and most importantly, neutropenic patients may receive reduced or delayed chemotherapy treatment, which can result in cancer progression.

Neupogen®, a first-generation G-CSF product, and Neulasta®, a second-generation pegylated G-CSF product, currently dominate the market to treat chemotherapy and radiation-induced neutropenia. Worldwide sales of Neupogen® and Neulasta® were approximately $5.2 billion in 2011.

In December 2008, we completed a Phase IIa clinical trial for our MAXY-G34 product candidate for the treatment of chemotherapy-induced neutropenia in breast cancer patients in which MAXY-G34 was safe and effective in reducing chemotherapy-induced neutropenia with no serious adverse events, drug-related grade 3 or 4 adverse events or immunogenicity reported in any patient receiving MAXY-G34. Adverse events were consistent with known side effects of G-CSF molecules.

In October 2008, we made the decision to delay both Phase III manufacturing activities and the planned Phase IIb clinical trial of our MAXY-G34 program until we could identify a partner who would share these costs. The Phase III manufacturing activities were anticipated to begin in September 2008, and the delay of these activities will likely have a material impact on any potential future development and commercialization timeline for the MAXY-G34 program for the chemotherapy-induced neutropenia indication. Our original schedule called for the Phase IIb trial to begin in the second half of 2009.

To date, we have not identified a suitable partner for this program for chemotherapy-induced neutropenia. In addition, we believe that a U.S. patent issued to Amgen Inc., or Amgen, in 2008 with certain claims to mutated G-CSF molecules (Patent No. 7,381,804), has also made it more difficult for us to secure a collaborative or other arrangement for our MAXY-G34 program. In particular, Amgen's patent includes certain claims to mutated granulocyte colony stimulating factor (G-CSF) molecules that potentially cover our MAXY-G34 product candidate. In 2009, we submitted a request to the United States Patent and Trademark Office, or PTO, for an inter partes reexamination of the Amgen patent and, in October 2011, the PTO issued a right of appeal notice in the proceeding that included a final rejection of all claims in the Amgen patent. Amgen has appealed the decision to the PTO's Board of Patent Appeals and Interferences and we cannot predict the outcome of this appeal or any further proceedings related to the inter partes reexamination of Amgen's patent. As a result, there can be no assurances that we will ultimately prevail, that we will be able to secure a partnership or other arrangement for

our MAXY-G34 program, or that we (or a third party) will be able to recommence development activities and be successful in the development and commercialization of the MAXY-G34 program, even if we are successful in the reexamination process.

Acute Radiation Syndrome

G-CSF products such as our MAXY-G34 product candidate may also have potential application in the treatment of ARS, an acute illness caused by irradiation of the entire body by a high dose of penetrating radiation in a very short period of time. A significant portion of the funding for the treatment of ARS to date has come from various government entities for the development of therapeutics as a medical countermeasure to nuclear terrorism and other radiological emergencies.

In May 2011, we submitted a proposal to BARDA for the development of our MAXY-G34 product candidate as a potential medical countermeasure for ARS. The submission was in response to a Broad Agency Announcement (BAA-10-100-SOL-00012) under which BARDA sought to fund the advanced research and development of potential treatments for the sub-syndromes associated with ARS, including neutropenia. In November 2011, BARDA advised us that our proposal would not be considered for a contract award and indicated in a subsequent notification received in January 2012 that its decision with respect to our proposal was primarily based on BARDA's availability of funding. BARDA also has encouraged us to continue to engage with BARDA and indicated that our MAXY-G34 program would be reconsidered by BARDA if the circumstances related to its funding availability changed in the future. We will continue to evaluate our plans for the MAXY-G34 program in light of this development. However, there can be no assurances that the circumstances related to BARDA's funding availability will change, that BARDA will open a future solicitation applicable to the MAXY-G34 program or ARS, or that we would submit a proposal for, or be awarded a contract under, any potential future BARDA solicitation or other government funded programs.

We continue to retain all rights to the MAXY-G34 program for commercial development of all therapeutic areas, including all rights for chemotherapy-induced neutropenia and ARS indications, and our current focus is to create value from this program for our stockholders, either through the potential further development of the product candidate for one or both indications, or through a sale, licensing, partnering or other transaction involving the program.

Contingent Payment from Bayer HealthCare LLC

In July 2008, we sold our hematology assets, including MAXY-VII, our factor VIIa program, and granted certain licenses to the MolecularBreeding™ directed evolution platform to Bayer for an upfront cash payment of $90.0 million. Under the technology transfer agreement with Bayer, we remain eligible to receive future cash payments of up to an additional $30.0 million based on the achievement of certain events related to the potential initiation by Bayer of a phase II clinical trial of MAXY-VII. The milestone payment is also subject to the satisfaction of certain patent related conditions, with half of the potential $30.0 million milestone payment subject to the satisfaction of certain patent related conditions in the United States and the remaining half of the potential milestone payment subject to the satisfaction of similar patent related conditions in certain European countries. To date, all of the patent related conditions have been satisfied. However, there can be no assurances that these conditions will remain satisfied at the time of the achievement of the events related to the potential initiation of the phase II clinical trial, if it occurs. The failure to satisfy these patent related conditions at that time could reduce the potential milestone payment by 25%, 50% or 75%, or could result in no payment of the potential milestone payment.

Cash, Cash Equivalents and Short-Term Investments

At December 31, 2011, we held approximately $159.6 million in cash, cash equivalents and short-term investments. We currently maintain an investment portfolio primarily consisting of money market funds and U.S. treasury securities and have not experienced any liquidity issues to date with respect to these securities.

Recent Asset Sales and Distributions

As noted above, we have substantially completed a multi-year strategic process to maximize stockholder value through the sales, distributions or other arrangements involving our various assets. A summary of our recent asset sales and distributions is provided below.

Acquisition of Perseid Therapeutics LLC by Astellas

On May 16, 2011, we entered into a unit purchase agreement with Astellas Bio Inc., or Bio, a wholly-owned subsidiary of Astellas, and Perseid, pursuant to which Bio acquired all of our equity interests in Perseid for $76.0 million in cash. The purchase agreement included customary representations, warranties and covenants of Bio and us.

Perseid began operations on September 18, 2009, in connection with the consummation of the joint venture transaction between Astellas and us pursuant to which we contributed substantially all of our protein pharmaceutical programs and related assets, together with $10.0 million in cash, to Perseid. Astellas also invested $10.0 million in Perseid. As part of the joint venture arrangement, Astellas was granted an option to acquire all of our ownership interest in Perseid at specified exercise prices that were to increase each quarter from $53.0 million to $123.0 million over the term of the option, which was scheduled to expire on September 18, 2012 (the third anniversary of the closing). Astellas exercised its option on March 17, 2011 at the $76.0 million option price in effect on the date of exercise.

As a result of the consummation of the purchase agreement, Perseid has become a wholly-owned subsidiary of Astellas, and we have no further interests or obligations with respect to the business and operations of Perseid, except for the ongoing technology license agreement between the companies entered into as a part of the 2009 joint venture arrangement or as otherwise provided under the purchase agreement.

The various agreements among Perseid, Astellas, Bio and us that governed the relationship between the parties as joint venture partners and investors in Perseid, including the master joint venture agreement, the investors' rights agreement, the co-sale agreement and the voting agreement, automatically terminated upon the consummation of the purchase agreement.

Sale of Platform Technology to Codexis

In October 2010, we consummated an asset purchase agreement with Codexis pursuant to which Codexis acquired substantially all of the patents and other intellectual property rights associated with the MolecularBreeding™ directed evolution platform. The MolecularBreeding™ directed evolution platform consisted of an extensive patent portfolio relating to recombination-based directed molecular evolution technologies, specialized screening technologies, and the application of these technologies to the development of protein pharmaceuticals and other industries, including agriculture, vaccines, gene therapy and chemicals. The assets acquired by Codexis include patents, trademarks, copyrights, software and certain assumed contracts. The intellectual property assets and rights acquired by Codexis continue to be subject to existing license rights previously granted by us to third parties. See "Intellectual Property and Licensing Arrangements—Licensing Arrangements" below.

In consideration for the assets acquired by Codexis under the purchase agreement and the termination of our prior license agreement with Codexis, Codexis paid a total purchase price to us of $20.0 million. We received $16.0 million in cash upon closing of the sale in October 2010, with the remaining $4.0 million held in escrow, $2.0 million of which was released in November 2011 and $2.0 million of which will be held in escrow until at least September 2012 to satisfy any of our indemnification obligations under the purchase agreement.

Distribution of Codexis Stock to our Stockholders

We formed Codexis in January 2002 as a wholly owned subsidiary to operate our former chemicals business. Codexis received financing from third party investors and operated as an independent subsidiary beginning in September 2002 and, in April 2010, Codexis completed an initial public offering of its common stock. At the time of the Codexis initial public offering, we held approximately 6.0 million shares, or approximately 17.0%, of the outstanding common stock of Codexis. In December 2010, we completed the distribution of substantially all of the shares of Codexis, Inc. common stock we owned to our stockholders. As a result of the distribution, each of our stockholders received 0.187039 of a share of Codexis, Inc. common stock for each outstanding share of our common stock such stockholder held as of the December 3, 2010 record date, subject to a due bill process for shares of our common stock traded between the record date and the December 15, 2010 ex-dividend date. Our stockholders also received cash in lieu of any fraction of a Codexis share that they would have otherwise received in the distribution.

In aggregate, we distributed 5,445,274 shares of Codexis, Inc. common stock to our stockholders valued at approximately $53.1 million (based on the $9.75 closing price of the Codexis, Inc. common stock on the date of distribution). The remaining 467,631 shares of Codexis, Inc. common stock we held at December 31, 2011 represent shares that are being retained by us on behalf of the holders of certain outstanding equity awards, fractional shares of Codexis, Inc. common stock for which we instead made a cash payment to our stockholders in lieu thereof, and shares required to be withheld under applicable tax laws. Because we had no current or cumulative earnings and profits for tax purposes in 2010, the distribution was treated as a tax-free return of capital to our stockholders for U.S. Federal income tax purposes.

Sale of Vaccines Assets to Altravax

In January 2010, we consummated a transaction with Altravax, a privately-held biopharmaceutical company, for the sale of substantially all of our vaccine related assets, including the related government grants. Under the arrangement and in consideration for the assets sold to Altravax, we received payments totaling approximately $1.6 million, including an upfront payment of $500,000 in January 2010, a second payment of $525,000 in December 2010, and a final payment of $550,000 in July 2011. We also remain eligible to receive a percentage of certain payments that may be received by Altravax relating to the vaccines technology through July 2013 (two years after the final payment by Altravax). Prior to the sale of our vaccine assets to Altravax, our vaccine research program included an active program to advance the research for development of a preventative HIV vaccine and was fully funded by research grants from the National Institutes of Health.

Stock Repurchases and Cash Distributions

In December 2009, we completed the repurchase of approximately 18.5% of our outstanding common stock in a modified "Dutch auction" tender offer for a total cost of approximately $39.2 million. In addition, since March 2010, we have repurchased an additional 4,882,254 million shares of our common stock under an open market repurchase program and in private transactions for an aggregate purchase price of approximately $27.1 million. In December 2010, together with our distribution of Codexis, Inc. common stock to our stockholders, we also made a special cash distribution in the amount of $1.00 for each outstanding share of our common stock owned on the December 17, 2010 record date, equal to approximately $29.2 million in the aggregate.

In January 2012, we announced a new stock repurchase program under which we are authorized to purchase up to an additional $10.0 million of our common stock through December 31, 2012. Given that we continue to have large cash reserves, we may continue to consider and evaluate additional distributions to our stockholders of a portion of our cash resources in excess of our current and longer term operational requirements, although none are currently contemplated. Such distributions may be accomplished through cash dividends, stock repurchases or other mechanisms and may be fully or partially taxable depending on the circumstances of such distribution.

Intellectual Property and Licensing Arrangements

Patents and Intellectual Property

Patents are very important to us in establishing proprietary rights to our MAXY-G34 program and we attempt to protect our intellectual property position by filing, prosecuting and maintaining United States and foreign patents and patent applications that we believe are important to the continued development of our MAXY-G34 program. Our patent portfolio currently includes 49 granted or issued patents and 17 pending applications directed to our MAXY-G34 product candidate. We have generally sought claims directed to compositions of matter, as well as methods of using such compositions.

Our 49 issued patents will expire between 2021 and 2026 in the United States and Europe. Patents expire, on a country by country basis, at various times depending on various factors, including the filing date of the corresponding patent application(s), the availability of patent term extension and supplemental protection certificates and terminal disclaimers. The patent positions of biotechnology and pharmaceutical companies can be uncertain and involve complex legal and factual questions. In addition, limitations on patent protection in countries outside the United States, and the differences in what constitutes patentable subject matter in these countries, may limit the protection we have on patents issued to us outside the United States. As a result, there can be no assurance that the patents granted to us will afford adequate legal protection against competitors or provide significant proprietary protection or competitive advantage. We may not be able to develop a patentable product or obtain patents from pending patent applications. Even if patent claims are allowed, the claims may not issue. In the event of issuance, the patents may not be sufficient to protect the proprietary technology owned by us. Our current patents, or patents that issue on pending applications, may be challenged, invalidated, infringed or circumvented. Our patents have been and may in the future be challenged by third parties in post-issuance administrative proceedings or in litigation as invalid or unenforceable under U.S. or foreign laws, or they may be infringed by third parties. In addition, competitors or potential competitors, as well as universities and research institutions, may have filed patent applications or received patents, and may obtain additional patents and proprietary rights relating to proteins, small molecules, compounds, or processes that are competitive with or cover our MAXY-G34 product candidate.

As a result, we are, or may be, from time to time involved in the defense and enforcement of our patents or other intellectual property rights in a court of law, PTO interference or reexamination proceeding, foreign opposition proceeding or related legal and administrative proceeding in the United States and elsewhere. For example, in 2008, a U.S. patent issued to Amgen with certain claims to mutated G-CSF molecules (Patent No. 7,381,804) that potentially cover our MAXY-G34 product candidate. In 2009, we submitted a request to the PTO for an inter partes reexamination of the Amgen patent and, in October 2011, the PTO issued a right of appeal notice in the proceeding that included a final rejection of all claims in the Amgen patent. Amgen has appealed the decision to the PTO's Board of Patent Appeals and Interferences and we cannot predict the outcome of this appeal or any further proceedings related to the inter partes reexamination of Amgen's patent. As a result, there can be no assurances that we will ultimately prevail, that we will be able to secure a partnership or other arrangement for our MAXY-G34 program, or that we (or a third party) will be able to recommence development activities and be successful in the development and commercialization of the MAXY-G34 program, even if we are successful in the reexamination process.

In addition to our patented intellectual property, we also rely on trade secrets and other confidential information. Our policy is to require each of our employees, consultants and advisors to execute a confidential information and inventions assignment agreement before beginning their employment, consulting or advisory relationship with us. These agreements provide that the individual must keep confidential and not disclose to other parties any confidential information developed or learned by the individual during the course of their relationship with us except in limited circumstances. These agreements also provide that we will own all inventions conceived by the individual in the course of rendering services to us. Despite these precautions, third parties or former employees could obtain and use information regarding our technologies without authorization, or develop similar technology independently. It is difficult for us to monitor unauthorized use of our proprietary

methods and information. Effective protection of intellectual property rights is also unavailable or limited in some foreign countries. The efforts that we take to protect our proprietary information and rights may be inadequate to protect such information and rights. Our competitors could independently develop similar technology or design around any patents or other intellectual property rights we hold.

Licensing Arrangements

Codexis

In October 2010, we sold substantially all of the patents and other intellectual property rights associated with the MolecularBreeding™ directed evolution platform, including patents, trademarks, copyrights, software and certain assumed contracts, to Codexis. The MolecularBreeding™ directed evolution platform consisted of an extensive patent portfolio relating to recombination-based directed molecular evolution technologies, specialized screening technologies, and the application of these technologies to the development of protein pharmaceuticals and other industries, including agriculture, vaccines, gene therapy and chemicals. Prior to our sale of these intellectual property rights to Codexis, we granted exclusive and non-exclusive licenses to this platform technology to various third parties, including license grants to Codexis for certain small molecule pharmaceutical, energy and industrial chemical applications.

Our original license agreement with Codexis was entered into by the parties in connection with the formation of Codexis in March 2002. Under that agreement, we were entitled to receive a significant portion of certain consideration received by Codexis from a third party licensee in connection with the commercialization of energy products made with a biocatalyst developed using the licensed technology. We were also eligible for a 2% royalty on net sales of any related energy product commercialized directly by Codexis. During 2010 and 2009, we recognized approximately $2.0 million and $4.6 million, respectively, in revenue from Codexis under that license agreement. This revenue reflects amounts due to us from payments received by Codexis under its collaboration arrangement with Shell that began in November 2006 and an expanded collaboration agreement between Royal Dutch Shell plc and Codexis for the development of new enzymes to convert biomass to fuel. Since Codexis acquired substantially all of the intellectual property rights that were subject to this license agreement, we agreed to terminate this original license agreement and, as a result, we are no longer eligible for any payments or potential royalties from Codexis.

In connection with the intellectual property assets acquired by Codexis, we entered into a new license agreement with Codexis, pursuant to which Codexis granted us certain license rights to the intellectual property assets acquired by Codexis to the extent necessary for us to fulfill our contractual obligations under the license agreements we retained and to permit us to practice any retained rights under such agreements. As described further below, these include licenses: to Perseid to perform discovery, research, development, manufacture and commercialization of proteins and products containing proteins for the prevention, treatment or management of human diseases or conditions; to Bayer in the fields of hematology, cardiovascular and women's healthcare; and to Altravax in the vaccines and adjuvants fields. The license agreement also provides for a grant by us of certain license rights to Codexis, including rights necessary for Codexis to fulfill its contractual obligations under the license agreements it has assumed under the purchase agreement.

Perseid Therapeutics LLC

As part of our joint venture arrangement with Astellas, we granted a license to Perseid to certain assets and proprietary technologies, including assets and technologies related to the MolecularBreeding™ directed evolution platform, regulated read-through, CMV promoters and other protein modification technology, to perform discovery, research, development, manufacture and commercialization of proteins and products containing proteins for the prevention, treatment or management of human diseases or conditions. The licenses are exclusive with respect to the MolecularBreeding™ directed evolution platform and other program-specific technology related to the research and development programs transferred from us to Perseid and non-exclusive with respect to other licensed technology, in each case, subject to existing third party rights to such licensed assets and technology.

Bayer HealthCare LLC

In connection with the acquisition by Bayer of our MAXY-VII program and other hematology assets, we entered into a license agreement with Bayer. Subject to the exclusive rights retained by us and other restrictions described below, the license agreement provides Bayer a nonexclusive, non-sublicensable license to use the MolecularBreeding™ directed evolution platform and ancillary protein expression technologies, including use in biopharmaceuticals. In addition, Bayer's license to use the MolecularBreeding™ directed evolution platform will be exclusive until July 1, 2013 for 15 specific proteins in the fields of hematology, cardiovascular and women's healthcare. Under the license agreement, we have also retained exclusive rights to use the MolecularBreeding™ directed evolution platform until July 1, 2013 for 15 specific proteins that include proteins in the immune suppression and autoimmunity fields, as well as our MAXY-G34 program.

In addition, under the license agreement, Bayer is prohibited from using the MolecularBreeding™ directed evolution platform for various applications that have been excluded from the scope of the license. These excluded uses include applications related to vaccines, immunomodulators and certain small molecule discovery applications, as well as areas that have been exclusively licensed by us to third parties under existing agreements (or are now licensed to such third parties directly by Codexis), such as agricultural and chemical applications. Bayer is also prohibited from using its licensed rights to the MolecularBreeding™ directed evolution platform in a fee for service arrangement with any third party.

We also entered into an intellectual property cross license agreement with Bayer to provide for a license by us to Bayer of certain intellectual property rights retained by us that relate to the hematology assets acquired by Bayer and to provide for a license from Bayer back to us to certain intellectual property rights acquired by Bayer for use by us outside of the hematology field.

Altravax

As part of the sale of our vaccine assets to Altravax in January 2010, we granted Altravax certain exclusive licenses in the vaccines field and certain non-exclusive licenses in the adjuvants field to the MolecularBreeding™ directed evolution platform and certain ancillary technologies, in each case, subject to existing third party rights to such licensed assets and technology.

Manufacturing

We have relied on third party manufacturers and collaborators to produce our compounds for certain preclinical and clinical purposes and may do so for any future preclinical and clinical purposes and for commercial production of any drug candidates that are approved for marketing.

Competition

Any products that we develop will compete in highly competitive markets. With regard to our MAXY-G34 product candidate, we would expect Neulasta® and Neupogen® to compete with MAXY-G34 in chemotherapy-induced neutropenia, if commercialized. In addition, given the limited remaining terms of the patents covering Neulasta® and Neupogen®, we would also expect to face competition from biologic generics (i.e. bioequivalent protein drugs, generic biologicals and biogenerics) and are aware that Teva Pharmaceutical Industries Ltd. and Sandoz International GmbH are currently developing biologic generic G-CSF products to compete in this market.

Many of our potential competitors, either alone or together with their collaborative partners, have substantially greater financial, technical and personnel resources than we do, and there can be no assurance that they will not succeed in developing technologies and products that would render our technologies and products or those of a collaborator obsolete or noncompetitive. In addition, many of our competitors have significantly

greater experience than we do in developing products, undertaking preclinical testing and clinical trials, obtaining the approval of the U.S. Food and Drug Administration, or FDA, and other regulatory approvals of products, and manufacturing and marketing products.

Research and Development Expenses

The majority of our operating expenses to date have been related to research and development. Our research and development expenses were $1.4 million in 2011, $1.9 million in 2010 and $9.0 million in 2009. Additional information required by this item is incorporated herein by reference to "Research and Development Expenses" in Note 1 of the Notes to Consolidated Financial Statements.

Operations

Our operations are based in the United States, however, certain of our former collaborators and licensees have been based outside the United States. Additional information required by this item is included in Note 16 of the Notes to Consolidated Financial Statements and incorporated herein by reference.

Government Regulation

We are subject to regulation by the FDA and comparable regulatory agencies in foreign countries with respect to any development and commercialization of our MAXY-G34 product candidate or any other products we may acquire in the future. The FDA and comparable regulatory bodies in other countries currently regulate therapeutic proteins and related pharmaceutical products as biologics. Biologics are subject to extensive pre- and post-market regulation by the FDA, including regulations that govern the collection, testing, manufacture, safety, efficacy, potency, labeling, storage, record keeping, advertising, promotion, sale and distribution of the products.

The time required for completing testing and obtaining approvals of our product candidates is uncertain but will take several years, and approvals will only be obtained if a product candidate is shown to be safe and efficacious in clinical trials. Any delay in testing may hinder product development. In addition, we may encounter delays in product development or rejections of product applications due to changes in FDA or foreign regulatory policies during the period of product development and testing. Failure to comply with regulatory requirements may subject us to, among other things, civil penalties and criminal prosecution; restrictions on product development and production; suspension, delay or withdrawal of approvals; and the seizure or recall of products. The lengthy process of obtaining regulatory approvals and ensuring compliance with appropriate statutes and regulations requires the expenditure of substantial resources. Any delay or failure by us to obtain regulatory approvals could adversely affect our ability to commercialize product candidates and generate sales revenue. Such delays or failures could also impact our likelihood of receiving any milestone or royalty payments under any potential future collaborative or licensing arrangement.

Under FDA regulations, the clinical testing program required for marketing approval of a new drug typically involves three sequential phases, which may overlap:

- Phase I: Studies are conducted in normal, healthy human volunteers or patients to determine safety, dosage tolerance, absorption, metabolism, distribution and excretion. If possible, Phase I studies may also be designed to gain early evidence of effectiveness.
- Phase II: Studies are conducted in small groups of patients afflicted with a specific disease to determine dosage tolerance and optimal dosage, to gain preliminary evidence of efficacy, and to determine the common short-term side effects and risks associated with the substance being tested.
- Phase III: Involves large-scale studies conducted in disease-afflicted patients to provide statistical evidence of efficacy and safety and to provide an adequate basis for physician labeling.

To date, neither we nor any third party collaborator or licensee has successfully completed all stages of clinical development for our MAXY-G34 product candidate or any of our former product candidates. If we (or a third party collaborator or licensee) are unable to continue or successfully commence, continue or complete clinical trials of our MAXY-G34 product candidate or any other products we may acquire in the future, or decide not to continue clinical trials for a particular indication, we will not be able to seek or obtain regulatory approval for commercialization of the applicable product candidate for the relevant indication.

Phase I, Phase II or Phase III clinical testing may not be completed successfully within any specific period of time, if at all, with respect to any of our potential products. Furthermore, an institutional review board, the FDA or other regulatory bodies may deny approval for conducting a clinical trial or temporarily or permanently suspend a clinical trial at any time for various reasons, including a finding that the subjects or patients are being exposed to an unacceptable health risk.

FDA marketing approval is only applicable in the United States. Marketing approval in foreign countries is subject to the regulations of those countries. The approval procedures vary among countries and can involve additional testing. The requirements for approval and the time required to obtain approval may differ from that required for FDA approval.

Although there are some centralized procedures for filings in the European Union countries, in general each country has its own procedures and requirements, and compliance with these procedures and requirements may be expensive and time-consuming. Accordingly, there may be substantial delays in obtaining required approvals from foreign regulatory authorities after the relevant applications are filed, if approvals are ultimately received at all.

Employees

As of March 1, 2012, we had eight employees, all of whom were engaged in general and administrative activities. None of our employees is represented by a labor union, and we consider our employee relations to be good.

Corporate Information

We were incorporated in Delaware on May 7, 1996 and began operations in March 1997. Our principal executive offices are located at 411 Borel Avenue, Suite 616, San Mateo, CA 94402. Our telephone number is (650) 241-2292.

Available Information

Our web site is located at www.maxygen.com. We make available free of charge, on or through our web site, our annual, quarterly and current reports, and any amendments to those reports, as soon as reasonably practicable after electronically filing or furnishing such reports with the Securities and Exchange Commission, or SEC. Information contained on our web site is not part of this report.

Item 1A RISK FACTORS

This report contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of factors both in and out of our control, including the risks faced by us described below and elsewhere in this report.

You should carefully consider the risks described below, together with all of the other information included in this report, in considering our business and prospects. The risks and uncertainties described below are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently

deem immaterial also may impair our business operations. If any of the following risks actually occur, our business could be harmed. In such case, the trading price of our common stock could decline, and you may lose all or part of your investment.

We have implemented a substantial restructuring of our operations, which may make it difficult to evaluate our current business and future prospects.

In May 2011, a subsidiary of Astellas Pharma Inc., or Astellas, acquired our interests in Perseid Therapeutics LLC, or Perseid, a former majority-owned subsidiary that included substantially all of our research and development operations and personnel. The acquisition of Perseid by Astellas largely completed a multi-year strategic process to restructure our operations, a process that also included the sale or distribution of various other assets, such as our vaccines assets, the patent rights relating to the MolecularBreeding™ directed evolution platform, and substantially all of the shares of Codexis, Inc. common stock we held. As a result, it may be difficult to evaluate our business and future prospects or to assess future operating performance on the basis of historical operating performance.

Our future prospects may be highly dependent on our ability to consummate a strategic transaction for the further development of our MAXY-G34 product candidate or a strategic business combination or other transaction for our company.

Our current non-financial assets primarily consist of our MAXY-G34 product candidate, a granulocyte colony stimulating factor, or G-CSF. We are currently evaluating the potential further development of our MAXY-G34 program for chemotherapy-induced neutropenia and acute radiation syndrome, or ARS, and continue to evaluate potential strategic options for our company as a whole, including a strategic business combination, other transaction or a wind down of the company. We may also evaluate or make additional cash distributions to our stockholders of a portion of our cash resources and evaluate the potential acquisition of additional businesses, assets, technologies, or products or we may pursue other strategic transactions. Our financial assets currently consist of $159.6 million in cash, cash equivalents and short-term investments as of December 31, 2011 and we remain eligible for a contingent payment of up to $30.0 million from Bayer related to the sale of our hematology assets to Bayer in July 2008.

However, there can be no assurance that we can commence or successfully continue the further development of our MAXY-G34 program for any indication, that we will make any additional cash distributions to our stockholders, that we will pursue or be able to successfully consummate any particular strategic transaction, or that we will receive any portion of the event based payment from Bayer. In addition, we may implement a course of action or consummate a transaction that yields unexpected results that adversely affects our business and decreases the remaining cash available for use in our business or the execution of our strategic plan. The process of continuing to evaluate, and potentially executing, one or more of these strategic options may be very costly and time-consuming and may distract our management and otherwise disrupt our operations, which could have adverse effects on our business. As a result, there can be no assurances that any particular course of action, business arrangement or transaction, or series of transactions, will be pursued, successfully consummated or lead to increased stockholder value.

Furthermore, we have incurred, and may in the future incur, significant costs related to the execution of our strategic plan, such as legal and accounting fees and expenses and other related charges, and we may also incur additional unanticipated expenses in connection with this strategic plan. A considerable portion of these costs will be incurred regardless of whether any such course of action is implemented or transaction is completed. These expenses will decrease the remaining cash available for use in our business or the execution of our strategic plan.

The prospects for further development and commercialization of our MAXY-G34 product candidate are highly uncertain.

We continue to evaluate the further clinical development and potential commercialization of MAXY-G34 for the treatment of both chemotherapy-induced neutropenia and ARS. However, we previously suspended manufacturing and development activities for our MAXY-G34 product candidate for the treatment of

chemotherapy-induced neutropenia in 2008 due to the potential cost of such development and have not identified a suitable partner or other source of external funding for development of this program. Our suspension of manufacturing and development activities will likely have an adverse impact on the timeline for any potential commercialization of MAXY-G34 for chemotherapy-induced neutropenia, which will likely make it more difficult for us to secure a collaborative or other arrangement to fund the further development of this product candidate and could limit the commercial potential of MAXY-G34, if commercialized.

The existence of any issued patents and pending patent applications that claim certain G-CSF compositions and their use, such as the U.S. patent issued to Amgen in 2008 with certain claims to mutated G-CSF molecules, could also make it more difficult for us to secure a collaborative or other arrangement for MAXY-G34. Litigation or other proceedings or third party claims of intellectual property infringement relating to our MAXY-G34 product candidate could further delay or materially impact the ability to commercialize MAXY-G34 and may also absorb significant management time. Accordingly, there can be no assurances that we will enter into a collaborative or other arrangement with a third party to fund the further development of MAXY-G34 for the chemotherapy-induced neutropenia indication.

Even if we are able to enter into a collaborative or other arrangement with a third party to fund the further development and commercialization of MAXY-G34 and this product candidate successfully completes clinical trials and is approved for marketing in the United States or other countries, it will need to compete with other G-CSF drugs then on the market. The ability of MAXY-G34 to be successful in the market will depend on a variety of factors, including, for example, whether MAXY-G34 is clinically differentiated from other G-CSF drugs, the scope and limitations of the label approved by regulators for the use of MAXY-G34, the price of MAXY-G34, reimbursement decisions by third parties with regard to MAXY-G34, the approval and sale of any generic or bioequivalent forms of G-CSF products, such as Neulasta® and Neupogen®, in the United States, and the effort and success of marketing activities undertaken with regard to MAXY-G34.

We have also been seeking the government funding for the development of this program for the ARS indication and, in May 2011, we submitted a proposal to the Biomedical Advanced Research and Development Authority, or BARDA, for the development of this product candidate as a potential medical countermeasure for ARS. However, in November 2011, our proposal was rejected by BARDA primarily due to BARDA's availability of funding. Although BARDA indicated that our MAXY-G34 program would be reconsidered by BARDA if the circumstances related to its funding availability changed in the future, there can be no assurances that the circumstances related to BARDA's funding availability will change, that BARDA will open a future solicitation applicable to the MAXY-G34 program or ARS, or that we would submit a proposal for, or be awarded a contract under, any potential future BARDA solicitation or any other government funded program. The rejection of our proposal by BARDA significantly impaired our ability to successfully commence or continue any further development of our MAXY-G34 program or realize any value from this program.

Absent a collaborative or other arrangement, we will further delay or cease development of MAXY-G34 for this indication, which could adversely affect our ability to realize any value from this program.

If we are not able to consummate a strategic transaction for our MAXY-G34 product candidate or our company, we may discontinue the development of MAXY-G34 and fail to realize any value from this program, and we may decide to wind down our operations.

Our current focus is to create value from our MAXY-G34 program for our stockholders, either through the potential further development of the product candidate for one or both indications, or through a sale, licensing, partnering or other transaction involving the program. We also continue to evaluate potential strategic options for our company as a whole, including a strategic business combination or other transaction. However, each such strategy is subject to numerous risks and we may fail to properly execute our chosen strategy. If we are unable, or choose not to, further develop our MAXY-G34 program or consummate a strategic transaction for this program or for our company as a whole, we may discontinue the development of MAXY-G34 and fail to realize any value from this program. We may also choose to wind down the company, which may be a lengthy process, yield

unexpected results and delay any potential distributions to our stockholders. Such process may also require the further expenditure of company resources, which would decrease the amount of resources available for distributions to our stockholders.

If we do not retain key employees, our ability to maintain our ongoing operations or execute a potential strategic option could be impaired.

As of March 1, 2012, we had eight employees and we will rely heavily on the services of our existing employees to manage our ongoing operations and execute our strategic plans. The loss of services from any of our existing employees could substantially disrupt our operations. To be successful and achieve our objectives under our revised corporate strategy, we must retain qualified personnel. Our recent restructurings and the continued review of our strategic options may create continued uncertainty for our employees and this uncertainty may adversely affect our ability to retain key employees and to hire new talent necessary to maintain our ongoing operations or to execute additional potential strategic options, which could have a material adverse effect on our business.

In addition, our current strategy and any changes to this strategy could place significant strain on our resources and our ability to maintain our ongoing operations. We may also be required to rely more heavily on temporary or part-time employees, third party contractors and consultants to assist with managing our operations. In particular, we have relationships with consultants who assist us in formulating and executing our research, development, regulatory, clinical strategies, as well as certain operational matters. These consultants are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. We will have only limited control over the activities of these consultants and can generally expect these individuals to devote only limited time to our activities. Failure of any of these persons to devote sufficient time and resources to our business could harm our business. In addition, these advisors may have arrangements with other companies to assist those companies in developing products that may compete with our products.

Accordingly, we may fail to maintain our ongoing operations or execute our strategic plan if we are unable to retain or hire qualified personnel or to manage our employees and consultants effectively.

Any attempts to grow our business could have an adverse effect on the Company.

Because of our small size, we may need to grow rapidly in order to execute certain strategic options, such as the further development of our MAXY-G34 program or the potential acquisition of additional businesses, assets, technologies, or products. To the extent that rapid growth is necessary, it would place a significant strain on our financial, technical, operational and administrative resources. Such growth would result in increased responsibility for both existing and new management personnel and effective growth management would depend upon our ability to integrate new personnel, expand our operations and to train, motivate and manage our employees. If we were unable to manage growth effectively, our business and our ability to execute a potential strategic option could be materially and adversely affected.

We may make additional distributions to our stockholders of a portion of our cash resources, which may restrict our funds available for other actions and negatively affect the market price of our securities.

In December 2010, we distributed substantially all of the shares of Codexis, Inc. common stock we held, together with approximately $29.2 million in cash, to our stockholders. In addition, since December 2009, we have repurchased approximately 12.2 million shares of our common stock for a total cost of approximately $66.3 million, and we are currently conducting a stock repurchase program under which we are authorized to purchase up to an additional $10.0 million of our common stock through December 31, 2012. In addition, given that we continue to have large cash reserves, our board of directors may consider and evaluate additional distributions to our stockholders of a portion of our cash resources in excess of our current and longer term operational requirements, although none are currently contemplated. Such distributions may be accomplished through cash dividends, stock repurchases or other mechanisms and may be fully or partially taxable depending on the circumstances of such distribution. Any such distribution may not have the effects anticipated by our board of

directors and may instead harm the market price and liquidity of our securities. The full implementation of any additional distribution could use a significant portion of our remaining cash reserves, and this use of cash could limit our future flexibility to operate our business, invest in our existing assets, complete acquisitions of businesses or technologies, or pursue other transactions.

In addition, the implementation of certain distribution mechanisms, such as stock repurchases, could also result in an increase in the percentage of common stock owned by our existing stockholders, and such increase may trigger disclosure or other regulatory requirements for our larger stockholders. As a result, these stockholders may liquidate a portion of their holdings, which may have a negative impact on the market price of our securities. Furthermore, repurchases of stock may affect the trading of our common stock to the extent we fail to satisfy continued-listing requirements of the exchange on which our stock trades, including those based on numbers of holders or public float of our common stock. Under certain circumstances, stock repurchases could impact our ability to utilize certain tax benefits, including net operating losses. Any stock repurchases would also reduce the number of shares of our common stock in the market, which may impact the continuation of an active trading market in our stock, causing a negative impact on the market price of our stock.

Any future development of our MAXY-G34 product candidate, which is based on modifications to a natural human protein, may be subject to substantial delays, increased development costs, reduced market potential for any resulting product or the termination of the development program, which could adversely affect our business.

We have designed our MAXY-G34 product candidate to confer what we believe will be improved biological properties as compared to currently marketed products. As a result, MAXY-G34 differs from currently marketed drugs in ways that we expect will be beneficial. However, the impact of the modifications we have made may not be fully apparent in initial testing and may only be discovered in later-stage testing. Such altered properties may render MAXY-G34 unsuitable or less beneficial than expected for one or more diseases or medical conditions of possible interest or make the product candidate unsuitable for further development. For example, the product candidate may be found to be more immunogenic than the corresponding natural human proteins or demonstrate undesirable pharmacokinetic or pharmacodynamic properties. This may lead to the redirection of the development strategy which could result in substantial delays, increased development costs, decreased likelihood of obtaining regulatory approval, and reduced market potential for any resulting product. This also could result in the termination of the development of the product candidate. In either case, such results could adversely affect our business.

In addition, we or a future licensee or collaborator, if any, may determine that MAXY-G34 or any future preclinical or clinical product candidates or programs do not have sufficient therapeutic or commercial potential to warrant further advancement for a particular indication or all indications, and may elect to terminate a program for such indications or product candidates at any time. Our assessment of the commercial potential for a product may change significantly from the time when we invest in discovery and development to the time when the product either reaches the market or reaches clinical development stages that require investment at risk. Commercial potential can change due to many factors beyond our control, such as general economic conditions, the qualitative and quantitative properties of medical reimbursement schemes at the time, the legal status for sale of biologic generics (i.e. bioequivalent protein drugs, generic biologicals and biogenerics), and the financial status of potential partner companies. As commercial potential decreases, the ability or interest of other parties to share the costs of further development of our products may decrease, thus precluding advancement of our products. Furthermore, we may conclude that a product candidate is not differentiated in a meaningful way from existing products, or that the costs of seeking to establish that a product candidate is differentiated would be prohibitive, or that the market size for a differentiated product with the attributes of a particular product candidate does not justify the expense and risk of further development. If we terminate our MAXY-G34 program, or any potential future preclinical or clinical program in which we have invested significant resources, our financial condition and results of operations may be adversely affected, as we will have expended resources on a program that will not provide a return on our investment and we will have missed the opportunity to have allocated those resources to potentially more productive uses.

If we engage in any acquisitions, we will incur a variety of costs and may potentially face numerous risks that could adversely affect our business and operations.

As part of our ongoing strategic evaluation, we may acquire additional businesses, assets, technologies, or products in the future if appropriate opportunities become available. In connection with any future acquisitions, we could:

- use a significant portion of our cash resources to fund and manage the acquisitions;
- issue additional equity securities which would dilute our current stockholders;
- incur substantial debt to fund the acquisitions; or
- assume significant liabilities.

Acquisitions involve numerous risks, including problems integrating the purchased operations, technologies or products, unanticipated costs and other liabilities, diversion of management's attention from our core businesses, adverse effects on existing business relationships with current and/or prospective collaborators, customers and/or suppliers, risks associated with entering markets in which we have no or limited prior experience and potential loss of key employees. We do not have extensive experience in managing the integration process, and we may not be able to successfully integrate any businesses, assets, products, technologies, or personnel that we might acquire in the future without a significant expenditure of operating, financial and management resources, if at all. The integration or management process could divert management time from focusing on operating our business, result in a decline in employee morale and cause retention issues to arise from changes in compensation, reporting relationships, future prospects or the direction of the business. Acquisitions may also require us to record goodwill and non-amortizable intangible assets that will be subject to impairment testing on a regular basis and potential periodic impairment charges, incur amortization expenses related to certain intangible assets, and incur large and immediate write offs and restructuring and other related expenses, all of which could harm our operating results and financial condition. In addition, we may acquire companies that have insufficient internal financial controls, which could impair our ability to integrate the acquired company and adversely impact our financial reporting. If we fail in our integration or management efforts with respect to any of our acquisitions, our business and financial condition may be adversely affected.

In addition, any acquisition of a business, asset, technology or product could require us to use significantly more cash reserves than initially expected or in excess of the cash reserves actually required for our current and longer term operational requirements, and this use of cash could limit our future flexibility to operate our business, invest in our existing assets, complete acquisitions of businesses or technologies, or pursue other transactions.

We expect to incur additional operating losses for the foreseeable future and will continue to incur significant costs as a result of operating as a public company.

We currently expect that our operating expenses, including costs associated with operating as a public company, will exceed our revenues, if any, for the foreseeable future. In addition, we may incur increased expenses in connection with any research and development activities for our MAXY-G34 program and in connection with any potential strategic transaction for the program or our company. These operating expenses will decrease the remaining cash available for use in our business or the execution of our strategic plan.

Any inability to adequately protect our proprietary technologies could harm our competitive position.

Our success will depend in part on our ability to obtain patents and maintain adequate protection of our intellectual property for our MAXY-G34 program and any future products in the United States and other countries. If we do not adequately protect our intellectual property, competitors may be able to erode our competitive advantage. The laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the United States, and many companies have encountered significant problems in protecting their proprietary rights in these foreign countries. These problems can be caused by, for example, a lack of rules and processes allowing for meaningfully defending intellectual property rights.

We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary technologies are covered by valid and enforceable patents or are effectively maintained as trade secrets. The patent positions of biopharmaceutical and biotechnology companies, including our patent positions, are often uncertain and involve complex legal and factual questions. We have applied for patents covering MAXY-G34 as we deem appropriate. However, we may not obtain patents on all inventions for which we seek patents, and any patents we obtain may be challenged and may be narrowed in scope or extinguished as a result of such challenges. Our existing patents and any future patents we obtain may not be sufficiently broad to prevent others from practicing our technologies or from developing competing products. Enforcement of our patents against infringers could require us to expend significant amounts with no assurance that we would be successful in any litigation. Others may independently develop similar or alternative technologies or products or design around our patented technologies or products. In addition, we may fail to effectively prosecute or maintain certain patent rights or others may challenge or invalidate our patents, in which case our patents may fail to provide us with any competitive advantages.

We also rely upon trade secret protection for our confidential and proprietary information. We have taken security measures to protect our proprietary information. These measures may not provide adequate protection for our trade secrets or other proprietary information. We seek to protect our proprietary information by entering into confidentiality agreements with employees, collaborators and consultants. Nevertheless, employees, collaborators or consultants may still disclose or misuse our proprietary information, and we may not be able to meaningfully protect our trade secrets. In addition, others may independently develop substantially equivalent proprietary information or techniques or otherwise gain access to our trade secrets.

Litigation or other proceedings or third party claims of intellectual property infringement could require us to spend time and money and could require us to shut down some of our operations.

Our ability to develop products depends in part on not infringing patents or other proprietary rights of third parties, and not breaching any licenses that we have entered into with regard to our technologies and products. In particular, others have obtained patents, and have filed, and in the future are likely to file, patent applications that may issue as patents that cover genes or gene fragments or corresponding proteins or peptides that we may wish to utilize to develop, manufacture and commercialize our product candidate. There are often multiple patents owned by third parties that cover particular proteins and related nucleic acids that are of interest to us in the development of our product candidate. To the extent that these patents, or patents that may issue in the future, cover methods or compositions that we wish to use in developing, manufacturing or commercializing our product candidate, and such use by us or on our behalf would constitute infringement of an issued valid patent claim, we would need to obtain a license from the proprietor of the relevant patent rights, which may not be available to us on acceptable terms, if at all.

Our efforts to develop an improved, next-generation protein pharmaceutical could lead to allegations of patent infringement by the parties that hold patents covering other versions of such protein or methods of making and using such protein. In addition, third parties that do not have patents that currently cover our activities may obtain such patents in the future and then claim that our activities or product candidate infringe these patents. We could incur substantial costs and diversion of the time and attention of management and technical personnel in defending ourselves against any of these claims or enforcing our patents or other intellectual property rights against others. Furthermore, parties making claims against us may be able to obtain injunctive or other equitable relief that could effectively block our ability to further develop, commercialize and sell products. In addition, in the event of a successful claim of infringement against us, we may be required to pay damages and obtain one or more licenses from third parties. We may not be able to obtain these licenses at a reasonable cost, if at all. In that event, we could encounter delays in product introductions while we attempt to develop alternative methods or products, or be required to cease commercializing affected products.

In particular, the existence of any issued patents and pending patent applications that claim certain G-CSF compositions and their use, such as the U.S. patent issued to Amgen in 2008 with certain claims to mutated G-CSF molecules (Patent No. 7,381,804), could make it more difficult for us to secure a collaborative or other arrangement for our MAXY-G34 product candidate or to commercialize or otherwise realize any value from this

product candidate. While we are currently engaged in an inter partes reexamination of the Amgen patent with the U.S. Patent Office, or PTO, and the PTO has issued a right of appeal notice to Amgen maintaining its rejection of the claims in the Amgen patent, Amgen is appealing this decision and any final ruling by the PTO may be appealed to the U.S. federal courts. As a result, there can be no assurances that we will ultimately prevail or do so in a timely manner, or that we will be successful in the development, commercialization or other utilization of the MAXY-G34 program, even if we are ultimately successful in this reexamination process.

Any action we take to enforce or defend our intellectual property rights, including litigation, could result in substantial costs and diversion of management and technical personnel. Furthermore, the outcome of any action we take to protect our rights may not be resolved in our favor.

Codexis acquired technology rights from us that we previously licensed to third parties and we may be subject to litigation if these rights are not effectively prosecuted, maintained or protected by Codexis.

In October 2010, we sold substantially all of the intellectual property rights and certain other assets relating to the MolecularBreeding™ directed evolution platform to Codexis. The intellectual property portfolio we sold to Codexis will continue to be subject to existing exclusive and nonexclusive licenses that we previously granted to third parties under agreements that we will remain a party to. These existing license agreements, the related sublicenses to third party technologies and the license agreement with Codexis, and the interplay between those agreements, are highly complex and rely on highly technical definitions to delineate permitted and restricted activities. As a result of this complexity, the agreements may be subject to differing interpretations by the counterparties that could lead to disputes or litigation, including for alleged breaches or claims that our activities or the activities of a third party are not covered by the scope of the licenses. Codexis, as the owner of these intellectual property rights, has the right to control prosecution, maintenance and enforcement of these patent rights. If Codexis or an acquirer of Codexis chooses not to enforce the intellectual property rights on which these licensees rely, or enforces those rights ineffectively and has them invalidated, the ability of these licensees to effectively use its licensed rights may be adversely impacted. While we have certain rights to continue prosecution or maintenance of patent rights that Codexis chooses to abandon, we may be unable to exercise these rights effectively.

While Codexis is obligated to comply with the terms of these agreements and to indemnify us for certain losses under these agreements, any action or omission by Codexis that causes us to breach any of our obligations under these agreements may subject us to liability and, to the extent indemnification by Codexis is not available, we may be required to pay damages to such third party. Any such litigation may divert management time from focusing on business operations and could cause us to spend significant amounts of money. If such litigation were to be decided adversely to us, we could be required to pay monetary damages.

Our manufacturing strategy, which relies on third-party manufacturers, exposes us to additional risks.

We do not currently have the resources, facilities or experience to manufacture MAXY-G34 or any future product candidates or potential products ourselves. Completion of any clinical trials or other studies and any commercialization or other utilization of our products will require access to, or development of, manufacturing facilities that meet U.S. Food and Drug Administration, or FDA, standards or other regulatory requirements to manufacture a sufficient supply of our potential products. We would depend on a third party for the scale up and manufacture of our MAXY-G34 product candidate for any preclinical or clinical purposes. If our third party manufacturer is unable to manufacture preclinical or clinical supplies in a timely manner, or is unable or unwilling to satisfy our needs or the requirements of the FDA or other regulatory requirements, it could delay clinical trials, regulatory submissions and development, commercialization or other utilization of MAXY-G34 or any future potential products, entail higher costs and possibly result in our being unable to sell our products. In addition, technical problems or other manufacturing delays could delay the advancement of potential products into preclinical or clinical trials, delay or prevent us from achieving development milestones under a collaborative agreement or result in the termination of development of MAXY-G34 or any future product candidates, adversely affecting our revenues and product development timetable, which in turn could adversely affect our business and our stock price.

There are a limited number of contract manufacturers that are suitable for the manufacture of protein pharmaceuticals in compliance with current Good Manufacturing Practices (GMP) requirements, and there is often limited access to such facilities. If we are unable to enter into agreements with qualified manufacturers that will provide us with sufficient supply of a product candidate in a timely manner and at an acceptable cost, the development, commercialization or other utilization of the potential product could be delayed, which would adversely affect our business.

In addition, failure of any third party manufacturers or us to comply with applicable regulations, including pre- or post-approval inspections and the current GMP requirements of the FDA or other comparable regulatory agencies, could result in sanctions being imposed on us. These sanctions could include fines, injunctions, civil penalties, failure of regulatory authorities to grant marketing approval of a product, delay, suspension or withdrawal of approvals, license revocation, product seizures or recalls, operational restrictions and criminal prosecutions, any of which could significantly and adversely affect our business.

The manufacturing of our MAXY-G34 product candidate presents technological, logistical and regulatory risks, each of which may adversely affect our business.

The manufacturing and manufacturing process development of pharmaceuticals, and, in particular, biologicals, are technologically and logistically complex and heavily regulated by the FDA and other governmental authorities. The manufacturing and manufacturing process development of our MAXY-G34 product candidate presents many risks, including, but not limited to, the following:

- before we can obtain approval of any of our product candidate for the treatment of a particular disease or condition, we must demonstrate to the satisfaction of the FDA and other governmental authorities that the drug manufactured for commercial use is comparable to the drug manufactured for clinical trials and that the manufacturing facility complies with applicable laws and regulations;
- it may not be technically feasible to scale up an existing manufacturing process to meet demand or such scale-up may take longer than anticipated; and
- failure to comply with strictly enforced GMP regulations and similar foreign standards may result in delays in product approval or withdrawal of an approved product from the market.

Any of these factors could delay any preclinical studies, clinical trials, regulatory submissions, commercialization or other development of MAXY-G34 or any future product candidates, entail higher costs and result in our being unable to effectively sell any products.

We have relied on third parties to conduct our preclinical studies and our clinical trials. If we continue the development of MAXY-G34 or any future product we may acquire and these third parties do not perform as contractually required or expected, we may not be able to obtain regulatory approval for our product candidates, or we may be delayed in doing so.

We do not currently have the resources, personnel or facilities to independently conduct preclinical studies or clinical trials for our product candidates, and therefore have relied on third parties, such as contract research organizations, medical institutions, academic institutions, clinical investigators and contract laboratories, to conduct many of our preclinical studies, assist us in designing our clinical trials, prepare documents for submission to regulatory authorities, obtain regulatory approval to conduct clinical trials, enroll qualified patients, conduct and maintain our clinical trials, and analyze the results of such trials. We are responsible for confirming that our preclinical studies are conducted in accordance with applicable regulations and that each of our clinical trials is conducted in accordance with its general investigational plan and protocol. The FDA requires us to comply with regulations and standards, commonly referred to as good laboratory practices, or GLP, for conducting and recording the results of our preclinical studies and good clinical practices for conducting, monitoring, recording and reporting the results of clinical trials, to assure that data and reported results are accurate and that the clinical trial participants are adequately protected. Our reliance on third parties does not relieve us of these responsibilities.

If these third parties do not successfully carry out their contractual duties, do not meet expected deadlines, fail to comply with the FDA's GLP regulations, do not conduct clinical trials in accordance with the approved protocol and regulatory requirements, or are unable to manage the conduct of any clinical trials effectively in compliance with FDA and other regulatory requirements, it could adversely impact the results obtained in such preclinical studies or clinical trials or require us to enter into new arrangements with alternative third parties, all of which could extend, delay or terminate the progress or completion of preclinical studies, clinical trials, regulatory submissions and commercialization or other use of MAXY-G34 or any potential future products. In any such case, we may be affected by increased costs and delays or both, which may harm our business.

Our MAXY-G34 product candidate and any potential future product candidates could take a long time to complete all phases of development, may fail during any stage of development, or may never gain approval, which could reduce or eliminate our revenue by delaying or terminating the potential commercialization of our product candidates.

The conduct of preclinical studies, clinical trials and other studies for a single product candidate is a time-consuming, expensive and uncertain process and typically requires years to complete. Our MAXY-G34 product candidate and any potential future product candidates may produce undesirable toxicities and adverse effects in preclinical studies. Such toxicities or adverse effects could delay or prevent the filing of an IND with respect to such product candidate or potential product candidates. In clinical trials, administering any of our product candidates to humans may produce undesirable toxicities or side effects. These toxicities or side effects could interrupt, delay, suspend or terminate clinical trials of our product candidates and could result in the FDA or other regulatory authorities denying approval of our product candidates for any or all targeted indications. Indications of potential adverse effects or toxicities which may occur in clinical trials and which we believe are not significant during the course of such trials may later turn out to actually constitute serious adverse effects or toxicities when a drug has been used in large populations or for extended periods of time.

Our MAXY-G34 product candidate previously completed a Phase IIa clinical trial in breast cancer patients for the treatment of chemotherapy-induced neutropenia and although MAXY-G34 has demonstrated desirable properties in preclinical testing and in early clinical testing, the results from preclinical testing in vitro and animal models, as well as early clinical trials, often are not predictive of results obtained in larger later stage clinical trials. As a result, there can be no assurances that clinical trials or other studies of MAXY-G34 or any future product candidates will be completed or produce sufficient safety and efficacy data necessary to obtain regulatory approval.

In addition, the timing of the commencement, continuation or completion of clinical trials or other studies may be subject to significant delays, or a clinical trial may be suspended or delayed by us, a collaborator, the FDA or other foreign governmental agencies for various reasons, including:

- deficiencies in the conduct of the clinical trials;
- negative or inconclusive results from the clinical trials that necessitate additional clinical studies;
- difficulties or delays in identifying and enrolling patients who meet trial eligibility criteria;
- delays in obtaining or maintaining required approvals from institutions, review boards or other reviewing entities at clinical sites;
- inadequate supply or deficient quality of product candidate materials necessary for the conduct of the clinical trials;
- the occurrence of unacceptable toxicities or properties or unforeseen adverse events, especially as compared to currently approved drugs intended to treat the same indications;
- our lack of financial resources to continue the development of a product candidate;
- future legislation or administrative action or changes in FDA policy or the policy of foreign regulatory agencies during the period of product development, clinical trials and FDA regulatory review; or
- other reasons that are internal to the business of a collaborative partner, which it may not share with us.

As a result of these risks and other factors, we may conduct lengthy and expensive preclinical studies, clinical trials or other studies of MAXY-G34 and any future product candidates, only to learn that a particular product candidate has failed to demonstrate sufficient safety or efficacy necessary to obtain regulatory approval for one or more therapeutic indications, has failed to demonstrate relevant differentiation of our products from currently marketed products, does not offer therapeutic or other improvements compared to other marketed drugs, has unforeseen adverse events or does not otherwise demonstrate sufficient potential to make the commercialization or other utilization of the product worthwhile. Any failure or substantial delay in successfully completing clinical trials or animal model studies, obtaining regulatory approval and commercializing our product candidates could severely harm our business.

Our MAXY-G34 product candidate and any potential future products are subject to a lengthy and uncertain regulatory process and may never gain approval. If our potential products are not approved, we or our collaborative partners will not be able to commercialize those products.

The FDA must approve any therapeutic product before it can be marketed in the United States. Other countries also require approvals from regulatory authorities comparable to the FDA before products can be marketed in the applicable country. Before we can file a biologic license application (BLA) with the FDA or other regulatory entity, the product candidate must undergo extensive testing which can take many years and require substantial expenditures. Data obtained from such testing may be susceptible to varying interpretations that could delay, limit or prevent regulatory approval. Regulatory approval of a BLA is never guaranteed, and the approval process may take several years and is extremely expensive. The FDA and other regulatory agencies also have substantial discretion in the drug approval process. Despite the time and expense exerted, failure can occur at any stage, and we could encounter problems that would cause us to abandon trials or to repeat or perform additional such trials. The number and focus of preclinical studies and clinical trials that will be required for approval from the FDA and other regulatory agencies varies depending on the drug candidate, the disease or condition that the drug candidate is designed to address, and the regulations applicable to any particular drug candidate. The FDA and other regulatory agencies can delay, limit or deny approval of a drug candidate for many reasons, including:

- a drug candidate may not be safe or effective;
- regulatory officials may not find the data from preclinical testing and clinical trials sufficient;
- the FDA and other regulatory agencies might not approve our third-party manufacturer's processes or facilities; or
- the FDA or other regulatory agencies may change their approval policies or adopt new regulations.

Even if we receive regulatory approval to sell a product, the approved label for a product may entail limitations on the indicated uses for which we can market a product. For example, even if MAXY-G34 is further developed for the treatment of chemotherapy-induced neutropenia and approved by the FDA, if we are not able to obtain broad labeling for this product allowing approved use with multiple chemotherapy regimens for multiple cancers, MAXY-G34 may not be adopted by hospital formularies or otherwise have limited commercial success which could have a significant adverse impact on our business. Further, once regulatory approval is obtained, a marketed product and its manufacturer are subject to continued review, and discovery of previously unknown problems or adverse events associated with an approved product or the discovery of previously unknown problems with the manufacturer may result in restrictions on the product, the manufacturer or the manufacturing facility, including withdrawal of the product from the market. In certain countries, regulatory agencies also set or approve prices.

During the period while we are engaged in product development, the policies of the FDA and foreign regulatory entities may change and additional government laws or regulations may be enacted that could prevent or delay regulatory approval of our drug candidates. If we are not able to maintain regulatory compliance, we might not obtain approval of our products or be permitted to market our products. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative

action, either in the United States or abroad. In this regard, legislation has been proposed in the United States but not yet enacted into law that would define a regulatory approval process for protein drugs that are similar to already marketed protein drugs.

We may seek to enter into arrangements to develop and commercialize our MAXY-G34 product candidate or any future products. These arrangements, if secured, may not be successful.

Since we may not possess the resources necessary to develop and commercialize products, or the resources to complete all approval processes that may be required for these potential products, we may seek to enter into collaborative or other arrangements to fund the development of MAXY-G34 or any potential future product candidates for specific indications and to develop and commercialize potential products. We currently have no existing collaborations or other arrangements and if we are unable to enter into any new arrangements, or if existing or future arrangements are not maintained, our MAXY-G34 product candidate or any potential products may not be commercialized.

Any strategic partnerships or collaborations with pharmaceutical or biotechnology companies or arrangements with other third parties we may establish will be subject to a number of risks. We have limited or no control over the resources that a third party may devote to the development and commercialization of our potential products. Such third party may elect not to develop potential products arising out of a collaborative or other arrangement or not devote sufficient resources to the development, manufacture, marketing or sale of these products. Further, such third party may not perform its obligations as expected and may delay the development or commercialization of a product candidate, terminate its agreement with us, or breach or otherwise fail to conduct its activities successfully and in a timely manner. If any of these events occur, we may not be able to develop or commercialize our potential products.

In addition, such third party may market or otherwise seek products intended to treat the medical conditions that our product candidates are planned to be used to treat, and could become our competitors in the future. For example, a collaborator could develop and commercialize competing products, fail to rapidly develop our product candidates, fail to obtain timely regulatory approvals for product commercialization, terminate their agreements with us prematurely, or fail to devote sufficient resources to allow the development and commercialization of our products. Any of these circumstances could harm our product development efforts. We have limited ability to prevent actions by any such third party that could have any adverse impact on the development and commercialization of our related product candidates.

Other biological products may compete with our products.

If approved for sale by regulatory authorities for chemotherapy-induced neutropenia, our MAXY-G34 product candidate would likely compete with already approved earlier-generation products based on the same protein. In addition, as the patent protection for such earlier-generation protein products expires, we expect that additional products with amino acid sequences identical or substantially similar to those of the earlier-generation protein products that have lost patent protection will also enter the marketplace and compete with such earlier generation protein products and our products. This competition may be intense, with success determined by product attributes, price and marketing power. The availability of such similar products may result in price erosion for all products of the class and could lead to limits on reimbursement for our products by third party payors.

If commercialized for chemotherapy-induced neutropenia, we would expect Neulasta® and Neupogen® to compete with MAXY-G34. In addition, given that the limited remaining terms of the patents covering Neulasta® and Neupogen®, we would also expect to face competition from biologic generics (i.e. bioequivalent protein drugs, generic biologicals and biogenerics) and are aware that Teva Pharmaceutical Industries Ltd. and Sandoz International GmbH are currently developing biologic generic G-CSF products to compete in this market. In addition, any approval of biosimilars in the United States or other foreign jurisdiction could result in increased competition for all forms of a particular therapeutic protein.

Many potential competitors who have greater resources and experience than we do may develop products and technologies that make ours obsolete.

As a company that is focused on the potential development of a next-generation protein therapeutic product, we face, and will continue to face, intense competition from both large and small biotechnology companies, as well as academic and research institutions and government agencies, that are pursuing competing technologies for modifying proteins. These companies and organizations may develop technologies that are alternatives to our technologies. Further, our competitors in the protein optimization field, including companies that have developed and commercialized prior versions of protein therapeutic products, may be more effective at implementing their technologies to develop commercial products. Some of these competitors have entered into collaborations with leading companies within our target markets to produce commercial products. In addition, therapeutic products that are small molecules may be developed by our competitors that could reduce or displace the market for our protein therapeutic products. Small molecule drugs are often less expensive and easier to administer than protein therapeutics and therefore would have competitive advantages if they were developed and shown to be safe and effective for the indication that our product candidates are targeting.

Even if approved by the FDA or a comparable foreign regulatory agency, any products that we develop will compete in multiple, highly competitive markets and may fail to achieve market acceptance, which would impair our ability to become profitable. Most of the companies and organizations competing with us in the markets for such products have greater capital resources, research and development and marketing staff and facilities and capabilities, and greater experience in obtaining regulatory approvals, manufacturing products and marketing. Accordingly, our competitors may be able to develop technologies and products more easily, which would render our products and those of a collaborator obsolete and noncompetitive.

In addition, if MAXY-G34 or any of our future drug candidates are approved for commercial sale, they will need to compete with other products intended to treat the same disease, including the marketed versions of the protein therapeutic drug that we have sought to improve, and possibly including other variant versions of such drug, and generic bioequivalent or biosimilar versions of such drugs, and small molecule drugs. Such competition may be intense and lead to price reductions for all forms of a particular therapeutic protein. Moreover, any adverse developments related to a currently marketed version of the protein therapeutic drug that we have sought to improve or a generic bioequivalent or biosimilar version of such drug may have a significant adverse impact on the continued development or future commercialization and marketing of our related product candidates and could cause us to change our development plans or discontinue further development of such product candidates. If we are unable to market and commercialize our product successfully, our business would be adversely affected.

Drug development is a long, expensive and uncertain process and may not result in the development of any commercially successful products.

The development of human therapeutic products is long and uncertain. Most product candidates fail before entering clinical trials or in clinical trials. Moreover, most products that commence clinical trials are not approved for use in humans and never reach the market. In addition, due to the nature of human therapeutic research and development, the expected timing of product development, initiation of clinical trials and the results of such development and clinical trials are uncertain and subject to change at any point. Such uncertainty, which exists even for product candidates that appear promising based on earlier data, may result in research or development delays, clinical trial delays and failures, product candidate failures and delays in regulatory action or approval. Such delays or failures could reduce or eliminate our revenue by delaying or terminating the potential development and commercialization of our product candidates.

Our MAXY-G34 product candidate and any future product candidates are subject to the risks of failure inherent in drug development. Preclinical studies may not yield results that would satisfactorily support the filing of an investigational new drug application (IND) with respect to our drug candidates, and the results of preclinical studies do not necessarily predict the results of clinical trials. Moreover, the available animal models

may be unsuitable for assessing our potential products for one or more indications, increasing the risk that animal models may not provide accurate or meaningful data as to the suitability or advantages of our potential products as treatments for the diseases or medical conditions of interest. Similarly, early-stage clinical trials may not predict the results of later-stage clinical trials, including the safety and efficacy profiles of any particular drug candidate. In addition, there can be no assurance that the design of our clinical trials will result in obtaining the desired efficacy data to support regulatory approval. Even if we believe the data collected from clinical trials of our drug candidates are promising, such data may not be sufficient to support approval by the FDA or any foreign regulatory agency, which could delay, limit or prevent regulatory approval of our drug candidates. The FDA and similar regulatory agencies determine the type and amount of data necessary to obtain approval of any drug candidate, and as a result of new data or changes in the policies or practices of such agencies, the type and amount of data required for approval may change in the period between the start of product development and the completion of clinical trials.

Any failure or substantial delay in successfully completing clinical trials, obtaining regulatory approval and commercializing our MAXY-G34 product candidate or any future product candidates could severely harm our business.

If we or a collaborator receives regulatory approval for MAXY-G34 or any potential future drug candidates, we will be subject to ongoing FDA obligations and continued regulatory review, and we may also be subject to additional FDA post-marketing obligations, all of which may result in significant expense and limit our ability to commercialize our potential drugs.

Any regulatory approvals that we or a collaborator receive for one of our product candidates may also be subject to limitations on the indicated uses for which the product may be marketed or contain requirements for potentially costly post-marketing follow-up studies. In addition, if the FDA or a foreign regulatory agency approves any of our drug candidates, the labeling, packaging, adverse event reporting, storage, advertising, promotion, and record keeping for the product will be subject to extensive regulatory requirements. The subsequent discovery of previously unknown problems with the product, including adverse events of unanticipated severity or frequency, may result in restriction on the marketing of the product, and could include withdrawal of the drug from the market.

We may be subject to costly product liability claims and may not have adequate insurance.

Because we have conducted clinical trials in humans in the past and may conduct such trials in the future, we face the risk that the use of our product candidates will result in adverse effects. We expect to maintain product liability insurance for any clinical trials, however, such liability insurance may not be adequate to fully cover any liabilities that arise from clinical trials of our product candidates. We may not have sufficient resources to pay for any liabilities resulting from a claim excluded from, or beyond the limit of, such insurance coverage.

Any claims relating to improper handling, storage or disposal of the hazardous chemicals and radioactive and biological materials we use in our business could be time-consuming and costly.

Our research and development processes have in the past and may in the future involve the controlled use of hazardous materials, including chemicals and radioactive and biological materials and our operations have in the past produced and may in the future produce hazardous waste products. We cannot eliminate the risk of accidental contamination or discharge and any resultant injury from those materials. Federal, state and local laws and regulations govern the use, manufacture, storage, handling and disposal of hazardous materials. We may be sued for any injury or contamination that results from our use or the use by third parties of these materials. Compliance with environmental laws and regulations is expensive, and current or future environmental regulations may impair our research, development and production activities.

Our business is subject to increasingly complex corporate governance, public disclosure and accounting requirements that could adversely affect our business and financial results.

We are subject to changing rules and regulations of federal and state government as well as the stock exchange on which our common stock is listed. These entities, including the Public Company Accounting Oversight Board, the Securities and Exchange Commission, or SEC, and The NASDAQ Global Market, have issued a significant number of new and increasingly complex requirements and regulations over the course of the last several years and continue to develop additional regulations and requirements in response to laws enacted by Congress. On July 21, 2010, the Dodd-Frank Wall Street Reform and Protection Act, or the Dodd-Frank Act, was enacted. The Dodd-Frank Act contains significant corporate governance and executive compensation-related provisions, some of which the SEC has recently implemented by adopting additional rules and regulations in areas such as executive compensation. If we fail to comply with the Sarbanes Oxley Act of 2002, the Dodd-Frank Act and associated SEC rules, or any other regulations, we could be subject to a range of consequences, including the de-listing of our common stock from The NASDAQ Global Market, significant fines, or other sanctions or litigation. Our efforts to comply with these requirements have resulted in, and are likely to continue to result in, an increase in expenses and a diversion of management's time from other business activities.

Our revenues, expenses and operating results are subject to fluctuations that may cause our stock price to decline.

Our revenues, expenses and operating results have fluctuated in the past and may do so in the future. These fluctuations could cause our stock price to fluctuate significantly or decline. Some of the factors that could cause our revenues, expenses and operating results to fluctuate include:

- the sale of an asset;
- the termination of research and development contracts with collaborators, if any, which may not be renewed or replaced;
- the success rate of our development or discovery efforts leading to milestones and royalties under collaboration arrangements, if any;
- the timing of licensing fees or the achievement of milestones under new or existing licensing and collaborative arrangements, including the potential milestone payment from Bayer;
- the timing of expenses, particularly with respect to any future contract manufacturing, preclinical studies and clinical trials;
- the timing and willingness of any potential future collaborators or other third parties to commercialize our products, which would result in royalties to us; and
- general and industry specific economic conditions, which may affect the research and development expenditures of any future collaborator.

Due to the possibility of fluctuations in our revenues and expenses, we believe that quarter-to-quarter comparisons of our operating results are not a good indication of our future performance. Our operating results in some quarters may not meet the expectations of stock market analysts and investors. In that case, our stock price would likely decline.

We are subject to U.S. Federal and state income tax examination for calendar tax years ended 1998 through 2011 and are subject to various international tax examinations for the calendar tax years ended 2004 through 2010. In addition, Danish tax authorities are currently auditing our Danish tax filings for the years 2005 through 2009. While we do not believe there will be any material tax liability associated with this audit, we cannot guarantee the outcome of this audit and, as a result, this ongoing audit, or any future tax audits, may result in material tax liabilities, such as adjustments, penalties, interest and other amounts, that could adversely affect our financial position and cause our stock price to decline.

If current levels of market disruption and volatility continue or worsen, we may not be able to preserve our cash balances or access such sources if necessary.

As of December 31, 2011, we had $159.6 million in cash, cash equivalents and short-term investments. While we maintain an investment portfolio typically consisting of money market funds, U.S. treasury securities and short-term commercial paper and have not experienced any liquidity issues with respect to these securities, we may experience reduced liquidity with respect to some of our investments if current levels of market disruption and volatility continue or worsen. Under extreme market conditions, there can be no assurance that we would be able to preserve our cash balances or that such sources would be available or sufficient for our business.

Our facilities in California are located near an earthquake fault, and an earthquake or other types of natural disasters or resource shortages could disrupt our operations and adversely affect our results.

Our facilities and substantially all of our important documents and records, such as hard copies of our laboratory books and records for our MAXY-G34 product candidate and our electronic business records, are located in our corporate headquarters at a single location in the San Francisco Bay area, near active earthquake zones. We do not have a formal business continuity or disaster recovery plan, and in the event of a natural disaster, such as an earthquake or localized extended outages of critical utilities or transportation systems, we could experience a significant business interruption.

Our stock price has been, and may continue to be, volatile, and an investment in our stock could decline in value.

The trading prices of life science company stocks in general, and ours in particular, have experienced significant price fluctuations in the last several years. The valuations of many life science companies without product revenues and earnings, including ours, are based on valuation standards such as progress in product development or clinical trials. Trading prices based on these valuations may not be sustained. Any negative change in the public's perception of the prospects of biotechnology or life science companies could depress our stock price regardless of our results of operations. Other broad market and industry factors may decrease the trading price of our common stock, regardless of our performance. In addition, our stock price could be subject to wide fluctuations in response to factors including the following:

- our consummation, or our failure to consummate, any strategic transaction;
- our implementation, or our failure to implement, any additional distributions of our cash resources to stockholders;
- our receipt of, or failure to receive, any licensing or milestone fees or the achievement of milestones under new or existing licensing and collaborative arrangements, including the potential payment from Bayer;
- our failure to meet any publicly-announced product development timetables;
- adverse or inconclusive results or delays in preclinical development or clinical trials;
- any entry into or amendment or termination of a material agreement;
- any decisions to discontinue or delay any future preclinical or clinical development;
- announcements of new technological innovations or new products by us or our competitors;
- conditions or trends in the biotechnology and life science industries;
- changes in the market valuations of other biotechnology or life science companies;
- developments in domestic and international governmental policy or regulations;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;

- changes in general economic, political and market conditions, such as recessions, interest rate changes, terrorist acts and other factors;
- developments in or challenges relating to our patent or other proprietary rights, including lawsuits or proceedings alleging patent infringement based on the development, manufacturing or commercialization of MAXY-G34 or any potential future product candidates; and
- sales of our common stock or other securities in the open market.

In the past, stockholders have often instituted securities class action litigation after periods of volatility in the market price of a company's securities. If a stockholder files a securities class action suit against us, we could incur substantial legal fees and our management's attention and resources would be diverted from operating our business to respond to the litigation.

Substantial sales of shares may adversely impact the market price of our common stock.

Our common stock trading volume is low and thus the market price of our common stock is particularly sensitive to trading volume. If our stockholders sell substantial amounts of our common stock, including shares issued upon the exercise of outstanding options or other equity awards, the market price of our common stock may decline. Significant sales of our common stock may adversely impact the then-prevailing market price of our common stock.

Volatility in the stock prices of other companies may contribute to volatility in our stock price.

The stock market in general, and The NASDAQ Global Market and the market for technology companies in particular, have experienced significant price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Further, there has been particular volatility in the market prices of securities of early stage and development stage life sciences companies. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been instituted. A securities class action suit against us could result in substantial costs, potential liabilities and the diversion of management's attention and resources, and could harm our reputation and business.

Item 1B UNRESOLVED STAFF COMMENTS

Not applicable.

Item 2 PROPERTIES

We lease an aggregate of 5,773 square feet of office space in San Mateo, California. Our lease expires on December 31, 2012 and includes options to extend the lease for up to two additional years. We believe that our existing facilities are adequate to meet our needs for the immediate future.

Item 3 LEGAL PROCEEDINGS

The information included in Note 8 of the Notes to Consolidated Financial Statements in Part II – Item 8 of this report is incorporated herein by reference.

Item 4 MINE SAFETY DISCLOSURES

Not applicable.

Part II

Item 5 MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information

Our common stock has been traded on the Nasdaq Global Market under the symbol "MAXY" since December 16, 1999. During the last two fiscal years, through December 31, 2011, the high and low sale prices for our common stock, as reported on the Nasdaq Global Market, were as follows:

	High	Low
Year ended December 31, 2011		
First Quarter	$5.33	$3.92
Second Quarter	5.54	5.07
Third Quarter	5.67	5.21
Fourth Quarter	6.20	5.34
Year ended December 31, 2010		
First Quarter	$6.82	$5.35
Second Quarter	7.19	5.50
Third Quarter	6.26	5.30
Fourth Quarter	6.91	3.75

Holders

As of February 29, 2012, there were approximately 170 holders of record of our common stock, one of which is Cede & Co., a nominee for Depository Trust Company ("DTC"). All of the shares of common stock held by brokerage firms, banks and other financial institutions as nominees for beneficial owners are deposited into participant accounts at DTC, and therefore, are considered to be held of record by Cede & Co. as one stockholder.

Dividends

In December 2010, we distributed substantially all of the shares of Codexis, Inc. common stock we held, valued at $53.2 million on the date of distribution, together with approximately $29.2 million in cash, to our stockholders by way of pro rata special distributions. Prior to those distributions, we had not previously declared or paid any cash dividends or other distributions on our capital stock. Our payment of future dividends or distributions, if any, will be at the discretion of our board of directors.

Issuer Purchases of Equity Securities

The table below summarizes information about repurchases of our common stock during the quarterly period ended December 31, 2011.

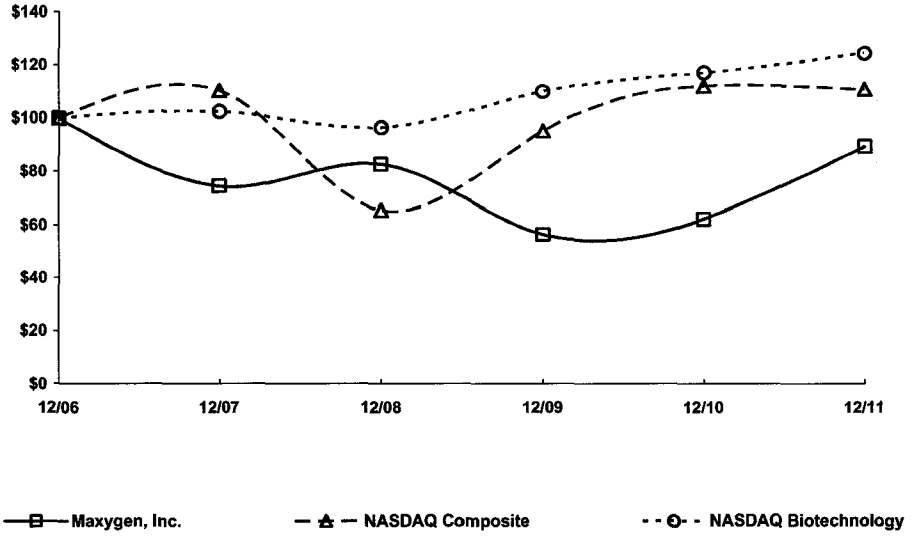
Period	Total Number of Shares Purchased(1)	Average Price Paid per Share(2)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs(1)	Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plans or Programs
Oct. 1, 2011 through Oct. 31, 2011	146,092	$5.47	146,092	$8,157,122
Nov. 1, 2011 through Nov. 30, 2011	48,102	$5.50	48,102	$7,892,800
Dec. 1, 2011 through Dec. 31, 2011	17,300	$5.49	17,300	$7,797,779
Total	211,494	$5.47	211,494	$7,797,779

(1) On May 31, 2011, we announced that our Board had authorized a stock repurchase program to repurchase shares of our common stock, subject to certain specifications, up to an aggregate maximum amount of $10.0 million. On September 8, 2011, we announced that our Board had approved an increase to this stock repurchase program from $10.0 million to $20.0 million. This repurchase program expired on December 31, 2011. On January 10, 2012, we announced that our Board authorized a new stock repurchase program under which we are authorized to purchase up to $10.0 million of our common stock through December 31, 2012.
(2) The price paid per share of common stock does not include the related transaction costs.

Company Stock Price Performance(1)

The following graph shows the cumulative total stockholder return of an investment of $100 in cash on December 31, 2006 through December 31, 2011 for (i) our common stock, (ii) the Nasdaq Composite Index and (iii) the Nasdaq Biotechnology Index. All values assume reinvestment of the full amount of all dividends or distributions. Stockholder returns over the indicated period should not be considered indicative of future stockholder returns.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*
Among Maxygen, Inc., The NASDAQ Composite Index
And The NASDAQ Biotechnology Index



* $ 100 invested on 12/31/06 in stock or index, including reinvestment of distributions.
Fiscal year ending December 31.

Total Return Analysis

	12/31/2006	12/31/2007	12/31/2008	12/31/2009	12/31/2010	12/31/2011
Maxygen, Inc.	$100.00	$ 74.56	$82.82	$ 56.55	$ 62.42	$ 89.42
Nasdaq Composite Index	$100.00	$110.26	$65.65	$ 95.19	$112.10	$110.81
Nasdaq Biotechnology Index	$100.00	$102.53	$96.57	$110.05	$117.19	$124.54

(1) The material in this section is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference in any of our filings under the Securities Act or the Exchange Act whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

Item 6 SELECTED FINANCIAL DATA

The following selected financial information is derived from our audited consolidated financial statements. When you read this selected financial data, it is important that you also read the historical financial statements and related notes included in this report, as well as the section of this report entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations." Historical results are not necessarily indicative of future results.

	Year Ended December 31,				
	2007	2008	2009	2010	2011
	(in thousands, except per share data)				
Consolidated Statements of Operations Data:					
Collaborative research and development revenue	$ 8,718	$ —	$ —	$ —	$ —
Technology and license revenue	1,514	90,584	15	1,543	561
Related party revenue	8,286	664	4,630	2,021	—
Grant revenue	4,639	5,074	4,545	—	—
Total revenues	23,157	96,322	9,190	3,564	561
Operating expenses:					
Research and development	45,588	32,250	8,962	1,902	1,358
General and administrative	11,608	11,443	14,668	9,536	10,911
Goodwill impairment	—	12,192	—	—	—
Restructuring charge	5,212	1,987	15,964	(98)	—
Total operating expenses	62,408	57,872	39,594	11,340	12,269
Income (loss) from operations	(39,251)	38,450	(30,404)	(7,776)	(11,708)
Gain on distribution of equity securities(1)	—	—	—	53,180	396
Sale of platform technology(2)	—	—	—	20,000	—
Interest and other income	7,542	4,914	972	87	864
Income (loss) from continuing operations before taxes	(31,709)	43,364	(29,432)	65,491	(10,448)
Income tax benefit	—	—	588	2,238	4,253
Income (loss) from continuing operations	(31,709)	43,364	(28,844)	67,729	(6,195)
Discontinued Operations:					
Income (loss) from discontinued operations	(17,606)	(13,039)	(3,313)	703	1,302
Gain on sale of discontinued operations(3)	—	—	—	—	62,219
Income tax expense for discontinued operations.	—	—	—	—	(5,579)
Income (loss) from discontinued operations, net of taxes	(17,606)	(13,039)	(3,313)	703	57,942
Net income (loss)	(49,315)	30,325	(32,157)	68,432	51,747
Net income (loss) attributable to non-controlling interest	—	—	245	(452)	310
Net income (loss) attributable to Maxygen, Inc.	$(49,315)	$ 30,325	$(32,402)	$68,884	$ 51,437
Basic net income (loss) per share:					
Continuing operations	$ (0.86)	$ 1.17	$ (0.75)	$ 2.26	$ (0.22)
Discontinued operations	$ (0.48)	$ (0.35)	$ (0.10)	$ 0.04	$ 2.02
Attributable to Maxygen, Inc.	$ (1.34)	$ 0.82	$ (0.85)	$ 2.30	$ 1.80
Diluted net income (loss) per share:					
Continuing operations	$ (0.86)	$ 1.16	$ (0.75)	$ 2.25	$ (0.22)
Discontinued operations	$ (0.48)	$ (0.35)	$ (0.10)	$ 0.04	$ 2.02
Attributable to Maxygen, Inc.	$ (1.34)	$ 0.81	$ (0.85)	$ 2.29	$ 1.80
Shares used in basic net income (loss) per share calculations	36,787	37,100	38,236	29,949	28,574
Shares used in diluted net income (loss) per share calculations	36,787	37,358	38,236	30,128	28,574

(1) Gain on distribution of equity securities resulted from the fair value recorded for the 5.4 million shares of Codexis, Inc. common stock distributed in December 2010.

(2) Sale of platform technology resulted from our sale of substantially all of the patents and other intellectual property rights associated with the MolecularBreeding™ directed evolution platform to Codexis, Inc. in October 2010.

(3) Gain on sale of discontinued operations resulted from the sale of our equity interests in Perseid to Astellas on May 16, 2011.

	December 31,				
	2007	2008	2009	2010	2011
	(in thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents and short-term investments	$ 145,813	$ 206,483	$ 139,209	$ 102,335	$ 159,571
Working capital	139,404	194,449	155,974	129,458	161,152
Total assets	172,709	213,557	186,223	148,113	164,633
Accumulated deficit	(270,019)	(239,694)	(272,096)	(203,212)	(151,775)
Total Maxygen, Inc. stockholders' equity(1)	153,494	194,512	151,604	126,103	160,735
Non-controlling interest	—	—	3,907	3,664	209
Total stockholders' equity	153,494	194,512	155,511	129,767	160,944

(1) We made a special cash distribution of $1.00 per share and distributed 5.4 million shares of Codexis, Inc. common stock in December 2010, both of which were reflected as a reduction in Additional paid-in capital, a component of Stockholders' equity.

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

The following discussion should be read in conjunction with our consolidated financial statements and the related notes and other financial information appearing elsewhere in this report. This report contains forward-looking statements that involve risks and uncertainties. Our actual results may differ materially from those indicated in forward-looking statements. See "Forward-Looking Statements" and "Risk Factors."

Overview

We are a biopharmaceutical company focused on the potential further development of our MAXY-G34 product candidate, a next-generation pegylated, granulocyte colony stimulating factor, or G-CSF, for the treatment of chemotherapy-induced neutropenia and acute radiation syndrome, or ARS.

In May 2011, a subsidiary of Astellas Pharma Inc., or Astellas, acquired all of our interests in Perseid Therapeutics LLC, or Perseid, for $76.0 million in cash. Perseid, a former majority-owned subsidiary, included substantially all of our research and development operations and personnel. As a result of the acquisition of Perseid by Astellas, we have no further interests or obligations with respect to the business and operations of Perseid, except for the ongoing technology license agreement between the companies entered into as a part of the 2009 joint venture arrangement.

The acquisition of Perseid by Astellas largely completed a multi-year strategic process to restructure our operations, a process that also included the sale or distribution of various other assets, such as our vaccines assets, the patent rights relating to the MolecularBreeding™ directed evolution platform, and substantially all of our equity interests in Codexis, Inc., or Codexis.

We continue to retain all rights to our MAXY-G34 program for development of all therapeutic areas, including chemotherapy-induced neutropenia and ARS indications, and we continue to evaluate the potential further development of the program for both indications. Our current focus is to create value from this program for our stockholders, either through the potential further development of the product candidate for one or both indications, or through a sale, licensing, partnering or other transaction involving the program. We also continue to evaluate potential strategic options for our company as a whole, including a strategic business combination, other transaction, or a wind down of the company.

We currently have eight employees, all of whom are engaged in general and administrative activities, and we have significantly curtailed our operations and decreased our operating expenses. However, we expect our operating expenses to increase if we engage in any further development of our MAXY-G34 program or pursue any strategic combination or other transactions.

As of December 31, 2011, we held approximately $159.6 million in cash, cash equivalents and short-term investments. We also remain eligible for a payment of up to $30.0 million from Bayer HealthCare LLC, or Bayer, related to the sale of our hematology assets to Bayer in July 2008.

We have previously distributed cash and property to our stockholders and have repurchased our common stock under various stock repurchase programs. We also have a current stock repurchase program under which we are authorized to purchase up to $10.0 million of our common stock through December 31, 2012. In addition, given that we continue to have large cash reserves, we expect to consider and evaluate additional distributions to our stockholders of a portion of our cash resources in excess of our current and longer term operational requirements, although none are currently contemplated. Such distributions may be accomplished through cash dividends, distributions or other mechanisms and may be fully or partially taxable depending on the circumstances of such distribution. We may also use our cash resources to continue repurchases of our common stock. Our plans with respect to any future distributions, stock repurchases or other strategic transactions will be largely dependent on any future developments related to our MAXY-G34 program, whether we receive the remaining payment from Bayer and the future financial commitments and longer term operational requirements related to our business.

Significant Developments

Significant developments during 2011 included:

- In May 2011, Astellas acquired all of our interests in Perseid for $76.0 million in cash.
- In May 2011, we submitted a proposal to the Biomedical Advanced Research and Development Authority, or BARDA, for the development of our MAXY-G34 product candidate as a potential medical countermeasure for ARS. In November 2011, we were advised by BARDA that our proposal would not be considered for a contract award primarily due to BARDA funding availability.
- In May 2011, we announced an open market stock repurchase program for the repurchase of up to $10.0 million of our common stock through December 31, 2011 (the program was increased to $20.0 million in September 2011), and we repurchased 2,244,289 shares under this program during 2011 at an aggregate purchase price of approximately $12.3 million.
- In October 2011, the United States Patent and Trademark Office, or PTO, issued a Right of Appeal Notice in the inter partes reexamination proceeding for a patent of Amgen Inc. (U.S. Pat. No. 7,381,804) that includes a final rejection of all claims in the Amgen patent. Amgen's patent includes certain claims to mutated G-CSF molecules that potentially cover our MAXY-G34 product candidate. The decision is being appealed by Amgen.

At present, we have no significant source of revenues, other than the revenue that would be recognized upon the potential receipt of the remaining contingent payment from Bayer. We continue to maintain a strong cash position, with cash, cash equivalents and short-term investments totaling $159.6 million as of December 31, 2011.

For the purposes of this report, our continuing operations consist of the results of Maxygen, Inc. and its wholly-owned subsidiaries, Maxygen Holdings (U.S.), Inc., Maxygen ApS and Maxygen Holdings, Inc., as well as its majority-owned subsidiary, Maxygen Holdings LLC. Discontinued operations consist of the results of Perseid and related predecessor operations prior to the formation of the Perseid joint venture in 2009.

Critical Accounting Policies and Estimates

General

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make judgments, estimates and assumptions in the preparation of our consolidated financial statements and accompanying notes (see Note 1 of the Notes to Consolidated Financial Statements). Actual results could differ from those estimates. We believe the following are our critical accounting policies, including those that reflect the more significant judgments, estimates and assumptions we make in the preparation of our consolidated financial statements.

Source of Revenue and Revenue Recognition Policy

We have generally recognized revenue from multiple element arrangements under collaborative research agreements, including license payments, research and development services, milestones, and royalties. Revenue arrangements with multiple deliverables are divided into separate units of accounting if certain criteria are met. We estimate the selling price for each deliverable using the vendor specific objective evidence of selling price, if it exists, otherwise third-party evidence of selling price. If neither vendor specific objective evidence nor third-party evidence of selling price exists for a deliverable, then we use our best estimate of the selling price for that deliverable. The consideration we receive is allocated among the separate units of accounting based on their respective estimated selling prices, and the applicable revenue recognition criteria are considered separately for each of the separate units.

Non-refundable upfront payments received in connection with collaboration agreements, including license fees and technology advancement funding that is intended for the development of our core technologies, are deferred upon receipt and recognized as revenue over the period of delivery of the undelivered element, typically

the relevant research and development periods specified in the agreement. Under arrangements where we expect our research and development obligations to be performed evenly over the specified period, the upfront payments are recognized on a straight-line basis over such period. Under arrangements where we expect our research and development obligations to vary significantly from period to period, we recognize the upfront payments based upon the actual amount of research and development efforts incurred relative to the amount of the total expected effort to be incurred by us. In cases where the planned levels of research services fluctuate substantially over the research term, this requires us to make critical estimates in both the remaining time period and the total expected costs of its obligations and, therefore, a change in the estimate of total costs to be incurred or in the remaining time period could have a significant impact on the revenue recognized in future periods.

Revenue related to collaborative research payments from a collaborator is recognized as research services are performed over the related funding periods for each contract. Under these agreements, we are typically required to perform research and development activities as specified in the respective agreement. Generally, the payments received are not refundable and are based on a contractual cost per full-time equivalent employee working on the project. Under certain collaborative research and development agreements, we and the collaborative partner may agree to share in the costs of research and development. In periods where we incur more costs than the collaborative partner, payments from the collaborative partner are included in collaborative research and development revenues and, in periods where the collaborative partner incurs more expenses than us, our payments to the collaborative partner are included in research and development expenses. Research and development expenses (including associated general and administrative expenses) under the collaborative research agreements approximate or exceed the research funding revenue recognized under such agreements over the term of the respective agreements. Deferred revenue may result when we do not incur the required level of effort during a specific period in comparison to funds received under the respective contracts.

Incentive milestone payments may be triggered either by the results of our research efforts or by events external to us, such as regulatory approval to market a product. Consideration that is contingent upon achievement of a milestone can be recognized in its entirety as revenue in the period in which the milestone is achieved only if the consideration earned from the achievement of a milestone meets all the criteria for the milestone to be considered substantive at the inception of the arrangement. For a milestone to be considered substantive, the consideration earned by achieving the milestone should (i) be commensurate with either our performance to achieve the milestone or the enhancement of the value of the item delivered as a result of a specific outcome resulting from our performance to achieve the milestone, (ii) relate solely to past performance and (iii) be reasonable relative to all deliverables and payment terms in the arrangement.

For events for which the occurrences are contingent solely upon the passage of time or are the result of performance by a third-party, the contingent payments will be recognized as revenue when payments are earned, the amounts are fixed or determinable and collectability is reasonably assured.

Royalties are recorded as earned in accordance with the contract terms when third party sales can be reliably measured and collectability is reasonably assured.

Revenue from the sale of pre-clinical program assets or license agreements for which no further performance obligations exist are recognized as revenue on the earlier of when payments are received or the amount can be reliably measured and collectability is reasonably assured.

Stock Based Compensation Expense

The accounting treatment for stock options, restricted stock units, restricted stock awards and shares previously purchased under our Employee Stock Purchase Plan, or ESPP, requires us to recognize the fair value of the equity-based awards. In addition, we are required to recognize the fair value of our liability-based awards, which as of December 31, 2011, consisted solely of contingent performance units, or CPUs. We estimate the fair value of stock options and ESPP shares using the Black-Scholes-Merton valuation model and, for CPUs, we use

a Monte Carlo simulation model. These models require the input of subjective assumptions, the most significant of which are our estimates of the expected volatility of the market price of our stock, and for our CPUs, the market price of Codexis, Inc. common stock, and the expected term of each award. We estimate expected volatility based on historical volatilities. The risk-free interest rate is based on the rates paid on securities issued by the U.S. Treasury with a term approximating the expected life of the option or CPU. The dividend yield is based on the projected annual dividend payment per share, divided by the stock price at the date of grant. For restricted stock units and restricted stock awards, we estimate fair value based on the closing price of our common stock on the date of grant.

For stock option awards to employees in 2011, the expected life of the stock options was calculated using the shortcut method permitted under applicable SEC accounting guidance. When establishing the expected life assumption in prior periods, we review annual historical employee exercise behavior of option grants with similar vesting periods. Due to the change in our structure and operations and the small number of individuals receiving option awards since 2009, we no longer consider our historical experience or that of our peers to be representative of future expected life. Therefore in 2009, we changed to the shortcut method for establishing the expected life assumption. For non-employee awards, the expected life of the stock options was based on the life of the stock option. The computation of the expected volatility assumption used in the Black-Scholes-Merton calculations for new grants is based on historical volatilities. The risk-free interest rate is based on the rates paid on securities issued by the U.S. Treasury with a term approximating the expected life of the option. The dividend yield is based on the projected annual dividend payment per share, divided by the stock price at the date of grant. The assumptions used in calculating the fair value of share-based payment awards represent management's best estimates, but these estimates involve inherent uncertainties and the application of management judgment. As a result, if factors change and we use different assumptions, our stock-based compensation expense could be significantly different from what we have recorded in the current period.

Stock-based compensation expense recognized within continuing operations in the Consolidated Statements of Operations for the years ended December 31, 2009, 2010 and 2011 was as follows (in thousands):

	Year Ended December 31,		
	2009	2010	2011
Employee stock options	$2,733	$1,055	$ 925
Restricted stock units	2,358	(279)	—
Restricted stock awards	434	1,525	1,807
Consultant options	3	—	—
ESPP	32	—	—
Contingent performance units	—	565	323
Total stock-based compensation expense	$5,560	$2,866	$3,055

In 2009, we recorded additional stock compensation expense of $11.4 million as part of the restructuring charge which resulted from the accelerated vesting and the extension of the exercise period of certain stock options pursuant to our agreements with certain former executives.

Restricted Stock Awards

We have granted restricted stock awards under our 2006 Equity Incentive Plan, or 2006 Plan, to certain employees and members of our board of directors. Restricted stock awards are scheduled to vest over four years. The 2006 Plan and related award agreement provide for forfeiture in certain events, such as voluntary termination of employment, and for acceleration of vesting in certain events, such as termination of employment without cause or a change in control of us. Compensation cost for these awards is based on the closing price of our common stock on the date of grant and is recognized as compensation expense on a straight-line basis over the requisite service period. Given the relative lack of sufficient history of granting restricted stock awards

coupled with the fact that restricted stock awards outstanding are concentrated among a few individuals, we have not applied a forfeiture discount to our stock compensation expense for restricted stock awards. During the twelve months ended December 31, 2010 and 2011, we granted restricted stock awards to employees and the members of our board of directors representing an aggregate of 95,425 and 99,500 shares of common stock, respectively.

For the years ended December 31, 2009, 2010 and 2011, stock-based compensation expense related to the grant of restricted stock awards was allocated as follows (in thousands):

	Year Ended December 31,		
	2009	2010	2011
Research and development	$ 21	$ 20	$ 194
General and administrative	413	1,505	1,613
Total stock-based compensation expense	$434	$1,525	$1,807

Contingent Performance Units

In September 2009, we granted CPUs under the 2006 Plan to all employees and board members who held options to purchase our common stock, and since that date we have also granted CPUs in connection with the grant of new stock option awards. CPUs vest on the earliest to occur of (i) a change in control of Maxygen, (ii) a corporate dissolution or liquidation of Maxygen, (iii) an involuntary termination of employment without cause, or (iv) the fourth anniversary of the grant date (the "Settlement Date"), generally so long as the holder continues to provide services for us on a continuous basis from the grant date to the Settlement Date. The CPUs are designed to protect holders of our stock options against a reduction in the share price of our common stock resulting from dividends or distributions to our stockholders, which could negatively affect outstanding options held by our option holders since the options would not otherwise participate in any dividends or distributions to our stockholders. The earned value of any vested CPU will generally be settled in shares of our common stock, but may also be settled, in part, with cash or any property distributed by us, or entirely in cash. All unvested CPUs remaining following the Settlement Date will expire immediately.

As a result of the distribution of 5,445,274 shares of Codexis, Inc. common stock and special cash distribution in the amount of $1.00 per share in December 2010, the value of the CPU awards became reasonably estimable for financial reporting purposes. These awards were remeasured as of December 31, 2011, as required for liability awards. As a result of the acquisition by Astellas of our equity interests in Perseid, all vested CPU awards held by employees of Perseid were settled in full on May 16, 2011. The value of the settled CPUs was based on (i) the fair value of our common stock; (ii) the fair value of the Codexis, Inc. common stock; and (iii) the $1.00 per share cash distribution made in December 2010. During 2011, approximately $651,000 in cash was paid to settle vested CPUs, with $565,000 of such amount paid to settle vested CPUs held by employees of Perseid. The fair value of the remaining CPUs was approximately $1.4 million at December 31, 2011, as determined based on a Monte Carlo simulation using the following assumptions:

	2010	2011
Expected dividend yield	0%	0%
Risk-free interest rate range	0.89% – 1.34%	0.22 – 0.50%
Expected life	2.75 – 3.75 years	1.73 – 3.42 years
Expected volatility of Maxygen, Inc. common stock	65.2% – 69.1%	37.7% – 57.2%
Expected volatility of Codexis, Inc. common stock	60.81%	63.7%

The risk-free interest rate is based on the U.S. Treasury yield in effect at each reporting date, with a term commensurate with the estimated remaining expected life of the award. Expected life is based on the remaining time to settlement for each award. Expected volatility of both our common stock and the Codexis, Inc. common stock is based on the historical volatility, as available, of such stock commensurate with the expected life of each award.

We recognized approximately $565,000 and $323,000 of compensation expense in the years ended December 31, 2010 and 2011, respectively, related to changes in the fair value of the CPU liability within continuing operations. No compensation expense was recorded prior to 2010 as the payout of the CPU awards was not deemed probable and estimable at such date. As the CPUs are accounted for as liability awards, we will re-measure their fair value at each reporting date and will record compensation expense utilizing a straight-line attribution method.

As the earned distribution value of any vested CPU can be settled in shares of our common stock, cash or the property distributed to stockholders, and because such property has an inherent ability to appreciate or depreciate in price by the Settlement Date, we have reserved, from our December 2010 distribution of Codexis, Inc. common stock, a number of shares of Codexis, Inc. common stock that we deemed sufficient to settle our maximum potential liability related to the earned distribution value for each CPU. At December 31, 2011, we reserved 347,813 shares of Codexis, Inc. common stock for this purpose.

For the years ended December 31, 2009, 2010 and 2011, stock-based compensation expense related to the grant of CPUs was allocated as follows (in thousands):

	Year Ended December 31,		
	2009	2010	2011
Research and development	$—	$ 5	$105
General and administrative	—	560	218
Total stock-based compensation expense	$—	$565	$323

Restricted Stock Units

During 2008, we granted restricted stock unit awards under the 2006 Plan representing an aggregate of 1,283,000 shares of our common stock. The restricted stock units granted represented a right to receive shares of common stock at a future date determined in accordance with the participant's award agreement. An exercise price and monetary payment were not required for receipt of restricted stock units or the shares issued in settlement of the award. Instead, consideration was furnished in the form of the participant's services to us. Substantially all of the restricted stock units were originally scheduled to vest over two years. However, in connection with the formation of Perseid, certain of these restricted stock units became fully vested on November 30, 2009. This did not affect the restricted stock units held by our former executive officers, who had different equity acceleration provisions in their employment related agreements. Compensation cost for these awards was based on the estimated fair value of our common stock on the date of grant and recognized as compensation expense on a straight-line basis over the requisite service period. For the year ended December 31, 2009, we recognized $2.4 million in stock-based compensation expense within continuing operations related to these restricted stock unit awards. In 2010, we recognized a credit to stock-based compensation expense of $279,000 within continuing operations resulting from the actual forfeiture rate of restricted stock units scheduled to vest in 2010 being greater than the estimated forfeiture rate of terminated employees. At December 31, 2010, there were no restricted stock unit awards that remained outstanding and no further grants of restricted stock units during 2011. Thus, there was no unrecognized compensation cost related to these awards at December 31, 2010 and 2011.

For the years ended December 31, 2009, 2010 and 2011, stock-based compensation expense within continuing operations related to the grant of restricted stock units was allocated as follows (in thousands):

	Year Ended December 31,		
	2009	2010	2011
Research and development	$ 648	$(187)	$—
General and administrative	1,710	(92)	—
Total stock-based compensation expense	$2,358	$(279)	$—

Profits Interest Units

Perseid granted profits interest units ("PIUs") under its Perseid 2009 Equity Incentive Plan to employees of Perseid and to employees of Maxygen who were providing services to Perseid. A PIU is a special type of limited liability company common unit that allowed the recipient to participate in the increase in the value of Perseid. The PIUs were intended to meet the definition of a "profits interest" under I.R.S. Revenue Procedure 93-27 and I.R.S. Revenue Procedure 2001-43.The PIUs were originally scheduled to vest over four years, subject to the recipient remaining an employee or service provider of Perseid through each vesting date and subject to accelerated vesting under certain circumstances.

In connection with the consummation of the purchase by Astellas of our equity interests in Perseid on May 16, 2011, Astellas purchased for cash all vested PIUs held by Perseid's then-current and former employees and other service providers as of the closing date and paid cash for all remaining unvested PIUs on November 16, 2011 (six months after closing). The cash value of a PIU was equal to the deemed value of a Perseid common unit at the time of the buy-out of our equity interests in Perseid by Astellas (based on the option exercise price), less the deemed value of a common unit at the time the PIU was granted.

We have recorded compensation expense associated with the PIUs of $4.4 million within discontinued operations in the year ended December 31, 2011 and there was no compensation expense related to PIUs recorded in the year ended December 31, 2010. Since we deconsolidated Perseid's financial results from our consolidated financial statements on May 16, 2011, the date of the acquisition of Perseid by Astellas, no further compensation expense will be recorded in connection with these awards. The value of the PIUs was determined based on the option exercise price of $76.0 million on March 17, 2011, the date Astellas exercised its option.

Results of Operations

The discussion of our results of operations that follows is based on amounts reported in our financial statements which are classified as continuing operations, unless otherwise noted. As a result of the acquisition of Perseid by Astellas, we have reclassified Perseid's operating activities, including those of its predecessor operations prior to the formation of the Perseid joint venture in 2009, as discontinued operations for all periods presented.

Revenues

Our revenues have been derived primarily from collaboration agreements, technology and license arrangements and government research grants. Total revenues were $561,000 in 2011, $3.6 million in 2010 and $9.2 million in 2009.

Technology and license revenue was $561,000 in 2011, $1.5 million in 2010 and $15,000 in 2009. The technology and license revenue in 2011 consisted primarily of the final payment we received in July 2011 from Altravax, Inc., or Altravax, in connection with its acquisition of substantially all of our vaccine assets in January 2010. The technology and license revenue in 2010 consisted of $1.0 million related to the sale to Altravax and a

$500,000 non-refundable option fee we received from Cangene Corporation, or Cangene, in 2009, which we recognized in the third quarter of 2010 as a result of the termination of our prior option and license agreement with Cangene in July 2010. Technology and license revenue in 2009 consisted primarily of certain miscellaneous licensing fees received from third parties.

Related party revenue was $2.0 million in 2010 and $4.6 million in 2009. No related party revenue was recorded in 2011. Related party revenue in 2010 and 2009 consisted of revenues received by us under our prior licensing arrangement with Codexis, which was terminated in October 2010 in connection with the acquisition by Codexis of the intellectual property rights associated with the MolecularBreeding™ directed evolution platform. As a result of our sale of the MolecularBreeding™ directed evolution platform to Codexis and the related termination of our license agreement with Codexis, we are no longer eligible for any further payments or potential royalties from Codexis under the prior license agreement.

Grant revenue was $4.5 million in 2009. No grant revenue was recorded in 2010 or 2011. The absence of grant revenue in 2010 and 2011 reflects the elimination of government research grants from the National Institutes of Health, or NIH, and the U.S. Department of Defense, or DOD, that were transferred to Altravax as part of their acquisition of our vaccine assets in January 2010. Grant revenue in 2009 was generated from a number of grants from both the NIH and DOD. External costs were passed through to each grant and recognized as revenue on a cost reimbursement basis.

We expect that future revenues, if any, would be generated by the potential receipt of the remaining contingent payment from Bayer or revenue that would be generated based on the completion of any strategic transactions or new licensing agreements relating to MAXY-G34. However, we cannot predict whether we will enter into any strategic transaction or new licensing agreements or receive any payments under any existing or future licensing or other agreements.

Research and Development Expenses

Our research and development expenses have consisted primarily of external collaborative research expenses (including contract manufacturing, contract research and clinical trial expenses), salaries and benefits, facility costs, supplies, research consultants, depreciation and stock compensation expense. Research and development expenses were $1.4 million in 2011, $1.9 million in 2010 and $9.0 million in 2009.

The decrease in our research and development expenses in 2011 was primarily due to lower patent research costs, partially offset by an increase in stock compensation expense. The decrease in our research and development expenses in 2010 was as a result of the cessation of activities supporting our government grants, which were transferred to Altravax in January 2010, and decreased development costs associated with our MAXY-G34 program.

We expect our research and development expenses to be maintained well below historical levels and could decrease further compared to 2011. However, the potential further development of our MAXY G-34 product candidate could result in a significant increase in our research and development expenses.

General and Administrative Expenses

Our general and administrative expenses consist primarily of personnel costs for finance, legal, general management, business development and human resources, stock compensation expense, business consultants and professional expenses, such as external expenditures for legal, accounting services and board fees. General and administrative expenses were $10.9 million in 2011, $9.5 million in 2010 and $14.7 million in 2009.

The increase in general and administrative expenses in 2011 compared to 2010 was primarily due to an increase in costs for consultants who assisted us in the preparation of the proposal we submitted to BARDA in May 2011 with respect to our MAXY-G34 program, increased patent administration costs, an increase in salaries

and benefits, and a lower allocation of administrative costs charged to Perseid under a transition service agreement. The activities of the consultants who assisted us in the preparation of the proposal we submitted to BARDA were primarily advisory in nature and no product development efforts were undertaken by such consultants. These increases were partially offset by decreases in stock compensation expense and external legal costs.

The decrease in general and administrative expenses in 2010 compared to 2009 was primarily due to decreases for legal and accounting services, external consultants and financial advisors in connection with the consummation of various strategic transactions in 2009 and decreases in salaries, benefits and stock compensation resulting from a reduction in headcount completed in April 2009 and the termination of two executive officers as of September 30, 2009.

Our general and administrative expenses during 2012 are expected to be comparable to 2011, depending on, among other things, the use of external consultants and expenditures for legal and accounting services. However, we expect such expenses to increase significantly if we pursue any strategic transactions.

Restructuring Charges

We recorded a credit to restructuring charges of $98,000 in 2010 compared with restructuring charges of $16.0 million in 2009. No restructuring charge was recorded in 2011. The credit recorded in 2010 relates to a reversal of our restructuring accrual for which we have no further payment obligations. In 2009, approximately $11.4 million of these restructuring charges related to the modification of existing option grants pursuant to our agreements with our former executives.

Gain on Distribution of Equity Securities

In connection with the distribution of a majority of our investment in Codexis to our stockholders on December 14, 2010, we recorded the fair value of $53.2 million for the 5,445,274 shares of Codexis, Inc. common stock that were distributed. The fair value was determined based on the closing price of the Codexis, Inc. common stock on the December 14, 2010 distribution date. As of December 31, 2011, we held 467,631 shares of Codexis, Inc. common stock, which primarily represent shares that are being retained by us on behalf of the holders of certain outstanding equity awards. In 2011, we recorded a $396,000 gain on distribution of equity securities as a result of the release of Codexis, Inc. common stock pursuant to the vesting of restricted stock awards. See Note 4 of the Notes to Consolidated Financial Statements under the heading Distribution of Codexis, Inc. Common Stock and Cash.

Sale of Platform Technology

On October 28, 2010, we sold substantially all of the patents and other intellectual property rights associated with our MolecularBreeding™ directed evolution platform to Codexis for a purchase price of $20.0 million. We received $16.0 million in October 2010, with $2.0 million of the purchase price released from escrow in November 2011. The remaining $2.0 million of the purchase price will be held in escrow until September 2012 (or later if indemnification claims are pending at that time). The amount held in escrow is intended to satisfy any indemnification obligations we incur under the purchase agreement. The $20.0 million purchase price was recorded as Sale of platform technology in 2010.

Interest and Other Income

Interest and other income represents income earned on our cash, cash equivalents and short-term investments, foreign currency gains or losses, gain or loss on disposal of equipment and interest expense, if any. Amounts included in interest and other income is as follows (in thousands):

	Year Ended December 31,		
	2009	2010	2011
Interest income	$982	$ 284	$103
Change in value of stock portion of distribution payable	—	(135)	772
Foreign exchange gains (losses)	(15)	(62)	(11)
Gains on disposal of equipment	5	—	—
Total interest and other income	$972	$ 87	$864

The increase in interest and other income from 2010 to 2011 reflects the change in value of the stock portion of distribution payable, partially offset by lower interest income due to lower yields in our investment portfolio. The decrease in interest and other income from 2009 to 2010 reflects lower interest income due to lower yields in our investment portfolio.

Net Income (Loss) Attributable to Non-Controlling Interest

Net income (loss) attributable to non-controlling interest reflects the portion of Perseid's income or loss allocated to Astellas, based on Astellas' equity interest in Perseid during each reporting period. The table below provides a summary of how the amounts reported in Net income (loss) attributable to non-controlling interest was derived:

	Year Ended December 31,		
	2009	2010	2011(1)
Astellas percentage ownership of Perseid	16.7%	16.7%	16.7%
Net income (loss) of Perseid (in thousands)	$1,468	$(2,705)	$1,858
Net income (loss) attributable to non-controlling interest	$ 245	$ (452)	$ 310

(1) The 2011 period in the table above reflects both Astellas' ownership and Perseid's income through May 16, 2011.

Provision for Income Taxes

We recorded a tax benefit of $4.3 million within continuing operations for the year ended December 31, 2011. The benefit recorded within continuing operations was offset by tax expense of $5.6 million recorded within discontinued operations. The tax expense of $5.6 million recorded within discontinued operations was comprised of the $4.3 million tax expense allocated from continuing operations, a $1.2 million tax expense related to the tax effect of the change in unrealized gains on our available-for-sale investments in other comprehensive income and a $103,000 adjustment relating to an uncertain tax position. For 2011, despite income before taxes, we did not incur a tax liability due to the sufficiency of net operating losses and certain tax credits.

We recorded a $2.2 million tax benefit within continuing operations for the year ended December 31, 2010. This tax benefit relates to net operating loss carryforwards for tax purposes that we concluded are realizable based on income recognized in other comprehensive income related to the shares of Codexis, Inc. common stock that were held by us as of December 31, 2010. This recognized benefit is offset by tax expense in other comprehensive income. For 2010, despite income before taxes, we did not incur a tax liability due to the losses associated with the sale of 21% of Maxygen Holdings LLC to a third party and the liquidation of Maxygen Holdings Ltd.

For 2009, we recognized a tax benefit of $588,000 within continuing operations due to the carryback of alternative minimum tax net operating losses to 2008, 2006 and 2004. In 2010, we received a refund of the alternative minimum tax charged in those years.

Discontinued Operations

Income from discontinued operations for the years ended December 31, 2011 and 2010 was $58.0 million and $703,000, respectively. Loss from discontinued operations for the year ended December 31, 2009 was $3.3 million. Income from the 2011 period was primarily attributable to the gain on sale of discontinued operations of $62.2 million as a result of the acquisition of our interests in Perseid by Astellas. In all periods prior to May 16, 2011, discontinued operations before tax included the operating activities of Perseid and its predecessor operations, which reflected the development of its programs for such activities. The majority of these operating activities were reimbursed by Astellas and reflected as Related party revenue within discontinued operations.

Recent Accounting Pronouncements

In June 2011, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update, or ASU, No. 2011-05 for the presentation of comprehensive income thereby amending Accounting Standards Codification, or ASC, No. 220, Comprehensive Income. The amendments require that all non-owner changes in stockholder's equity be presented either in a single continuous statement of comprehensive income or in two separate but consecutive statements. The amendments are effective in fiscal years beginning after December 15, 2011 and should be applied retrospectively. These amendments will impact the presentation of our financial statements upon adoption.

Liquidity and Capital Resources

Since inception, we have financed our continuing operations primarily through private placements and public offerings of equity securities, research and development funding from collaborators and government grants and through the sale or license of various assets. The acquisition of Perseid by Astellas largely completed a multi-year strategic process to maximize stockholder value through sales, distributions and other arrangements involving our various assets, including the sale of our vaccine assets, the sale of patent rights relating to the MolecularBreeding™ directed evolution platform, and substantially all of our equity interests in Codexis. As of December 31, 2011, we had $159.6 million in cash, cash equivalents and short-term investments.

In July 2008, we recognized $90.6 million in revenue from Bayer in connection with the sale of our hematology assets and the grant of certain license rights to the MolecularBreeding™ directed evolution platform, which included an up-front cash payment of $90.0 million. In September 2008, we received an upfront fee of $10.0 million from Astellas under a collaboration agreement with Astellas that was subsequently assigned to Perseid.

In December 2009, we completed the repurchase of approximately 7.3 million shares of our outstanding common stock in a modified "Dutch auction" tender offer for a total cost of approximately $39.2 million. In March 2010, we repurchased an additional 1.4 million shares of our common stock in a private transaction for an aggregate purchase price of approximately $8.0 million. From June 1, 2010 through December 31, 2010, we repurchased an additional 1.2 million shares of our common stock under an open market repurchase program at an aggregate purchase price of approximately $6.9 million. During 2011, we repurchased approximately 2.2 million shares of our common stock under a stock repurchase program at an aggregate purchase price of approximately $12.3 million.

In October 2010, we sold substantially all of the patents and other intellectual property rights associated with the Molecular Breeding™ directed evolution platform to Codexis and cancelled all payment and potential royalty obligations of Codexis to us relating to biofuels and other energy products, for $20.0 million. We

received $16.0 million in cash upon closing of the sale in October 2010, with the remaining $4.0 million held in escrow, $2.0 million of which was released in November 2011 and $2.0 million of which will be held in escrow until September 2012 to satisfy any of our indemnification obligations under the purchase agreement.

In December 2010, we completed a distribution of substantially all of the Codexis, Inc. common stock we held to our stockholders. In aggregate, we distributed approximately 5.4 million shares of Codexis, Inc. common stock to our stockholders on December 14, 2010. The closing price of Codexis, Inc. common stock on December 14, 2010 was $9.75. The 467,631 shares of Codexis, Inc. common stock that we continued to hold at December 31, 2011 primarily represent shares that are being retained by us on behalf of the holders of certain outstanding equity awards. We also made a special cash distribution of $1.00 for each outstanding share of our common stock in December 2010, equal to approximately $29.2 million in the aggregate.

In May 2011, Astellas acquired all of our interests in Perseid for $76.0 million in cash. Perseid, a former majority-owned subsidiary, included substantially all of our research and development operations and personnel. As a result of the acquisition of Perseid by Astellas, we have no further interests or obligations with respect to the business and operations of Perseid, except for the ongoing technology license agreement between the companies entered into as a part of the 2009 joint venture arrangement.

Net cash used in operating activities was $6.3 million in 2011, $11.0 million in 2010 and $20.7 million in 2009. The net cash used in operating activities in 2011 was primarily attributable to a loss from continuing operations, adjusted to exclude certain non-cash items, and a reduction in accounts payable, accrued compensation and other accrued liabilities. These uses of cash were partially offset by collection of receivables from Perseid and the receipt of $2.0 million from escrow related to the sale of our platform technology to Codexis in October 2010. The net cash used in operating activities in 2010 was primarily attributable to net income, adjusted to exclude certain non-cash items and the collection of receivables from Perseid, partially offset by severance payments issued in connection with our 2009 restructuring. The non-cash adjustments to reconcile net income from continuing operations to net cash used in operating activities for 2010 consisted primarily of a $53.2 million gain on distribution of equity securities and the sale of platform technology for $20.0 million. The net cash used in operating activities in 2009 was primarily attributable to a loss from continuing operations, adjusted to exclude certain non-cash items, and a reduction in our receivable from Perseid, which related to funding the working capital for Perseid upon its formation in late 2009. The non-cash adjustments to reconcile net loss from continuing operations to net cash used in operations included a $11.4 million non-cash restructuring charge.

Net cash provided by investing activities was $70.9 million in 2011, $53.5 million in 2010 and $7.8 million in 2009. The net cash provided by investing activities in 2011 was primarily attributable to the $76.0 million in proceeds received from Astellas in connection with the sale of our interest in Perseid, partially offset by purchases of available-for-sale securities. The net cash provided by investing activities in 2010 was primarily attributable to the sale of platform technology to Codexis for $20.0 million and maturities of available-for-sale securities in excess of purchases. The net cash provided by investing activities during 2009 was primarily attributable to maturities of available-for-sale securities in excess of purchases, partially offset by a $10.0 million investment in Perseid in connection with its formation in September 2009. We may use a portion of our cash to acquire or invest in businesses, products or technologies, or to obtain the right to use such technologies.

Net cash used in financing activities was $12.0 million in 2011, $44.4 million in 2010 and $36.3 million in 2009. The net cash used in financing activities in all periods was primarily attributable to the repurchase of our common stock. Additionally, in 2010, the $29.2 million cash distribution to stockholders contributed to the net cash used in financing activities for that period.

Net cash used in discontinued operations was $297,000 in 2011, $1.4 million in 2010 and $67,000 in 2009. Net cash used in discontinued operations for all periods presented was primarily attributable to the payment of certain license fees.

The following are contractual commitments as of December 31, 2011 consisting solely of operating lease obligations (in thousands):

	Payments Due by Period				
Contractual Obligations	**Total**	**Less than 1 Year**	**1-3 Years**	**4-5 Years**	**More than 5 Years**
Operating lease obligations	$156	$156	$—	$—	$—
Total	$156	$156	$—	$—	$—

We are eligible for a potential payment of up to $30.0 million from Bayer based on the achievement of certain events related to the potential initiation of a phase II clinical trial of MAXY-VII and the satisfaction of certain patent related conditions associated with the MAXY-VII program. However, there can be no assurances that we will receive any portion of such payment from Bayer.

As of December 31, 2011, we had $159.6 million in cash, cash equivalents and short-term investments. We believe that our current cash, cash equivalents and short-term investments will be sufficient to satisfy our anticipated cash needs for working capital and capital expenditures for at least the next twelve months.

In addition, given that we continue to have large cash reserves, our board of directors expects to consider and evaluate additional distributions to our stockholders of a portion of our cash resources in excess of our current and longer term operational requirements, although none are currently contemplated. Such distributions may be accomplished through cash dividends, stock repurchases or other mechanisms and may be fully or partially taxable depending on the circumstances of such distribution. If appropriate opportunities become available, we may also consider and evaluate using a portion of our cash reserves to acquire additional businesses, assets, technologies, or products, or we may pursue other strategic transactions.

Item 7A QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risks, including changes in interest rates, foreign currency exchange rates, and the price fluctuations of certain equity securities. To mitigate some foreign currency exchange rate risk, we from time to time enter into currency forward contracts. We do not use derivative financial instruments for speculative or trading purposes.

Interest Rate and Market Risk

The primary objective of our investment activities is to preserve principal while, at the same time, maximizing yields without significantly increasing risk. To achieve this objective, we maintain our portfolio of cash equivalents and short-term investments in a variety of securities, including corporate obligations and money market funds, although more recently we have restricted our investments to money market funds containing primarily U.S. treasury securities and the direct investment of U.S. treasury securities. At December 31, 2011, $154.3 million of our cash and cash equivalent balance was held in U.S. currency with the remaining $292,000 held in Danish Kroners. As of December 31, 2011, all of our investments in U.S. treasury securities were scheduled to mature in six months or less. The average investment yield for our total cash, cash equivalents and short- term investments of $159.6 million at December 31, 2011 was 0.01%.

We did not hold derivative instruments intended to mitigate interest rate risk as of December 31, 2011, and we have never held such instruments in the past. If market interest rates were to increase by 100 basis points, or 1%, from December 31, 2011 levels, the fair value of our portfolio would not materially change as the majority of our investment portfolio at December 31, 2011 consisted of securities with overnight maturities.

Foreign Currency Exchange Risk

To protect against reductions in value and the volatility of future cash flows caused by changes in foreign currency exchange rates, we from time to time enter into cash flow hedging arrangements. Currency forward contracts are utilized in these hedging arrangements. Our hedging arrangements are intended to reduce, but may not always eliminate, the impact of foreign currency exchange rate movements. Gains and losses on these foreign currency investments are generally offset by corresponding losses and gains on the related hedging instruments, resulting in negligible net exposure to us on the amounts hedged.

At December 31, 2010, we had a forward exchange contract outstanding in the amount of $93,000. The fair value of this contract of $7,000 is recorded as a component of other accrued liabilities at December 31, 2010. We did not have any forward exchange contracts outstanding at December 31, 2011.

Equity Price Risk

Our exposure to changes in equity security prices relates to our ownership of Codexis, Inc. common stock. At December 31, 2011, we owned 467,631 shares of Codexis, Inc. common stock and recorded the fair value for these shares of $2.5 million, as determined by the closing price of such stock on December 31, 2011. A hypothetical 10% change in the price of Codexis, Inc. common stock would cause the fair value of $2.5 million reported at December 31, 2011 to change by $248,000. Market prices for equity securities in general are subject to fluctuation and consequently the amount realized in the subsequent sale or disposition of an investment may significantly differ from the reported market value. Fluctuation in the market price of a security may result from perceived changes in the underlying economic characteristics of the investee, the relative price of alternative investments and general market conditions. We do not hedge our exposure to equity security price risk.

Item 8 FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders of
Maxygen, Inc.

We have audited the accompanying consolidated balance sheets of Maxygen, Inc. as of December 31, 2010 and 2011, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended 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. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Maxygen, Inc. at December 31, 2010 and 2011, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2011, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Maxygen, Inc.'s internal control over financial reporting as of December 31, 2011, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 8, 2012 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

Redwood City, California
March 8, 2012

MAXYGEN, INC.

CONSOLIDATED BALANCE SHEETS

(in thousands, except share and per share data)

	December 31, 2010	December 31, 2011
ASSETS		
Current assets:		
Cash and cash equivalents	$ 102,335	$ 154,572
Short-term investments	—	4,999
Receivable from Perseid	1,127	—
Available-for-sale investment in equity securities	5,468	2,478
Prepaid expenses and other current assets	2,564	2,317
Assets of discontinued operations	34,411	—
Total current assets	145,905	164,366
Property and equipment, net	67	143
Other non-current assets	2,141	124
Total assets	$ 148,113	$ 164,633
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 592	$ 253
Accrued compensation	1,610	1,426
Distribution payable	626	704
Other accrued liabilities	938	831
Liabilities of discontinued operations	12,681	—
Total current liabilities	16,447	3,214
Non-current distribution payable	1,899	372
Other non-current liabilities	—	103
Commitments and contingencies (Notes 8 and 13)		
Stockholders' equity:		
Preferred stock, $0.0001 par value, 5,000,000 shares authorized, no shares issued and outstanding at December 31, 2010 and December 31, 2011	—	—
Common stock, $0.0001 par value, 100,000,000 shares authorized, 29,210,411 and 27,398,829 shares issued and outstanding at December 31, 2010 and December 31, 2011, respectively	3	3
Additional paid-in capital	326,335	311,302
Accumulated other comprehensive income	2,977	1,205
Accumulated deficit	(203,212)	(151,775)
Total Maxygen, Inc. stockholders' equity	126,103	160,735
Non-controlling interests	3,664	209
Total stockholders' equity	129,767	160,944
Total liabilities and stockholders' equity	$ 148,113	$ 164,633

See accompanying notes.

MAXYGEN, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except per share data)

	Year Ended December 31,		
	2009	2010	2011
Technology and license revenue	$ 15	$ 1,543	$ 561
Related party revenue	4,630	2,021	—
Grant revenue	4,545	—	—
Total revenues	9,190	3,564	561
Operating expenses:			
Research and development	8,962	1,902	1,358
General and administrative	14,668	9,536	10,911
Restructuring charge	15,964	(98)	—
Total operating expenses	39,594	11,340	12,269
Loss from operations	(30,404)	(7,776)	(11,708)
Gain on distribution of equity securities	—	53,180	396
Sale of platform technology	—	20,000	—
Interest and other income	972	87	864
Income (loss) from continuing operations before taxes	(29,432)	65,491	(10,448)
Income tax benefit	588	2,238	4,253
Income (loss) from continuing operations	(28,844)	67,729	(6,195)
Discontinued Operations:			
Income (loss) from discontinued operations	(3,313)	703	1,302
Gain on sale of discontinued operations	—	—	62,219
Income tax expense for discontinued operations	—	—	(5,579)
Income (loss) from discontinued operations, net of taxes	(3,313)	703	57,942
Net income (loss)	(32,157)	68,432	51,747
Net income (loss) attributable to non-controlling interest	245	(452)	310
Net income (loss) attributable to Maxygen, Inc.	$(32,402)	$68,884	$ 51,437
Basic net income (loss) per share:			
Continuing operations	$ (0.75)	$ 2.26	$ (0.22)
Discontinued operations	$ (0.10)	$ 0.04	$ 2.02
Attributable to Maxygen, Inc.	$ (0.85)	$ 2.30	$ 1.80
Diluted net income (loss) per share:			
Continuing operations	$ (0.75)	$ 2.25	$ (0.22)
Discontinued operations	$ (0.10)	$ 0.04	$ 2.02
Attributable to Maxygen, Inc.	$ (0.85)	$ 2.29	$ 1.80
Shares used in basic net income (loss) per share calculations	38,236	29,949	28,574
Shares used in diluted net income (loss) per share calculations	38,236	30,128	28,574

See accompanying notes.

MAXYGEN, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(in thousands, except share and per share data)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Non-Controlling Interests	Total Stockholders' Equity
	Shares	Amount					
Balance at December 31, 2008	37,510,502	$ 4	$434,210	$ (8)	$(239,694)	$ —	$194,512
Issuance of common stock upon exercise of options for cash and for services rendered	713,892	—	3,910	—	—	—	3,910
Issuance of common stock upon vesting of restricted stock units	452,749	—	(1,386)	—	—	—	(1,386)
Issuance of common stock under employee stock purchase plan	62,842	—	341	—	—	—	341
Issuance of common stock under 401(k) employer matching contribution	53,174	—	340	—	—	—	340
Stock compensation expense for consultant options	—	—	3	—	—	—	3
Stock based compensation expense	—	—	19,338	—	—	—	19,338
Repurchase of common stock	(7,345,103)	(1)	(39,170)	—	—	—	(39,171)
Sale of subsidiary shares to non-controlling interest	—	—	6,338	—	—	3,662	10,000
Components of comprehensive loss:							
Net loss	—	—	—	—	(32,402)	245	(32,157)
Change in unrealized gain on available-for-sale securities	—	—	—	(219)	—	—	(219)
Comprehensive loss	—	—	—	—	—	—	(32,376)
Balance at December 31, 2009	31,448,056	$ 3	$423,924	$ (227)	$(272,096)	$ 3,907	$155,511
Issuance of common stock upon exercise of options for cash and for services rendered	82,133	—	243	—	—	—	243
Issuance of common stock upon vesting of restricted stock units and awards	318,187	—	(695)	—	—	—	(695)
Stock based compensation expense	—	—	2,642	—	—	—	2,642
Repurchase of common stock	(2,637,965)	—	(14,889)	—	—	—	(14,889)
Sale of subsidiary shares to non-controlling interest	—	—	(9)	—	—	209	200
Distribution of cash to common stockholders at $1.00 per share, including $891,082 due to holders of restricted stock awards	—	—	(30,058)	—	—	—	(30,058)
Distribution of equity securities to common stockholders, including 158,338 shares of Codexis common stock with a fair value of $1,678,383 payable to holders of restricted stock awards	—	—	(54,823)	—	—	—	(54,823)
Components of comprehensive income:							
Net income	—	—	—	—	68,884	(452)	68,432
Change in unrealized gain on available-for-sale investment in equity securities, net of tax effects	—	—	—	3,229	—	—	3,229
Change in unrealized gain on available-for-sale securities	—	—	—	(25)	—	—	(25)
Comprehensive income	—	—	—	—	—	—	71,636
Balance at December 31, 2010	29,210,411	$ 3	$326,335	$ 2,977	$(203,212)	$ 3,664	$129,767
Issuance of common stock upon exercise of options for cash and for services rendered	172,056	—	663	—	—	—	663
Issuance of common stock upon vesting of restricted stock units and awards	260,651	—	(161)	—	—	—	(161)
Stock based compensation expense	—	—	3,059	—	—	—	3,059
Repurchase of common stock	(2,244,289)	—	(12,256)	—	—	—	(12,256)
Deconsolidation of Perseid	—	—	(6,338)	—	—	(3,765)	(10,103)
Distribution of equity securities to holders of restricted stock awards	—	—	—	(363)	—	—	(363)
Components of comprehensive income:							
Net income	—	—	—	—	51,437	310	51,747
Change in unrealized gain on available-for-sale investment in equity securities, net of tax effects	—	—	—	(1,409)	—	—	(1,409)
Comprehensive income	—	—	—	—	—	—	50,338
Balance at December 31, 2011	27,398,829	$ 3	$311,302	$ 1,205	$(151,775)	$ 209	$160,944

See accompanying notes.

MAXYGEN, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)

	Year Ended December 31,		
	2009	2010	2011
Operating activities			
Income (loss) from continuing operations	$ (28,844)	$ 67,729	$ (6,195)
Adjustments to reconcile net income (loss) from continuing operations to net cash provided by (used in) operating activities:			
Depreciation and amortization	26	19	14
Loss on disposal of property and equipment	—	1	55
Gain on distribution of equity securities	—	(53,180)	(396)
Non-cash stock compensation	5,560	2,866	3,055
401(k) employer matching contribution	119	—	—
Income tax benefit	(588)	(2,238)	(4,253)
Valuation of stock portion of distribution payable	—	135	(772)
Sale of platform technology	—	(20,000)	—
Non-cash restructuring charges	11,426	(98)	—
Changes in operating assets and liabilities:			
Related party receivable	(26)	26	—
Receivable from Perseid	(8,986)	3,421	1,127
Accounts receivable and other receivables	350	473	—
Prepaid expenses and other current assets	(60)	(715)	247
Deposits and other non-current assets	—	(2,141)	2,017
Accounts payable	(91)	(335)	(339)
Accrued compensation	(263)	(524)	(729)
Accrued restructuring charges	3,270	(4,286)	—
Accrued project costs	(3,079)	(322)	(34)
Other accrued liabilities	67	(499)	(85)
Deferred revenue	436	(1,365)	—
Net cash used in operating activities	(20,683)	(11,033)	(6,288)
Investing activities			
Purchases of available-for-sale securities	(55,230)	(11,926)	(5,199)
Maturities of available-for-sale securities	73,000	45,512	200
Investment in Perseid	(10,000)	—	—
Proceeds from sale of discontinued operations	—	—	76,000
Proceeds from sale of platform technology	—	20,000	—
Acquisition of property and equipment	—	(50)	(144)
Net cash provided by investing activities	7,770	53,536	70,857
Financing activities			
Proceeds from issuance of common stock, net of stock repurchased to settle employee tax obligations	2,866	(452)	502
Sale of subsidiary shares to non-controlling interest	—	200	—
Cash distributions paid to common stockholders	—	(29,212)	(281)
Repurchase of common stock	(39,171)	(14,887)	(12,256)
Net cash used in financing activities	(36,305)	(44,351)	(12,035)
Cash flows used in discontinued operations			
Operating activities	411	(608)	453
Investing activities	(478)	(807)	(750)
Net cash used in discontinued operations	(67)	(1,415)	(297)
Net increase (decrease) in cash and cash equivalents	(49,285)	(3,263)	52,237
Cash and cash equivalents at beginning of period	154,883	105,598	102,335
Cash and cash equivalents at end of period	$105,598	$102,335	$154,572

See accompanying notes.

1. Summary of Significant Accounting Policies

Organization and Principles of Consolidation

Maxygen, Inc. (the "Company") was incorporated under the laws of the State of Delaware on May 7, 1996. The Company is a biopharmaceutical company focused on the potential further development of its MAXY-G34 product candidate, a next-generation pegylated, granulocyte colony stimulating factor, or G-CSF, for the treatment of chemotherapy-induced neutropenia and acute radiation syndrome ("ARS"). The Company began operations in March 1997 with the mission to develop important commercial products through the use of biotechnology. The Company's current focus is to create value from its MAXY-G34 program for its stockholders, either through the potential further development of the product candidate for one or both indications, or through a sale, licensing, partnering or other transaction involving the program. The Company also continues to evaluate potential strategic options for the company as a whole.

The consolidated financial statements include the amounts of the Company, its current wholly-owned subsidiaries, Maxygen Holdings (U.S.), Inc., Maxygen ApS and Maxygen Holdings, Inc., and its current majority-owned subsidiary, Maxygen Holdings LLC. The consolidated financial statements also include the amounts of the Company's former wholly-owned subsidiary, Maxygen Holdings Ltd. (through its dissolution on December 31, 2010) and its former majority-owned subsidiary, Perseid Therapeutics LLC ("Perseid") (through its acquisition by Astellas Pharma Inc. ("Astellas") on May 16, 2011).

Prior to the acquisition of Perseid by Astellas on May 16, 2011, the Company was the primary beneficiary of Perseid, as determined under applicable accounting standards. In connection with the Company's prior joint venture arrangement with Astellas, Astellas had acquired a minority interest in Perseid. Prior to the acquisition, amounts pertaining to the ownership interests held by Astellas in the operating results and financial position of Perseid were reported as non-controlling interests. In addition, the Company is the primary beneficiary of its majority-owned subsidiary, Maxygen Holdings LLC. In May 2010, the Company sold a minority membership interest in Maxygen Holdings LLC to a third party for $200,000 in cash and a contingent promissory note. Amounts pertaining to the ownership interest held by such third party in the operating results and financial position of Maxygen Holdings LLC are reported as a non-controlling interest. At each reporting date, the Company reassesses whether it is still the primary beneficiary of Maxygen Holdings LLC. If the Company determines that it is no longer the primary beneficiary, the Company will deconsolidate Maxygen Holdings LLC and record its interest at the fair market value on the date which it deconsolidates, along with any gain or loss at the time of deconsolidation. The Company would then account for its interest using the equity accounting method.

The table below reflects a reconciliation of the equity attributable to non-controlling interests (in thousands):

Non-controlling interests at December 31, 2010	$ 3,664
Net income attributable to non-controlling interests through May 16, 2011	310
Non-controlling interests at May 16, 2011	3,974
Deconsolidation of Perseid at May 16, 2011	(3,765)
Non-controlling interests at December 31, 2011	$ 209

Sale of Perseid Therapeutics LLC

The Company operated substantially all of its research and development operations through Perseid, which was formed in September 2009 in connection with the consummation of the transactions contemplated by the joint venture arrangement entered into between the Company and Astellas. The Company owned 83.3% of

Perseid and Astellas owned 16.7% of Perseid from September 2009 until Astellas purchased all of the Company's equity interests on May 16, 2011. As a result of the acquisition of Perseid by Astellas, the Company has no further interests or obligations with respect to the business and operations of Perseid, except for the ongoing technology license agreement between the companies entered into as a part of the 2009 joint venture arrangement. The Company has reclassified Perseid's operating activities, including those of its predecessor operations prior to the joint venture formation, assets and liabilities, as discontinued operations for all periods presented. See Note 15.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires the Company's management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

Cash, Cash Equivalents and Short-Term Investments

The Company considers all highly liquid investments with original maturity dates of three months or less, as of the date of purchase, to be cash equivalents. Cash equivalents include marketable debt securities, government and corporate debt obligations. Short-term investments include government and corporate debt obligations. The Company classifies all U.S. treasury securities purchased at auction through Treasury Direct, a financial services website that allows individuals and entities to purchase and redeem securities directly from the U.S. Department of the Treasury in paperless electronic form, as short-term investments.

The Company's management determines the appropriate classification of investments in debt securities as current or non-current at the time of purchase and reevaluates such designation as of each balance sheet date. The Company's investments in debt securities are classified as available-for-sale and are carried at estimated fair value in cash equivalents and short-term investments. Unrealized gains and losses for assets classified as available-for-sale are reported as accumulated other comprehensive income (loss) in stockholders' equity. The amortized cost of investments in debt securities in this category is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization is included in interest and other income. Realized gains and losses on available-for-sale securities and declines in value deemed to be other than temporary, if any, are included in interest and other income. The cost of securities sold is based on the specific identification method. Interest and dividends on securities classified as available-for-sale are included in interest income.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist of investments and accounts receivable. The Company is exposed to credit risks in the event of default by financial issuers or collaborators to the extent of the amount recorded on the balance sheet. The Company does not require collateral or other security to support the financial instruments subject to credit risk.

Property and Equipment

Property and equipment, including the cost of purchased software, are stated at cost, less accumulated depreciation. Depreciation is calculated using the straight-line method over the estimated useful life of the assets (generally three to five years). Leasehold improvements are amortized over the shorter of the lease term or the estimated useful life of the assets.

Revenue Recognition

The Company has generally recognized revenue from multiple element arrangements under collaborative research agreements, including license payments, research and development services, milestones, and royalties. Revenue arrangements with multiple deliverables are divided into separate units of accounting if certain criteria are met. The Company estimates the selling price for each deliverable using the vendor specific objective evidence of selling price, if it exists, otherwise third-party evidence of selling price. If neither vendor specific objective evidence nor third-party evidence of selling price exists for a deliverable, then the Company uses its best estimate of the selling price for that deliverable. The consideration the Company receives is allocated among the separate units of accounting based on their respective estimated selling prices, and the applicable revenue recognition criteria are considered separately for each of the separate units.

Non-refundable upfront payments received in connection with collaboration agreements, including license fees and technology advancement funding that is intended for the development of the Company's core technologies, are deferred upon receipt and recognized as revenue over the period of delivery of the undelivered element, typically the relevant research and development periods specified in the agreement. Under arrangements where the Company expects its research and development obligations to be performed evenly over the specified period, the upfront payments are recognized on a straight-line basis over such period. Under arrangements where the Company expects its research and development obligations to vary significantly from period to period, the Company recognizes the upfront payments based upon the actual amount of research and development efforts incurred relative to the amount of the total expected effort to be incurred by the Company. In cases where the planned levels of research services fluctuate substantially over the research term, this requires the Company to make critical estimates in both the remaining time period and the total expected costs of its obligations and, therefore, a change in the estimate of total costs to be incurred or in the remaining time period could have a significant impact on the revenue recognized in future periods.

Revenue related to collaborative research payments from a collaborator is recognized as research services are performed over the related funding periods for each contract. Under these agreements, the Company is typically required to perform research and development activities as specified in the respective agreement. Generally, the payments received are not refundable and are based on a contractual cost per full-time equivalent employee working on the project. Under certain collaborative research and development agreements, the Company and the collaborative partner may agree to share in the costs of research and development. In periods where the Company incurs more costs than the collaborative partner, payments from the collaborative partner are included in collaborative research and development revenues and, in periods where the collaborative partner incurs more expenses than the Company, the Company's payments to the collaborative partner are included in research and development expenses. Research and development expenses (including associated general and administrative expenses) under the collaborative research agreements approximate or exceed the research funding revenue recognized under such agreements over the term of the respective agreements. Deferred revenue may result when the Company does not incur the required level of effort during a specific period in comparison to funds received under the respective contracts.

Incentive milestone payments may be triggered either by the results of our research efforts or by events external to the Company, such as regulatory approval to market a product. Consideration that is contingent upon achievement of a milestone can be recognized in its entirety as revenue in the period in which the milestone is achieved only if the consideration earned from the achievement of a milestone meets all the criteria for the milestone to be considered substantive at the inception of the arrangement. For a milestone to be considered substantive, the consideration earned by achieving the milestone should (i) be commensurate with either the Company's performance to achieve the milestone or the enhancement of the value of the item delivered as a result of a specific outcome resulting from the Company's performance to achieve the milestone, (ii) relate solely to past performance and (iii) be reasonable relative to all deliverables and payment terms in the arrangement.

For events for which the occurrences are contingent solely upon the passage of time or are the result of performance by a third party, the contingent payments will be recognized as revenue when payments are earned, the amounts are fixed or determinable and collectability is reasonably assured.

Royalties are recorded as earned in accordance with the contract terms when third party sales can be reliably measured and collectability is reasonably assured.

Revenue from the sale of pre-clinical program assets or license agreements for which no further performance obligations exist are recognized as revenue on the earlier of when payments are received or the amount can be reliably measured and collectability is reasonably assured.

The Company has previously been awarded grants from various government agencies related to the Company's vaccines programs. The terms of these grant agreements ranged from one to five years with various termination dates, the last of which was July 2010. Revenue related to these grant agreements was recognized as the related research and development expenses were incurred. In January 2010, Altravax, Inc. ("Altravax") acquired substantially all of the Company's vaccine assets, including the related government grants. See Note 4 under the heading Sale of Vaccine Assets.

The Company has adopted new accounting standards related to revenue recognition for multiple element arrangements and milestone payments, both of which did not have a material impact on the Company's financial statements.

Research and Development Expenses

The Company's research and development expenses have consisted primarily of external collaborative research expenses (including contract manufacturing, contract research and clinical trial expenses), salaries and benefits, facility costs, supplies, research consultants, depreciation and stock compensation expense. Research and development expenses were $1.4 million in 2011, $1.9 million in 2010 and $9.0 million in 2009.

Stock-Based Compensation

As of December 31, 2011, the Company had five stock option plans: the 2006 Equity Incentive Plan (the "2006 Plan"); the 1997 Stock Option Plan (the "1997 Plan"); the 1999 Nonemployee Directors Stock Option Plan (the "Directors' Plan"); the 2000 International Stock Option Plan (the "International Plan"); and the 2000 Non-Officer Stock Option Plan (the "2000 Plan"). These stock plans generally provide, or provided, for the grant of stock options to employees, directors and/or consultants. The 2006 Plan, which replaced the 1997 Plan as to future awards, also provides for the grant of additional equity-based awards, including stock appreciation rights, restricted stock, contingent performance units ("CPUs"), restricted stock units, performance shares, performance units and dividend equivalents. In connection with stockholder approval of the 2006 Plan, the 1997 Plan was terminated as to future awards. The International Plan was terminated as to future awards as a result of the cessation of operations at Maxygen ApS. Each of the Directors' Plan and the 2000 Plan expired in 2010. The Company also has an Employee Stock Purchase Plan ("ESPP") that enables eligible employees to purchase Company's common stock, however, effective from September 1, 2009, the Company suspended all future employee purchases of Company's common stock under the ESPP.

The Company recognizes the cost of employee services received in exchange for awards of equity instruments based upon the grant-date fair value of those awards. In addition, the Company is required to recognize the fair value of its liability-based awards, which as of December 31, 2011, consisted solely of contingent performance units, or CPUs. The fair value of stock options and ESPP shares is estimated using the

Black-Scholes-Merton option valuation model and for CPUs, the Company uses a Monte Carlo simulation. This model requires the input of subjective assumptions, including expected stock price volatility, estimated life and estimated forfeitures of each award.

For stock option awards to employees in 2010 and 2011, the expected life of the stock options was calculated using the shortcut method permitted under applicable SEC accounting guidance. When establishing the expected life assumption in prior periods, the Company reviews the annual historical employee exercise behavior of option grants with similar vesting periods. Due to the change in the Company's structure and operations and the small number of individuals receiving option awards since 2009, the Company no longer considers its historical experience or that of its peers to be representative of future expected life. Therefore in 2009, the Company changed to the shortcut method for establishing the expected life assumption. These models require the input of subjective assumptions, the most significant of which are the Company's estimates of the expected volatility of the market price of the Company's stock, and for its CPUs, the market price of the Codexis, Inc. common stock as well, and the expected term of each award. For non-employee awards, the expected life of the stock options was based on the life of the stock option. The computation of the expected volatility assumption used in the Black-Scholes-Merton calculations for new grants is based on historical volatilities. The risk-free interest rate is based on the rates paid on securities issued by the U.S. Treasury with a term approximating the expected life of the option. The dividend yield is based on the projected annual dividend payment per share, divided by the stock price at the date of grant.

Stock-based compensation expense recognized within continuing operations in the Consolidated Statements of Operations for the years ended December 31, 2009, 2010 and 2011 was as follows (in thousands):

	Year Ended December 31,		
	2009	2010	2011
Employee stock options	$2,733	$1,055	$ 925
Restricted stock units	2,358	(279)	—
Restricted stock awards	434	1,525	1,807
Consultant options	3	—	—
ESPP	32	—	—
Contingent performance units	—	565	323
Total stock-based compensation expense	$5,560	$2,866	$3,055

In 2009, the Company recorded additional stock compensation expense of $11.4 million as part of the restructuring charge. The expense resulted from the accelerated vesting and the extension of the exercise period of certain stock options pursuant to the Company's retention agreement with a certain former executive, and change in control agreements with other former executives.

Stock Options and Employee Stock Purchase Plan

The exercise price of each stock option equals the closing market price of the Company's stock on the date of grant. Most options are scheduled to vest over four years and all options expire no later than 10 years from the grant date. The fair value of each option grant is estimated on the date of grant using the Black-Scholes-Merton option pricing model. This model was developed for use in estimating the value of publicly traded options that have no vesting restrictions and are fully transferable. The Company's employee stock options have characteristics significantly different from those of publicly traded options.

Under the ESPP, eligible employees were able to purchase common stock at a discount, through payroll deductions, during defined offering periods. The price at which stock is purchased under the ESPP is equal to 85% of the lower of (i) the fair market value of the common stock on the first day of the offering period or (ii) the fair market value of the common stock on the purchase date. During the year ended December 31, 2009, 62,842 shares of common stock were purchased pursuant to the ESPP. Compensation expense was calculated using the fair value of the employees' purchase rights under the Black-Scholes-Merton model. For the year ended December 31, 2009, ESPP compensation expense was $32,000. Effective from September 1, 2009, the Company's suspended all future employee purchases of Company common stock under the ESPP.

The weighted average assumptions used in the model are outlined in the following table:

	2009	2010	2011
Expected dividend yield	0%	0%	0%
Risk-free interest rate range—Options	2.77%	1.58 to 2.96%	2.26 to 2.42%
Risk-free interest rate range—ESPP(1)	0.48% to 2.38%	—	—
Expected life—Options	6.26 years	6.26 years	6.26 years
Expected life—ESPP(1)	0.08 years to 0.99 years	—	—
Expected volatility—Options	58.91%	57.62% to 58.64%	61.46% to 61.61%
Expected volatility—ESPP(1)	47.15% to 113%	—	—

(1) Purchases of the Company's common stock under the Company's ESPP were suspended in September 2009.

A summary of the changes in stock options outstanding under the Company's equity-based compensation plans during the year ended December 31, 2011 is presented below:

	Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Options outstanding at January 1, 2011	7,594,844	$ 9.01	4.47	$ 35
Granted	59,500	$ 4.63		
Exercised	(172,056)	$ 3.85		
Canceled	(78,027)	$ 6.45		
Expired	(1,585,522)	$11.45		
Options outstanding at December 31, 2011	5,818,739	$ 8.47	3.79	$144
Options vested and expected to vest at December 31, 2011	5,818,739	$ 8.47	3.79	$144
Options exercisable at December 31, 2011	5,286,042	$ 8.69	3.37	$ 84

The intrinsic value of options exercised during the years ended December 31, 2011, 2010 and 2009 was $227,000, $289,000 and $2.5 million, respectively. The estimated fair value of options vested during the years ended December 31, 2011, 2010 and 2009 was $844,000, $1.1 million and $3.7 million, respectively. The weighted average grant date fair value of options granted during the year ended December 31, 2011 was $2.74 per share. At December 31, 2011, the Company had $1.4 million of total unrecognized compensation expense, net of estimated forfeitures, related to stock options that will be recognized over the weighted average remaining vesting period of 1.9 years. Cash received from stock option exercises was $663,000 during the year ended December 31, 2011.

The following table summarizes outstanding and exercisable options at December 31, 2011:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number of Shares Outstanding	Weighted-Average Remaining Contractual Life (in years)	Weighted-Average Exercise Price	Number of Shares Exercisable	Weighted-Average Exercise Price
$3.51 – $6.49	322,294	6.88	$ 5.58	261,789	$ 5.80
$6.53 – $6.53	780,000	7.71	$ 6.53	323,071	$ 6.53
$6.64 – $7.00	614,485	2.69	$ 6.92	599,485	$ 6.93
$7.08 – $7.40	852,361	2.19	$ 7.32	852,329	$ 7.32
$7.53 – $7.89	816,056	4.07	$ 7.76	816,056	$ 7.76
$7.92 – $8.66	607,032	4.79	$ 8.37	606,801	$ 8.37
$9.54 – $10.51	588,754	1.88	$10.10	588,754	$10.10
$10.64 – $11.14	596,771	2.95	$10.74	596,771	$10.74
$12.17 – $14.14	636,236	1.85	$12.64	636,236	$12.64
$16.54 – $16.54	4,750	0.00	$16.54	4,750	$16.54
	5,818,739	3.79	$ 8.47	5,286,042	$ 8.69

Restricted Stock Awards

The Company has granted restricted stock awards under the 2006 Plan to certain employees and members of its board of directors. Restricted stock awards are generally scheduled to vest over four years. The 2006 Plan and related award agreement provide for forfeiture in certain events, such as voluntary termination of employment, and for acceleration of vesting in certain events, such as termination of employment without cause or a change in control of the Company. Compensation cost for these awards is based on the closing price of the Company's common stock on the date of grant and recognized as compensation expense on a straight-line basis over the requisite service period. Given the relative lack of sufficient history of granting restricted stock awards coupled with the fact that the number of restricted stock awards outstanding is concentrated among a few individuals, the Company has not applied a forfeiture discount to its stock compensation expense for restricted stock awards. During the year ended December 31, 2010 and 2011, the Company granted restricted stock awards to employees and the members of its board of directors representing an aggregate of 95,425 and 99,500 shares of common stock, respectively. For the years ended December 31, 2009, 2010 and 2011, the Company recognized approximately $434,000, $1.5 million and $1.8 million, respectively, in stock-based compensation expense within continuing operations, related to these restricted stock awards. At December 31, 2011, the unrecognized compensation cost related to these awards was approximately $3.4 million, which is expected to be recognized on a straight-line basis over the requisite service period through June 2015.

A summary of the changes in restricted stock awards outstanding under the Company's equity-based compensation plans during the year ended December 31, 2011 is presented below:

	Shares	Weighted-Average Purchase Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Awards outstanding at January 1, 2011	846,511	$—	2.80	$3,327
Awards granted	99,500	—		
Released	(283,488)	—		
Forfeited	(26,000)	—		
Awards outstanding at December 31, 2011	636,523	$—	2.00	$3,584

Contingent Performance Units

In September 2009, the Company granted CPUs under the 2006 Plan to all employees and board members who held options to purchase Company's common stock, and since that date the Company has also granted CPUs in connection with the grant of new stock option awards. CPUs vest on the earliest to occur of (i) a change in control of the Company, (ii) a corporate dissolution or liquidation of the Company, (iii) an involuntary termination of employment without cause, or (iv) the fourth anniversary of the grant date (the "Settlement Date"), generally so long as the holder continues to provide services for the Company on a continuous basis from the grant date to the Settlement Date. The CPUs are designed to protect holders of the Company's stock options against a reduction in the share price of the Company's common stock resulting from dividends or distributions to the Company's stockholders, which could negatively affect outstanding options held by option holders of the Company since the options would not otherwise participate in any dividends or distributions to the Company's stockholders. The earned value of any vested CPU will generally be settled in shares of common stock of the Company, but may also be settled, in part, with cash or any property distributed by the Company, or entirely in cash. All unvested CPUs remaining following the Settlement Date will expire immediately.

As a result of the Company's distribution of 5,445,274 shares of Codexis, Inc. common stock and special cash distribution in the amount of $1.00 per share in December 2010, the value of the CPU awards became reasonably estimable for financial reporting purposes. These awards were remeasured as of December 31, 2011, as required for liability awards. As a result of the acquisition by Astellas of the Company's equity interests in Perseid, all vested CPU awards held by employees of Perseid were settled in full on May 16, 2011. The value of the settled CPUs was based on (i) the fair value of the Company's common stock; (ii) the fair value of the Codexis, Inc. common stock; and (iii) the $1.00 per share cash distribution made in December 2010. During 2011, approximately $651,000 in cash was paid to settle vested CPUs, with $565,000 of such amount paid to settle vested CPUs held by employees of Perseid. The fair value of the remaining CPUs was approximately $1.4 million at December 31, 2011, as determined based on a Monte Carlo simulation using the following assumptions:

	2010	2011
Expected dividend yield	0%	0%
Risk-free interest rate range	0.89% – 1.34%	0.22 – 0.50%
Expected life	2.75 – 3.75 years	1.73 – 3.42 years
Expected volatility of Maxygen, Inc. common stock	65.2% – 69.1%	37.7% – 57.2%
Expected volatility of Codexis, Inc. common stock	60.81%	63.7%

The risk-free interest rate is based on the U.S. Treasury yield in effect at each reporting date, with a term commensurate with the estimated remaining expected life of the award. Expected life is based on the estimated remaining time to settlement for each award. Expected volatility of both the Company's common stock and the Codexis, Inc. common stock is based on the historical volatility, as available, of such stock commensurate with the expected life of each award.

The Company recognized approximately $565,000 and $323,000 of compensation expense in the years ended December 31, 2010 and 2011, respectively, related to changes in the fair value of the CPU liability within continuing operations. No compensation expense was recorded prior to 2010 as the payout of the CPU awards was not deemed probable, nor was a payout amount estimable at such date. As the CPUs are accounted for as liability awards, the Company re-measures their fair value at each reporting date and records compensation expense utilizing a straight-line attribution method.

As the earned distribution value of any vested CPU can be settled in shares of Company's common stock, cash or the property distributed to stockholders, or any combination of the foregoing, and because such property has an inherent ability to appreciate or depreciate in price by the Settlement Date, the Company has reserved, from its December 2010 distribution of Codexis, Inc. common stock, a number of shares of Codexis, Inc. common stock that it deems sufficient to settle its maximum potential liability related to the earned distribution value for each CPU. At December 31, 2011, the Company had reserved 347,813 shares of Codexis, Inc. common stock for this purpose.

For the years ended December 31, 2009, 2010 and 2011, stock-based compensation expense related to the grant of CPUs was recorded within continuing operations as follows (in thousands):

	Year Ended December 31,		
	2009	2010	2011
Research and development	$—	$ 5	$105
General and administrative	—	560	218
Total stock-based compensation expense	$—	$565	$323

Restricted Stock Units

During 2008, the Company granted restricted stock unit awards under the 2006 Plan representing an aggregate of 1,283,000 shares of Company's common stock. The restricted stock units granted represented a right to receive shares of common stock at a future date determined in accordance with the participant's award agreement. An exercise price and monetary payment were not required for receipt of restricted stock units or the shares issued in settlement of the award. Instead, consideration was furnished in the form of the participant's services to the Company. Substantially all of the restricted stock units were originally scheduled to vest over two years. However, in connection with the formation of Perseid, the vesting of certain of these restricted stock units was accelerated and became fully vested on November 30, 2009. This did not affect the restricted stock units held by certain of the Company's former executive officers, who had different equity acceleration provisions in their employment related agreements. Compensation cost for these awards was based on the estimated fair value of the Company's common stock on the date of grant and recognized as compensation expense on a straight-line basis over the requisite service period. For the year ended December 31, 2009, the Company recognized $2.4 million in stock-based compensation expense within continuing operations, related to these restricted stock unit awards. In 2010, the Company recognized a credit to stock-based compensation expense of $279,000 within continuing operations resulting from the actual forfeiture rate of restricted stock units scheduled to vest in 2010 being greater than the estimated forfeiture rate of terminated employees. At December 31, 2010, there were no

restricted stock unit awards that remained outstanding and no further grants of restricted stock units were made during 2011. Thus, there was no unrecognized compensation cost related to these awards at December 31, 2010 and 2011.

For the years ended December 31, 2009, 2010 and 2011, stock-based compensation expense recorded within continuing operations related to the grant of restricted stock units was allocated as follows (in thousands):

	Year Ended December 31,		
	2009	2010	2011
Research and development	$ 648	$(187)	$—
General and administrative	1,710	(92)	—
Total stock-based compensation expense	$2,358	$(279)	$—

Valuation and Expense Information

For the years ended December 31, 2009, 2010 and 2011, stock-based compensation expense was recorded within continuing operations as follows (in thousands):

	Year Ended December 31,		
	2009	2010	2011
Research and development	$3,790	$ (100)	$ 408
General and administrative	1,770	2,966	2,647
Total stock-based compensation expense	$5,560	$2,866	$3,055

There was no capitalized stock-based employee compensation cost as of December 31, 2011. There were no recognized tax benefits related to stock-based compensation expense during the years ended December 31, 2011, 2010 or 2009. As a result of the acquisition by Astellas of the Company's equity interests in Perseid, the vesting of all unvested stock options and restricted stock awards held by Perseid employees was accelerated in full on May 16, 2011, resulting in a compensation expense charge of approximately $494,000, which was recorded in the three months ended June 30, 2011.

Net Income (Loss) Per Share

Basic net income (loss) per share has been computed using the weighted-average number of shares of common stock outstanding during the period. During the periods in which the Company has net income from continuing operations, the diluted net income per share has been computed using the weighted average number of shares of common stock outstanding and other dilutive securities.

The following table presents a reconciliation of the numerators and denominators of the basic and diluted net income (loss) per share computations and the calculation of basic and diluted net income (loss) per share (in thousands, except per share data):

	Year Ended December 31,		
	2009	2010	2011
Numerator:			
Numerator for basic and diluted income (loss) attributable to Maxygen, Inc. from continuing operations	$(28,844)	$67,729	$ (6,195)
Numerator for basic and diluted income (loss) attributable to Maxygen, Inc. from discontinued operations	$ (3,558)	$ 1,155	$57,632
Net income (loss) attributable to Maxygen, Inc.	$(32,402)	$68,884	$51,437
Denominator:			
Basic and diluted:			
Weighted-average shares used in computing basic net income (loss) per share	38,236	29,949	28,574
Effect of dilutive securities	—	179	—
Weighted-average shares used in computing diluted net income (loss) per share	38,236	30,128	28,574
Basic net income (loss) per share			
Continuing operations	$ (0.75)	$ 2.26	$ (0.22)
Discontinued operations	$ (0.10)	$ 0.04	$ 2.02
Attributable to Maxygen, Inc.	$ (0.85)	$ 2.30	$ 1.80
Diluted net income (loss) per share			
Continuing operations	$ (0.75)	$ 2.25	$ (0.22)
Discontinued operations	$ (0.10)	$ 0.04	$ 2.02
Attributable to Maxygen, Inc.	$ (0.85)	$ 2.29	$ 1.80

Basic and diluted net income (loss) per share from discontinued operations excludes net income (loss) attributable to non-controlling interests for all periods presented.

The total number of shares excluded from the calculations of diluted net income (loss) per share, because they would be anti-dilutive, was approximately 8,604,000 stock options and 933,000 shares of restricted stock at December 31, 2009, approximately 7,914,000 stock options and 15,000 shares of restricted stock at December 31, 2010 and 5,819,000 stock options and 637,000 shares of restricted stock at December 31, 2011.

Comprehensive Income (Loss)

Comprehensive income (loss) is primarily comprised of net income (loss), net unrealized gains or losses on available-for-sale securities, including the Company's equity investment in Codexis and its related tax effects, and foreign currency translation adjustments. The following table presents comprehensive income (loss) and its components (in thousands):

	Year Ended December 31,		
	2009	2010	2011
Net income (loss) attributable to Maxygen, Inc.	$(32,402)	$68,884	$51,437
Changes in unrealized gains on available-for-sale investment in equity securities, net of tax effects	—	3,229	(1,409)
Changes in unrealized gains (losses) on available-for-sale securities	(219)	(25)	—
Comprehensive income (loss) attributable to Maxygen, Inc.	(32,621)	72,088	50,028
Comprehensive income (loss) attributable to non-controlling interest	245	(452)	310
Comprehensive income (loss)	$(32,376)	$71,636	$50,338

The changes in unrealized gains on available-for-sale investment in equity securities related to the change in value of the shares of Codexis, Inc. common stock held by the Company. See Note 4 under the heading Distribution of Codexis, Inc. Common Stock and Cash.

The components of accumulated other comprehensive income (loss) is as follows (in thousands):

	Year Ended December 31,	
	2010	2011
Unrealized gains on available-for-sale investment in equity securities	$ 5,468	$ 2,478
Tax effects of available-for-sale investment in equity securities	(2,239)	(1,021)
Unrealized gain on available-for-sale securities	—	—
Unrealized losses on available-for-sale securities	—	—
Foreign currency translation adjustments	(252)	(252)
Accumulated other comprehensive income (loss)	$ 2,977	$ 1,205

Recent Accounting Pronouncements

In June 2011, the Financial Accounting Standards Board issued Accounting Standards Update No. 2011-05 for the presentation of comprehensive income, thereby amending Accounting Standards Codification 220, Comprehensive Income. The amendments require that all non-owner changes in stockholder's equity be presented either in a single continuous statement of comprehensive income or in two separate but consecutive statements. The amendments are effective in fiscal years beginning after December 15, 2011 and should be applied retrospectively. These amendments will impact the presentation of the Company's financial statements upon adoption.

2. Cash Equivalents and Investments

The Company's cash equivalents and investments as of December 31, 2011 were as follows (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Money market funds	$ 154,572	$ —	$—	$ 154,572
U.S. Treasury securities	4,999	—	—	4,999
Available-for-sale investment in equity securities	—	2,478	—	2,478
Total	159,571	2,478	—	162,049
Less amounts classified as cash equivalents	(154,572)	—	—	(154,572)
Total investments	$ 4,999	$2,478	$—	$ 7,477

The Company's cash equivalents and investments as of December 31, 2010 were as follows (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Money market funds	$ 102,335	$ —	$—	$ 102,335
Available-for-sale investment in equity securities	—	5,468	—	5,468
Total	102,335	5,468	—	107,803
Less amounts classified as cash equivalents	(102,335)	—	—	(102,335)
Total investments	$ —	$5,468	$—	$ 5,468

Realized gains or losses on the maturity of available-for-sale securities for 2011, 2010 and 2009 were insignificant. Unrealized holding gains (losses) on available-for-sale securities, before tax, included in Accumulated other comprehensive income (loss) were $2.5 million in 2011 and $5.5 million in 2010, which were related to the valuation of available-for-sale investment in equity securities. None of the investments at December 31, 2011 have been in a continuous unrealized loss position for greater than twelve months. At December 31, 2011, all investments had a contractual maturity of less than one year.

3. Fair Value

Fair value is defined as the price at which an asset could be exchanged or a liability transferred (an exit price) in an orderly transaction between knowledgeable, willing parties in the principal or most advantageous market for the asset or liability. Where available, fair value is based on observable market prices or parameters or derived from such prices or parameters. Where observable prices or inputs are not available, valuation models are applied. These valuation techniques involve some level of management estimation and judgment, the degree of which is dependent on the price transparency for the instruments or market and the instruments' complexity.

Assets and liabilities recorded at fair value in the Consolidated Financial Statements are categorized based upon the level of judgment associated with the inputs used to measure their fair value. Hierarchical levels directly related to the amount of subjectivity associated with the inputs to valuation of these assets and liabilities, are as follows:

Level 1—Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date.

Level 2—Inputs (other than quoted prices included in Level 1) are either directly or indirectly observable for the asset or liability through correlation with market data at the measurement date and for the duration of the instrument's anticipated life.

Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities and which reflect management's best estimate of what market participants would use in pricing the asset or liability at the measurement date. Consideration is given to the risk inherent in the valuation technique and the risk inherent in the inputs to the model.

The following tables represent the Company's fair value hierarchy for its financial assets (cash equivalents and investments) and financial liabilities measured at fair value on a recurring basis as of December 31, 2011 and December 31, 2010 (in thousands):

	As of December 31, 2011			
	Estimated Fair Value	Level 1	Level 2	Level 3
Assets recorded on the balance sheet:				
Money market funds	$154,572	$154,572	$—	$—
U.S. Treasury securities	4,999	4,999	—	—
Available-for-sale investment in equity securities	2,478	2,478	—	—
Total	$162,049	$162,049	$—	$—
Liabilities:				
Stock portion of distribution payable	$ 535	$ 535	$—	$—
Total	$ 535	$ 535	$—	$—

	As of December 31, 2010			
	Estimated Fair Value	Level 1	Level 2	Level 3
Assets recorded on the balance sheet:				
Money market funds	$102,335	$102,335	$—	$—
Available-for-sale investment in equity securities	5,468	5,468	—	—
Total	$107,803	$107,803	$—	$—
Liabilities:				
Stock portion of distribution payable	1,678	1,678	—	—
Total	$ 1,678	$ 1,678	$—	$—

As of December 31, 2011, the Company held 467,631 shares of Codexis, Inc. common stock, which is reflected on the Company's Consolidated Balance Sheet as Available-for-sale investment in equity securities for $2.5 million. As the fair value of the Company's investment in Codexis, Inc. common stock was based on the $5.30 closing price of such stock on December 30, 2011, and because an active market exists for such shares, the Company has classified the fair value of this asset as a Level 1 asset within the fair value hierarchy. As of December 31, 2010, the Company held 515,876 of such shares with a fair value of $5.5 million, based on the $10.60 closing price of such stock on December 31, 2010.

At December 31, 2011, the Company had an obligation to distribute approximately 101,005 shares of Codexis, Inc. common stock to holders of the Company's restricted stock awards. The fair value of this obligation of $535,000 is determined based on the $5.30 closing price of such stock on December 30, 2011. As of

December 31, 2010, the obligation totaled $1.7 million, based on 158,338 shares of such stock with a $10.60 closing price on December 31, 2010. As the fair value was based on a quoted price in an active market, the Company classified this liability as a Level 1 liability within the fair value hierarchy and as the Stock portion of distribution payable in the table above.

The Company did not have any financial assets or liabilities that were required to be measured at fair value on a non-recurring basis as of December 31, 2011 or December 31, 2010.

4. Asset Sales and Distributions and Licensing Transactions

Sale of Platform Technology to Codexis

On October 28, 2010, the Company entered into an asset purchase agreement with Codexis and Codexis Mayflower Holdings, LLC, a wholly-owned subsidiary of Codexis ("Codexis Holdings"), pursuant to which Codexis Holdings acquired substantially all of the patents and other intellectual property rights associated with the Company's MolecularBreeding™ directed evolution platform. The assets acquired by Codexis Holdings include patents, trademarks, copyrights, software and certain assumed contracts. The assets acquired by Codexis Holdings did not include any patent rights covering the specific products under development by the Company or Perseid and the Company has retained all rights to its MAXY-G34 program.

The intellectual property assets and rights acquired by Codexis Holdings under the agreement will continue to be subject to existing license rights previously granted by the Company to third parties. In connection with the assets acquired by Codexis Holdings under the agreement, the Company also entered into a license agreement with Codexis Holdings, pursuant to which Codexis Holdings has granted to Maxygen certain license rights to the intellectual property assets acquired by Codexis Holdings to the extent necessary for the Company to fulfill its contractual obligations under the license agreements retained by the Company. The license agreement also provides for a grant by the Company of certain license rights to Codexis Holdings, including rights necessary for Codexis Holdings to fulfill its contractual obligations under the license agreements it has assumed under the asset purchase agreement. Under the license agreement, the Company is obligated to continue to pay a portion of certain costs incurred by Codexis in connection with the continued prosecution and maintenance of the acquired patent rights.

Since Codexis Holdings now owns substantially all of the intellectual property rights that were subject to the Company's prior license agreement with Codexis, the Company and Codexis terminated that license agreement in connection with the assets acquired by Codexis Holdings under the asset purchase agreement. The Company's prior license agreement with Codexis was entered into by the parties in connection with the formation of Codexis in March 2002 and granted to Codexis certain exclusive rights to the MolecularBreeding™ directed evolution platform for certain small molecule pharmaceutical, energy and industrial chemical applications. Under the prior license agreement, the Company was entitled to receive 20% of certain consideration received by Codexis from a third party licensee in connection with the commercialization of energy products made with a biocatalyst developed using the licensed technology. The Company was also eligible for a 2% royalty on net sales of any related energy product commercialized directly by Codexis. As a result of the termination of this license agreement, the Company is no longer eligible for any payments or potential royalties from Codexis.

In consideration for the assets acquired by Codexis Holdings under the asset purchase agreement and the termination of the Company's prior license agreement with Codexis, Codexis Holdings paid a total purchase price to the Company of $20.0 million, of which $4.0 million was to be held in escrow to satisfy any indemnification obligations of the Company under the asset purchase agreement. Escrow amounts not used to satisfy such obligations or subject to pending claims will be released to the Company upon expiration of the applicable escrow term. The Company received $2.0 million from escrow in November 2011. The remaining

$2.0 million will be held in escrow and was recorded on the Company's Consolidated Balance Sheet, within Prepaid expenses and other current assets. The $20.0 million purchase price was recorded as Sale of platform technology on the Company's Consolidated Statement of Operations in 2010.

Sale of Vaccines Assets

On January 5, 2010, the Company consummated a transaction with Altravax pursuant to which Altravax acquired substantially all of the Company's vaccines assets, including the related government grants. Under the arrangement and in consideration for the assets sold to Altravax, the Company received payments totaling approximately $1.6 million, including an upfront payment of $500,000 in January 2010, a second payment of $525,000 in December 2010, and a final payment of $550,000 in July 2011. As part of the transaction, the Company also entered into a license agreement under which it granted Altravax certain exclusive licenses in the vaccines field and certain non-exclusive licenses in the adjuvants field to the MolecularBreeding™ directed evolution platform and certain ancillary technologies, in each case, subject to existing third party rights to such licensed assets and technology. In October 2010, the Company sold substantially all of the patents and other intellectual property rights associated with the MolecularBreeding™ directed evolution platform to Codexis. However, the license agreement between the Company and Altravax and the licenses granted to Altravax thereunder remain in effect, and the Company has been granted a license back from Codexis sufficient to satisfy the Company's license obligations to Altravax.

The initial payment of $500,000 was recognized as revenue in the three months ended March 31, 2010 as no further performance obligations existed at that date. The second payment of $525,000 was recognized as revenue upon receipt in the three months ended December 31, 2010. The final payment of $550,000 was recognized as revenue upon receipt, which occurred in the three months ended September 30, 2011. The Company also remains eligible to receive a percentage of certain payments received by Altravax relating to the vaccines technology through July 2013 (two years after the final payment by Altravax). Any further amounts receivable pursuant to this transaction, will be recognized as revenue on the earlier of when payments are received or the amounts can be reliably measured and collectability is reasonably assured.

Distribution of Codexis, Inc. Common Stock and Cash

On December 16, 2010, the Company completed a distribution of a majority of the shares of Codexis, Inc. common stock it held to the Company's stockholders. As a result of the distribution, each of the Company's stockholders received 0.187039 of a share of Codexis, Inc. common stock for each outstanding share of Company's common stock such stockholder held as of the December 3, 2010 record date, subject to a due bill process for shares of Company's common stock traded between the record date and the December 15, 2010 ex-dividend date. The Company's stockholders received cash in lieu of any fraction of a Codexis share that they would have otherwise received in the distribution. In aggregate, the Company distributed 5,445,274 shares of Codexis, Inc. common stock to its stockholders. The Company retained sufficient shares to settle its obligation to distribute Codexis, Inc. common stock to holders of certain outstanding Company equity awards and, at December 31, 2011, the Company held 467,631 shares of Codexis, Inc. common stock, which is reflected on the Company's Consolidated Balance Sheet as Available-for-sale investment in equity securities for $2.5 million.

The fair value of $53.2 million for the shares of Codexis, Inc. common stock distributed was reported as a Gain on distribution of equity securities on the Company's Consolidated Statement of Operations in the year ended December 31, 2010, with a corresponding reduction in Additional paid-in capital on the Company's Consolidated Balance Sheet at December 31, 2010. The fair value was determined based on the closing price of Codexis, Inc. common stock on the December 14, 2010 distribution date.

The Company also made a special cash distribution in the amount of $1.00 for each outstanding share of Company's common stock owned on the December 17, 2010 record date. The cash distribution was paid on December 28, 2010 and, consistent with the accounting for the Codexis, Inc. common stock distribution, was recorded as a reduction in Additional paid-in capital on the Company's Consolidated Balance Sheet at December 31, 2010.

The entire portion of each distribution was treated as a tax-free distribution to the Company's stockholders for U.S. Federal income tax purposes, based on the determination that the Company did not have any current or cumulative earnings and profits in 2010 for U.S. Federal income tax purposes.

The remaining 467,631 shares of Codexis, Inc. common stock held by the Company at December 31, 2011, which are classified as an Available-for-sale investment in equity securities on the Company's Consolidated Balance Sheet, include 101,005 shares that are reserved to settle the Company's obligation to holders of restricted stock awards to release the applicable portion of the Codexis stock and cash distributions upon the vesting of the underlying restricted stock award. The change in value of this obligation is charged to earnings. The current portion of this obligation at December 31, 2011 is $350,000 and the non-current portion is $185,000 with classification based on vesting provisions. For the year ended December 31, 2011, the Company recorded income of $772,000 related to the mark-to-market adjustment of this obligation and a $396,000 gain related to the distribution of Codexis, Inc. common stock in 2011. For the year ended December 31, 2010, the Company recorded a charge of $135,000 related to the mark-to-market adjustment of this obligation. These amounts were included in Interest and other income, net on the Company's Consolidated Statements of Operations. As the 467,631 shares of Codexis, Inc. common stock are classified as an available-for-sale asset, unrealized gains and losses are recorded within Accumulated other comprehensive income (loss) on the Company's Consolidated Balance Sheet.

Sale of Hematology Assets and Grant of Licenses to Bayer HealthCare LLC

In July 2008, the Company sold its hematology assets, including MAXY-VII, the Company's factor VII program, and granted certain licenses to the MolecularBreeding™ directed evolution platform to Bayer HealthCare LLC ("Bayer") and recognized $90.6 million of revenue in 2008 in connection with the transaction, which included an upfront cash payment of $90.0 million. The Company recognized these proceeds in 2008 as Technology and license revenue. The Company is also eligible to receive future cash payments of up to an additional $30.0 million based on the achievement of certain events related to the potential initiation of a phase II clinical trial of MAXY-VII. The payment is also subject to the satisfaction of certain patent related conditions with half of the potential $30.0 million payment subject to the satisfaction of certain patent related conditions in the United States and the remaining half of the potential payment subject to the satisfaction of similar patent related conditions in certain European countries. To date, all of the patent related conditions have been satisfied. However, there can be no assurances that these conditions will remain satisfied at the time of achievement of the events related to the phase II clinical trial, if it occurs. The failure to satisfy these patent related conditions at that time could reduce the potential payment to the Company by 25%, 50% or 75%, or could result in no payment of the potential payment.

Option and License Agreement for MAXY-G34

On May 6, 2009, the Company entered into an option and license agreement with Cangene Corporation ("Cangene") pursuant to which the Company granted Cangene options to obtain certain licenses to intellectual property rights associated with the Company's MAXY-G34 program to fulfill potential future government contracts related to the development, manufacture and procurement of MAXY-G34 for the treatment or prevention of neutropenia associated with ARS.

In July 2010, the agreement with Cangene expired as a result of the decision by the Biomedical Advanced Research and Development Authority ("BARDA"), an agency within the U.S. Department of Health and Human Services, to eliminate Cangene from the competitive range with respect to its bid on a contract for developing a treatment for ARS. Under the agreement, Cangene paid the Company an upfront option fee of $500,000, which was recorded as non-current deferred revenue upon receipt. As a result of the expiration, the Company is no longer eligible for any further payments under the agreement. As a result of the expiration of the agreement, the Company recognized the upfront option fee as revenue in the third quarter of 2010.

The Company continues to retain all rights to MAXY-G34 for commercial development of all therapeutic areas, including all rights for chemotherapy-induced neutropenia and ARS indications, and it is continuing to evaluate the potential further development of the MAXY-G34 program for both indications.

5. Repurchases of Common Stock

Since December 2009, the Company has repurchased a total of 12,227,357 shares of its common stock for a total cost of approximately $66.3 million. These stock repurchases were conducted through open market repurchases, private transactions and pursuant to a modified "Dutch auction" offer.

In December 2009, the Company repurchased 7,345,103 shares pursuant to a modified "Dutch auction" tender offer at a total cost of approximately $39.2 million. In March 2010, the Company repurchased 1,433,361 shares from entities affiliated with GlaxoSmithKline plc at a per share price of $5.55, and the Company repurchased an additional 1,204,604 shares during 2010 as part of an open market repurchase program at an average price of $5.72 per share.

On May 31, 2011, the Company announced a stock repurchase program under which the Company was authorized to purchase up to $10.0 million of its common stock through December 31, 2011. On September 8, 2011, this repurchase program was increased from $10.0 million to $20.0 million. As of December 31, 2011, the Company had repurchased 2,244,289 shares of its common stock under this program at an aggregate cost of approximately $12.3 million. Such plan expired as of December 31, 2011. In January 2012, the Company announced a new stock repurchase program under which it is authorized to purchase up to $10.0 million of its common stock through December 31, 2012.

The table below summarizes the Company's repurchases of its common stock since 2009:

Period	Total Number of Shares Purchased	Total Costs, Net of Fees (In thousands)
2009	7,345,103	$39,170
2010	2,637,965	$14,889
2011	2,244,289	$12,256
Total	12,227,357	$66,315

6. Stockholders' Equity

Maxygen Preferred Stock

The Company is authorized, subject to limitations prescribed by Delaware law, to provide for the issuance of preferred stock in one or more series, to establish from time to time the number of shares included within each series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon, and to increase or decrease the number of shares of any such series (but not below the number of shares of such series then outstanding) without any further vote or action by the stockholders.

401(k) Savings Plan

The Company has a savings plan that qualifies as a deferred salary arrangement under Section 401(k) of the Internal Revenue Code (the "401(k) Plan"). Under the 401(k) Plan, participating employees may defer a percentage (not to exceed 100%) of their eligible pretax earnings up to the Internal Revenue Service's annual contribution limit. All employees of the Company age 18 years or older are eligible to participate in the 401(k) Plan. The Company is not required to contribute to the 401(k) Plan, but beginning in 2001 elected to match contributions of its participating employees in an amount up to a maximum of the lesser of (i) 50% of the employee's 401(k) yearly contributions or (ii) 6% of the employee's yearly base salary. The matching contributions were made in the form of newly issued shares of Company's common stock as of each June 30 and December 31. All matching contributions vested immediately. The Company recorded $119,000 within continuing operations in 2009 for the fair value of its matching contribution to the 401(k) Plan. In September 2009, the Company discontinued matching contributions under the 401(k) Plan. In January 2012, the Company reinstated matching contributions, which will be made in the form of cash at each quarter end.

2006 Equity Incentive Plan

The Company's stockholders approved the 2006 Plan on May 30, 2006. The 2006 Plan replaced the 1997 Plan. The 2006 Plan provides for the grant of stock options (both nonstatutory and incentive stock options), stock appreciation rights, restricted stock, CPUs, restricted stock units, performance shares, performance units and dividend equivalents to employees (including officers), directors and consultants of the Company and its subsidiaries and affiliates. No equity awards may be granted under the 2006 Plan after February 7, 2016. The maximum term of the options granted under the 2006 Plan is ten years. Equity awards granted under the 2006 Plan vest and become exercisable pursuant to a vesting schedule determined by the administrator of the plan. The 2006 Plan does not provide for annual increases in the number of shares available for issuance under the 2006 Plan. At December 31, 2011, 4,438,159 shares remained available for future awards under the 2006 Plan.

Expired Equity Plans

The Company's other equity plans include the 1997 Plan, which was scheduled to expire in March 2007, but was replaced by the 2006 Plan and was terminated as to future awards, the Directors' Plan, which expired on September 29, 2009, the International Plan, which was discontinued in 2007, and the 2000 Plan, which expired on December 6, 2010. As a result, no shares remained available for future awards under the 1997 Plan, the Directors' Plan, the International Plan and the 2000 Plan at December 31, 2011.

Activity under the 2006 Plan, the 1997 Plan, the Directors' Plan, the International Plan and the 2000 Plan was as follows:

		Options and Awards Outstanding	
	Shares Available	Number of Shares	Weighted-Average Exercise Price Per Share
Balance at January 1, 2009	7,476,586	11,272,029	$11.52
Shares authorized	262,571	—	—
Options/RSUs/RSAs granted	(1,837,500)	1,837,500	$ 6.49
Options exercised/RSUs vested	—	(1,700,832)	$ 2.35
Options/RSUs cancelled	2,112,606	(1,871,722)	$20.72
Options/RSUs expired(1)	(75,000)	—	$ —
Balance at December 31, 2009	7,939,263	9,536,975	$ 9.73
Options/RSUs/RSAs granted	(150,850)	150,850	$ 6.14
Options exercised/RSAs vested (or released)	—	(272,038)	$ 2.02
Options/RSAs cancelled	1,127,017	(974,432)	$24.90
Options/RSUs expired(2)	(4,866,007)	—	$ —
Balance at December 31, 2010	4,049,423	8,441,355	$ 8.10
Options/RSUs/RSAs granted	(159,000)	159,000	$ 4.79
Options exercised/RSAs vested (or released)	—	(455,544)	$ 4.83
Options/RSAs cancelled	1,696,137	(1,689,549)	$11.09
Options/RSUs expired(2)	(1,148,401)	—	$ —
Balance at December 31, 2011	4,438,159	6,455,262	$ 7.63

(1) Reflects plan shares that were terminated as a result of the expiration of the Directors' Plan on September 29, 2009.

(2) Reflects plan shares that were terminated as a result of the expiration of the 2000 Plan.

1999 Employee Stock Purchase Plan

The Company's stockholders approved the ESPP on December 14, 1999. The ESPP is intended to qualify as an employee stock purchase plan under Section 423 of the Internal Revenue Code. A total of 400,000 shares of the Company's common stock were initially reserved for issuance under the ESPP. The ESPP permits eligible employees to purchase common stock at a discount, but only through payroll deductions, during defined offering periods. The price at which stock is purchased under the ESPP is equal to 85% of the lower of (i) the fair market value of the common stock on the first day of the offering period or (ii) the fair market value of the common stock on the purchase date. In addition, the ESPP provides for annual increases in the number of shares available for issuance under the purchase plan on the first day of each year, beginning January 1, 2001, equal to the lesser of 200,000 shares, 0.75% of the outstanding shares on the date of the annual increase, or a lower amount determined by the board of directors. The ESPP will terminate in September 2019, unless terminated earlier in accordance with the provisions of the ESPP. In 2009, 62,842 shares of common stock were purchased pursuant to the ESPP. No shares were purchased during 2011 or 2010. The weighted average fair value of purchase rights granted during the year was $2.22 in 2009. At December 31, 2011, 1,446,179 shares remained available for purchase under the ESPP; however, effective from September 1, 2009, the Company suspended all future

employee purchases of Company's common stock under the ESPP. As a result, the number of shares available for issuance under the ESPP has not been increased for 2010 or 2011.

Common Stock

At December 31, 2011, the Company had reserved shares of common stock for future issuance as follows:

2006 Plan	4,033,536
2000 Plan	684,132
International Plan	350,343
ESPP	1,446,179
Directors Plan	180,000
1997 Plan	4,961,572
	11,655,762

7. Income Taxes

Worldwide income (loss) from continuing operations before provision for income taxes consists of the following (in thousands):

	Year Ended December 31,		
	2009	2010	2011
United States	$(27,996)	$65,491	$(10,448)
Foreign	(1,436)	—	—
Income (loss) from continuing operations before income taxes	$(29,432)	$65,491	$(10,448)

The federal and state income tax benefit recorded within continuing operations is summarized as follows (in thousands):

	For the Twelve Months Ended December 31,		
	2009	2010	2011
Current:			
Federal	$(588)	$ —	$(3,657)
State	—	$ —	(596)
Deferred:			
Federal	—	(1,753)	—
State	—	(485)	—
Total deferred tax benefit	—	(2,238)	—
Total tax benefit	$(588)	$(2,238)	$(4,253)

For 2011, the Company recognized a tax benefit of $4.3 million within continuing operations and tax expense of $5.6 million within discontinued operations. The tax expense of $5.6 million recorded within discontinued operations was comprised of the $4.3 million tax expense allocated from continuing operations, a $1.2 million tax expense related to the tax effect of the change in unrealized gains on available-for-sale investments in other comprehensive income and a $103,000 adjustment relating to an uncertain tax position.

For 2011, despite income before taxes, the Company did not incur a tax liability due to the sufficiency of net operating losses and certain tax credits. For 2010, the Company recognized a tax benefit of $2.2 million within continuing operations related to the unrealized gains on available for sale investments in other comprehensive income. The unrealized gains are attributable to the Company's shares of Codexis, Inc. common stock held as of December 31, 2010. This recognized benefit is offset by tax expense in other comprehensive income. For 2009, the Company recognized a tax benefit of $588,000 due to the carryback of alternative minimum tax net operating losses to 2008, 2006 and 2004 and received a refund of the alternative minimum tax charged in those years.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets are as follows (in thousands):

	December 31,	
	2010	2011
Net operating loss carryforwards	$ 25,598	$ 9,887
Research credits	4,924	3,091
Capital loss carryforwards	3,076	—
Capitalized research	947	472
Investment in equity securities	2,203	782
Stock based compensation	13,091	12,795
Accrued expenses and other	725	535
Total deferred tax assets	50,564	27,562
Total deferred tax liabilities	(2,228)	(1,010)
Valuation allowance	(48,336)	(26,552)
Net deferred tax assets and liabilities	$ —	$ —

During 2011, the Company's total deferred tax assets decreased by $23.0 million primarily due to the utilization of net operating losses for federal purposes as a result of the taxable income primarily generated by the gain on the sale of discontinued operations.

The valuation allowance decreased by $21.8 million in 2011 and $2.9 million in 2010, and increased by $11.9 million in 2009. In assessing the realizability of deferred tax assets, the Company considered whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The Company considered future earnings, future taxable income, and the scheduled reversal of deferred taxes in making this assessment. Based on this assessment, the deferred tax assets have been fully offset by a valuation allowance at December 31, 2011 and 2010.

Approximately $4.3 million of the valuation allowance for deferred tax assets relates to benefits of stock option deductions that, when recognized, will be allocated directly to additional paid-in capital.

Net operating losses and tax credit carryforwards as of December 31, 2011 are as follows:

	Amount (In thousands)	Expiration Years
Net operating losses, federal	$14,911	2029-2030
Net operating losses, state	87,873	2015-2030
Tax credits, federal	3,388	2012-2031
Tax credits, state	787	N/A

Utilization of the Company's net operating loss carryforwards may be subject to substantial annual limitation due to the ownership change limitations provided by the Internal Revenue Code and similar state provisions. Such an annual limitation could result in the expiration of the net operating loss carryforwards before utilization.

A reconciliation of income taxes at the statutory federal income tax rate to income taxes attributable to continuing operations included in the Consolidated Statements of Operations is as follows (in thousands):

	December 31,		
	2009	2010	2011
U.S. federal taxes (benefit)			
At statutory rate	$(10,301)	$ 22,922	$(3,657)
State taxes (net of federal)	(1,647)	163	(68)
Stock related deductions	2,193	191	1,154
Loss on sale of investment in subsidiary	—	(5,988)	—
U.S. loss on liquidation of foreign subsidiary	—	(18,468)	—
Unbenefitted foreign losses	9	—	—
Lower tax rates in other jurisdictions	494	376	—
Other	(1,723)	125	(623)
Intraperiod tax allocation	—	—	(4,257)
Change in valuation allowance	10,387	(1,559)	3,198
Total	$ (588)	$ (2,238)	$(4,253)

For the 2010 period, the $6.0 million recorded as the Loss on sale of investment in subsidiary reflects the tax effected amount (at the U.S. statutory rate) of the $17.1 million loss recognized by the Company upon sale of a 21% interest in Maxygen Holdings LLC. The $17.1 million loss represents 21% of the Company's $82.5 million tax basis in Maxygen Holdings LLC, less proceeds received upon sale.

At the time of liquidation, Maxygen Holdings Ltd. was wholly owned by Maxygen Holdings LLC. The $18.5 million recorded as the U.S. loss on liquidation of foreign subsidiary reflects the tax effected amount (at the U.S. statutory rate) of the $52.8 million loss recognized by the Company upon liquidation of Maxygen Holdings Ltd. The $52.8 million loss represents the Company's allocable tax basis in Maxygen Holdings Ltd. of $65.2 million, less the fair market value of assets transferred to Maxygen Holdings LLC of $12.4 million in connection with the liquidation of Maxygen Holdings Ltd.

The losses recognized by the Company of $17.1 million upon the sale of the 21% of Maxygen Holdings LLC and $52.8 million upon the liquidation of Maxygen Holdings Ltd. represent the accumulated tax basis in Maxygen Holdings Ltd. The accumulated tax basis was derived from the cash contributed by the Company to Maxygen Holdings Ltd. since its formation in March 2000. These cash contributions funded the losses attributable to Maxygen Holdings Ltd., which were reflected in the Company's consolidated statements of operations for each applicable reporting period.

At December 31, 2011, the Company had a liability for unrecognized tax benefits of approximately $1.1 million (none of which, if recognized, would favorably affect the Company's effective tax rate). The Company does not believe there will be any material changes in its unrecognized tax positions over the next twelve months.

A reconciliation of the beginning and ending amounts of unrecognized tax benefits is as follows:

	Amount (in thousands)
Balance at January 1, 2010	$1,818
Increases (decrease) related to prior year tax positions	(694)
Increases related to current year tax positions	—
Settlements	—
Reductions due to lapse of applicable statute of limitations	—
Balance at December 31, 2010	$1,124
Increases (decrease) related to prior year tax positions	(70)
Increases related to current year tax positions	—
Settlements	—
Reductions due to lapse of applicable statute of limitations	—
Balance at December 31, 2011	$1,054

Interest and penalty costs related to unrecognized tax benefits, if any, are classified as a component of Interest income and other income (expense), net in the accompanying Consolidated Statements of Operations. The Company, however, did not recognize any interest and penalty expense related to unrecognized tax benefits for the years ended December 31, 2011, 2010 and 2009.

The Company files income tax returns in the U.S. Federal jurisdiction, California and Denmark. The Company is subject to U.S. Federal and state income tax examination for calendar tax years ended 1998 through 2011. Additionally, the Company is subject to various international tax examinations for the calendar tax years ended 2004 through 2010. Danish tax authorities are currently auditing the Company's Danish tax filings for the years 2005 through 2009.

8. Litigation

In December 2001, a lawsuit was filed in the U.S. District Court for the Southern District of New York against the Company and its chief executive officer and chief financial officer at the time of the initial public offering, together with certain underwriters of the Company's initial public offering and secondary public offering of common stock. The complaint, which alleges claims under Sections 11, 12(a)(2) and 15 of the Securities Act of 1933 and Section 10(b) of the Securities Exchange Act of 1934, was among the so-called "laddering" cases that were commenced against more than 300 companies that had public offerings of securities in 1999 and 2000. The case was consolidated with other laddering claims in a proceeding styled *In re Initial Public Offering Securities Litigation*, No. 21 MC 92 (SAS), before the Honorable Shira A. Scheindlin. After years of extensive proceedings and mediation largely involving parties to certain test cases from among the 300 issuers, the parties to the consolidated proceedings reached a global settlement, which contemplated no payment by the Company or its former officers. On October 6, 2009, the District Court approved the settlement, over a number of objections. After further proceedings in both the District Court and the Second Circuit Court of Appeals, the last of the objectors dismissed his appeal on January 10, 2012. The settlement has now become final, and the litigation is concluded.

The Company is not currently a party to any other material pending legal proceedings. From time to time, the Company becomes involved in claims and legal proceedings that arise in the ordinary course of its business. The Company does not believe that the resolution of these claims will have a material adverse effect on its financial statements.

9. Guarantees and Indemnifications

Applicable accounting standards require that upon issuance of a guarantee, the guarantor must recognize a liability for the fair value of the obligations it assumes under that guarantee.

As permitted under Delaware law and in accordance with the Company's Bylaws, the Company indemnifies its officers and directors for certain events or occurrences, subject to certain limits, while the officer or director is or was serving at the Company's request in such capacity. The indemnification agreements with the Company's officers and directors terminate upon termination of their employment, but the termination does not affect claims for indemnification relating to events occurring prior to the effective date of termination. The maximum amount of potential future indemnification is unlimited; however, the Company's director and officer insurance policy reduces the Company's exposure and may enable the Company to recover a portion of any future amounts paid. The Company believes that the fair value of these indemnification agreements is minimal. Accordingly, the Company has not recorded any liabilities for these agreements as of December 31, 2011.

In addition, the Company customarily agrees in the ordinary course of its business to indemnification provisions in its collaboration and licensing agreements, in agreements relating to the sale of assets, in various agreements involving parties performing services for the Company in the ordinary course of business and in its real estate leases. With respect to lease agreements, the indemnification provisions typically apply to claims asserted against the landlord relating to personal injury or property damage caused by the Company, to violations of law by the Company or to certain breaches of the Company's contractual obligations. The indemnification provisions appearing in the Company's collaboration and licensing agreements and in agreements relating to the sale of assets are similar, but in addition provide some limited indemnification for the collaborator, licensee or purchaser of assets in the event of third party claims alleging infringement of certain intellectual property rights or ownership rights. In each of the cases above, the indemnification obligation generally survives the termination of the agreement for some extended period, although the obligation typically has the most relevance during the contract term and for a short period of time thereafter. The maximum potential amount of future payments that the Company could be required to make under these provisions can be unlimited, but is sometimes limited by the value of payments made under the agreement or by an escrow amount. For example, in connection with our sale of intellectual property assets to Codexis in October 2010, $4.0 million of the $20.0 million purchase price was to be held in escrow, with $2.0 million released to the Company in November 2011, and the remaining $2.0 million to be held in escrow until September 2012 to satisfy any of the Company's indemnification obligations under the purchase agreement. The Company has purchased insurance policies covering personal injury, property damage and general liability that reduce its exposure for indemnification and would enable it in many cases to recover a portion of any future amounts paid. The Company has never paid any material amounts to defend lawsuits or settle claims related to these indemnification provisions. Accordingly, the Company believes the estimated fair value of these indemnification arrangements is minimal. Accordingly, the Company has not recorded any liabilities for these agreements as of December 31, 2011.

10. Restructuring Charges

The Company restructured its operations in 2007, 2008 and 2009. The Company recorded estimated expenses associated with its restructuring activities when such expenses were incurred, rather than at the date of a commitment to an exit or disposal plan. Each restructuring is summarized below.

2009 U.S. Restructuring

Beginning in the third quarter of 2009, the Company implemented a restructuring plan in connection with the Company's joint venture agreement with Astellas that resulted in the termination of several employees, including members of the Company's senior management team. Under change of control agreements the

Company entered into with each terminated executive officer, each executive received a lump sum severance payment equal to three times his base salary. In addition, the vesting schedule of each of the executive's outstanding equity awards was accelerated in full as of the date of termination and the post-termination exercise period of the executive's outstanding stock options and other awards was automatically extended to their full original term; provided that shares underlying restricted stock units were delivered to the executive at such later time as specified in the change of control agreements. Under these agreements, subject to certain limitations, the Company was also required to pay all of the costs for each terminated executive's continued group health, dental and vision coverage under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended (COBRA), while the executive remained entitled to coverage under COBRA. As a result of this restructuring plan, the Company recorded restructuring charges of approximately $16.0 million in 2009, which includes $11.4 million of non-cash stock-based compensation. Expenses related to the acceleration of these executive's equity awards were recognized as general and administrative expense in the third quarter of 2009. Substantially all of the severance and one-time termination benefits were paid by December 31, 2010.

2008 U.S. Restructuring

In October 2008, the Company implemented a restructuring plan that resulted in the termination of approximately 30% of its workforce through the end of April 2009. As a result of this restructuring plan, the Company recorded restructuring charges of approximately $1.2 million, primarily in the fourth quarter of 2008. The restructuring charges were primarily associated with one-time termination benefits, the majority of which were paid out during the first quarter of 2009. The Company completed the activities related to this restructuring plan in April 2009.

2007 Denmark Restructuring

In November 2007, the Company implemented a restructuring plan that resulted in the cessation of research and development operations at Maxygen ApS and the elimination of all employment positions at that site. As a result of these actions, a charge of $5.2 million was recorded in the year ended December 31, 2007 and $799,000 was recorded in the year ended December 31, 2008. The Company reversed the remaining balance of $98,000 related to this restructuring in 2010.

11. Related Party Transactions

Waverley

On April 1, 2006, the Company entered into a consulting agreement with Waverley Associates, Inc. ("Waverley"), a private investment firm for which Mr. Isaac Stein is the president and sole stockholder. Mr. Stein also currently serves as executive chairman of the Company's board of directors. The consulting agreement was amended in September 2009 to provide for an increase in the amount of consulting fees payable to Waverley to $50,000 per month. The consulting agreement, as amended to date, also provides for automatic renewal of the agreement for successive one-year terms and a two-year notice period for termination of the agreement by either party. For the years ended December 31, 2011, 2010 and 2009, total expense under this arrangement was approximately $600,000, $600,000 and $374,000 respectively. At December 31, 2011, $50,000 pertaining to this consulting agreement was recorded within accounts payable on the Company's consolidated balance sheet.

12. Property and Equipment

Property and equipment consisted of the following (in thousands):

	December 31,	
	2010	2011
Computer equipment and software	$ 491	$ 339
Furniture and fixtures	88	101
	579	440
Less accumulated depreciation and amortization	(512)	(297)
Property and equipment, net	$ 67	$ 143

13. Commitments

The Company's current commitments are limited to its facility lease for the Company's headquarters in San Mateo, California. The lease expires on December 31, 2012 and includes options to extend the lease for up to two additional years. The minimum annual rental commitment under this facility lease through December 31, 2012 is $156,000.

14. Quarterly Financial Data

QUARTERLY FINANCIAL DATA
(unaudited)

	Quarter Ended			
	March 31,	June 30,	Sept. 30,	Dec. 31,
	(in thousands, except per share data)			
2011				
Technology and license revenue	$ —	$ 3	$ 555	$ 3
Total revenues	—	3	555	3
Operating expenses:				
Research and development	567	783	7	1
General and administrative	3,140	2,638	2,343	2,790
Total operating expenses	3,707	3,421	2,350	2,791
Loss from operations	(3,707)	(3,418)	(1,795)	(2,788)
Gain on distribution of equity securities	85	164	44	103
Interest and other income (expense)	(123)	432	659	(104)
Loss from continuing operations before taxes	$(3,745)	$(2,822)	$(1,092)	$(2,789)
Income tax benefit	1,736	638	727	1,152
Loss from continuing operations	$(2,009)	$(2,184)	$ (365)	$(1,637)
Discontinued Operations:				
Income (loss) from discontinued operations	6,037	(4,735)	—	—
Gain on sale of discontinued operations	—	62,219	—	—
Income tax expense for discontinued operations	(1,517)	(1,521)	(1,948)	(593)
Income (loss) from discontinued operations, net of taxes	4,520	55,963	(1,948)	(593)
Net income (loss)	2,511	53,779	(2,313)	(2,230)
Net income (loss) attributable to non-controlling interest	1,052	(742)	—	—
Net income (loss) attributable to Maxygen, Inc.	$ 1,459	$54,521	$(2,313)	$(2,230)
Basic net income (loss) per share:				
Continuing operations	$ (0.07)	$ (0.07)	$ (0.01)	$ (0.06)
Discontinued operations	$ 0.12	$ 1.93	$ (0.07)	$ (0.02)
Attributable to Maxygen, Inc.	$ 0.05	$ 1.86	$ (0.08)	$ (0.08)
Diluted net income (loss) per share:				
Continuing operations	$ (0.07)	$ (0.07)	$ (0.01)	$ (0.06)
Discontinued operations	$ 0.12	$ 1.93	$ (0.07)	$ (0.02)
Attributable to Maxygen, Inc.	$ 0.05	$ 1.86	$ (0.08)	$ (0.08)
Shares used in basic net income (loss) per share calculations	29,225	29,344	28,358	27,368
Shares used in diluted net income (loss) per share calculations	29,225	29,344	28,358	27,368

	Quarter Ended			
	March 31,	June 30,	Sept. 30,	Dec. 31,
	(in thousands, except per share data)			
2010				
Technology and license revenue	$ 511	$ —	$ 504	$ 528
Related party revenue	1,280	510	230	1
Grant revenue	330	(330)	—	—
Total revenues	2,121	180	734	529
Operating expenses:				
Research and development	1,018	744	269	(129)
General and administrative	2,362	2,004	2,094	3,076
Restructuring charge	—	(98)	—	—
Total operating expenses	3,380	2,650	2,363	2,947
Loss from operations	(1,259)	(2,470)	(1,629)	(2,418)
Gain on distribution of equity securities	—	—	—	53,180
Sale of platform technology	—	—	—	20,000
Interest and other income (expense)	42	244	128	(327)
Income (loss) from continuing operations before taxes	$(1,217)	$(2,226)	$(1,501)	$70,435
Income tax benefit (expense)	—	297	2,878	(937)
Income (loss) from continuing operations	$(1,217)	$(1,929)	$ 1,377	$69,498
Discontinued operations:				
Income (loss) from discontinued operations	(1,209)	3,906	(1,138)	(856)
Income tax benefit (expense) for discontinued operations	—	—	(1,126)	1,126
Income (loss) from discontinued operations, net of taxes	(1,209)	3,906	(2,264)	270
Net income (loss)	(2,426)	1,977	(887)	69,768
Net income (loss) attributable to non-controlling interest	(430)	467	(341)	(148)
Net income (loss) attributable to Maxygen, Inc.	$(1,996)	$ 1,510	$ (546)	$69,916
Basic net income (loss) per share:				
Continuing operations	$ (0.04)	$ (0.06)	$ 0.05	$ 2.39
Discontinued operations	$ (0.02)	$ 0.11	$ (0.07)	$ 0.01
Attributable to Maxygen, Inc.	$ (0.06)	$ 0.05	$ (0.02)	$ 2.40
Diluted net income (loss) per share:				
Continuing operations	$ (0.04)	$ (0.06)	$ 0.05	$ 2.37
Discontinued operations	$ (0.02)	$ 0.11	$ (0.07)	$ 0.02
Attributable to Maxygen, Inc.	$ (0.06)	$ 0.05	$ (0.02)	$ 2.39
Shares used in basic net income (loss) per share calculations	31,115	31,091	29,402	29,132
Shares used in diluted net income (loss) per share calculations	31,115	31,091	29,598	29,313

15. Discontinued Operations

In connection with the acquisition by Astellas of all of the Company's equity interests in Perseid for $76.0 million in cash, the Company reported a gain on the sale of $62.2 million, which reflects the elimination of the Company's basis, including the reversal of income allocated to non-controlling interests, of $12.5 million, $1.2 million in license fees triggered by the transaction, and related transaction costs of $115,000.

As a result of the acquisition, the Company reported the financial results and financial condition of Perseid and its related business activities as discontinued operations. Summarized balance sheet information for the discontinued operations is as follows (in thousands):

	December 31, 2010	December 31, 2011
Assets:		
Cash and cash equivalents	$25,692	$—
Related party receivables	5,071	—
Prepaid expenses and other current assets	788	—
Property and equipment, net	1,665	—
Deposits and other assets	1,195	—
Assets of discontinued operations	$34,411	$—
Liabilities:		
Accounts payable	$ 1,409	$—
Payable to Maxygen	1,127	—
Accrued compensation	1,871	—
Accrued project costs	3,277	—
Other accrued liabilities	1,562	—
Related party deferred revenue	2,999	—
Other liabilities	436	—
Liabilities of discontinued operations	$12,681	$—

Summarized operating results for the discontinued operations are as follows (in thousands):

	Year Ended December 31,		
	2009	2010	2011
Related party revenue	$27,186	$33,304	$15,979
Grant revenue	—	733	—
Total revenues	27,186	34,037	15,979
Operating expenses:			
Research and development	27,678	30,133	11,909
General and administrative	2,826	3,139	2,756
Total operating expenses	30,504	33,272	14,665
Income (loss) from operations	(3,318)	765	1,314
Interest and other income (expense), net	5	(62)	(12)
Income (loss) from discontinued operations before taxes	(3,313)	703	1,302
Gain on sale of discontinued operations	—	—	62,219
Income tax expense for discontinued operations	—	—	(5,579)
Income (loss) from discontinued operations, net of taxes	$ (3,313)	$ 703	$57,942

The results presented for the year ended December 31, 2011 represents activities through May 16, 2011, the date Astellas acquired the Company's equity interests in Perseid. There were no activities related to discontinued operations during the remainder of 2011.

The Company recorded a gain from the sale of Perseid in the twelve months ended December 31, 2011, which was calculated as follows (in thousands):

Cash received from sale	$ 76,000
Less: Basis in Perseid	(12,486)
Less: License fee	(1,180)
Less: Transaction costs	(115)
Gain on sale of Perseid	$ 62,219

Profits Interest Units

Perseid granted profits interest units ("PIUs") under the Perseid 2009 Equity Incentive Plan, which was adopted on September 18, 2009, to employees of Perseid and to employees of the Company who were providing services to Perseid. A PIU is a special type of limited liability company common unit that allowed the recipient to participate in the increase in the value of Perseid. The PIUs were intended to meet the definition of a "profits interest" under I.R.S. Revenue Procedure 93-27 and I.R.S. Revenue Procedure 2001-43. The PIUs were originally scheduled to vest over four years, subject to the recipient remaining an employee or service provider of Perseid through each vesting date.

In connection with the consummation of the purchase by Astellas of the Company's equity interests in Perseid on May 16, 2011, Astellas purchased for cash all vested PIUs held by Perseid's then-current and former employees and other service providers as of the closing date and paid cash for all remaining unvested PIUs on November 16, 2011 (six months after closing). The cash value of a PIU was equal to the deemed value of a Perseid common unit at the time of the buy-out of the Company's equity interests in Perseid by Astellas (based on the option exercise price), less the deemed value of a common unit at the time the PIU was granted.

The Company has recorded compensation expense associated with the PIUs of $4.4 million within discontinued operations in the year ended December 31, 2011 and there was no compensation expense related to PIUs recorded in the year ended December 31, 2010. Since the Company deconsolidated Perseid's financial results from its consolidated financial statements on May 16, 2011, the date of the acquisition of Perseid by Astellas, no further compensation expense will be recorded in connection with these awards. The value of the PIUs was determined based on the option exercise price of $76.0 million on March 17, 2011, the date Astellas exercised its option.

Collaborative Agreements

During 2011, 2010 and 2009, the Company recognized revenue, within discontinued operations, primarily from the two collaboration agreements with Astellas described below. Total revenue recognized under these collaboration agreements was $16.0 million in 2011, $33.3 million in 2010 and $27.2 million in 2009.

Astellas (MAXY-4)

In September 2008, the Company entered into a co-development and collaboration agreement with Astellas, relating to the development and commercialization of the Company's MAXY-4 product candidates for autoimmune diseases and transplant rejection. Under the agreement, the Company received an upfront fee of

$10.0 million. Astellas also paid for the first $10.0 million of certain preclinical development costs that would otherwise have been shared by the parties. This agreement was assigned to Perseid on September 18, 2009, in connection with its formation. Total revenue recognized within discontinued operations under this collaboration agreement was $12.4 million in 2011, $24.7 million in 2010 and $24.9 million in 2009.

Astellas (Other Products)

In September 2009, in connection with the formation of Perseid, Perseid entered into a new collaboration agreement with Astellas relating to the discovery, research and development by Perseid of multiple protein therapeutics (other than the MAXY-4 program). Under this agreement, Astellas was to fund substantially all of the costs, estimated at up to $30.0 million over three years and subject to certain limitations, of Perseid's discovery, research and development activities. Total revenue recognized within discontinued operations under this collaboration agreement was $3.6 million in 2011, $8.6 million in 2010 and $2.3 million in 2009.

16. Segment and Geographic Information

The Company's focus during the past several years has principally been in the field of human therapeutics. As such, the Company has determined that it operates in one segment because operating results are reported only on an aggregate basis to the Company's chief operating decision maker.

The Company's primary country of operation is the United States, its country of domicile. Revenues are attributed to geographic areas based on the location of collaborators. Long-lived assets include property and equipment.

The disclosures in the tables below contain information within continuing operations:

	Year Ended December 31,		
	2009	2010	2011
	(in thousands)		
Revenues			
North America	$9,190	$3,564	$561
Total revenue	$9,190	$3,564	$561

	December 31,	
	2010	2011
	(in thousands)	
Long-Lived Assets		
North America	$67	$143
Total long-lived assets	$67	$143

Major licensees and customers (excluding grant agencies) that represent more than 10% of total Company revenue within continuing operations are presented in the following table:

	2009	2010	2011
Party A	50.0%	57.0%	98%
Party B	19.0%	14.0%	—
Party C	20.0%	29.0%	—

No other customer, licensee or other party has comprised more than 10% of the Company's revenue in any period presented.

Item 9 CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

Item 9A CONTROLS AND PROCEDURES

Evaluation of Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 ("the Exchange Act")) as of the end of the period covered by this report. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures are effective in reaching a reasonable level of assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time period specified in the Securities and Exchange Commission's rules and forms.

Changes in Internal Control

There has been no change in our internal controls over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during our most recently completed fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal controls over financial reporting.

Annual Report on Internal Control Over Financial Reporting

Company management is responsible for establishing and maintaining adequate internal control over financial reporting. Management assessed the effectiveness of our internal control over financial reporting as of December 31, 2011. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in "Internal Control—Integrated Framework." Based on the assessment using those criteria, management believes that, as of December 31, 2011, our internal control over financial reporting was effective.

Ernst & Young LLP, an independent registered public accounting firm, assessed the effectiveness of our internal controls over financial reporting as of December 31, 2011 and has issued an unqualified opinion. Their report appears below.

Limitations on the Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures and internal controls over financial reporting will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system will be met. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Item 9B OTHER INFORMATION

Not applicable.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders of
Maxygen, Inc.

We have audited Maxygen, Inc.'s internal control over financial reporting as of December 31, 2011, based on criteria established in *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO criteria). Maxygen, Inc.'s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

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

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

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

In our opinion, Maxygen, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2011, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the 2011 consolidated financial statements and our report dated March 8, 2012 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

Redwood City, California
March 8, 2012

PART III

Item 10 DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

We have adopted a written code of ethics that applies to our senior financial officers, including our principal executive officer, principal financial officer and principal accounting officer. We have posted the text of such code of ethics on our website (www.maxygen.com). We intend to satisfy the disclosure requirement of Item 5.05 of Form 8-K regarding an amendment to, or a waiver from, a provision of our code of ethics that applies to our principal executive officer, principal financial officer, or principal accounting officer by posting such information on our website.

The remaining information required by this item is incorporated by reference from the sections captioned "Election of Directors," "Executive Officers," "Section 16(a) Beneficial Ownership Reporting Compliance" and "Corporate Governance—Board Committees—Audit Committee" contained in the 2012 Proxy Statement.

Item 11 EXECUTIVE COMPENSATION

The information required by this item is incorporated by reference from the sections captioned "Executive Compensation," "Director Compensation," "Compensation Committee Report" and "Compensation Committee Interlocks and Insider Participation" contained in the 2012 Proxy Statement.

Item 12 SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item is incorporated by reference from the sections captioned "Security Ownership of Certain Beneficial Owners and Management" and "Securities Authorized for Issuance Under Equity Compensation Plans" contained in the 2012 Proxy Statement.

Item 13 CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item is incorporated by reference from the sections captioned "Related Party Transactions" contained in the 2012 Proxy Statement.

Item 14 PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this item is incorporated by reference from the section captioned "Ratification of Selection of Independent Registered Public Accounting Firm" contained in the 2012 Proxy Statement.

PART IV

Item 15 EXHIBITS, FINANCIAL STATEMENT SCHEDULES

15(a)(1) Financial Statements. The following documents are being filed as part of this report:

15(a)(2) Financial Statement Schedules. Financial statement schedules have been omitted because they are either presented elsewhere, are inapplicable or are immaterial as defined in the instructions.

15(a)(3) Exhibits.

See attached Exhibit Index.

SIGNATURES

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

MAXYGEN, INC.

March 8, 2012

By: /s/ JAMES R. SULAT
James R. Sulat
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints each of James R. Sulat and John M. Borkholder, his or her true and lawful attorney-in-fact and agent, with full power of substitution and re-substitution, for him or her and in his or her name, place and stead, in any and all capacities to sign any and all amendments to this Report on Form 10-K, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

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

Signature	Title	Date
/s/ JAMES R. SULAT **James R. Sulat**	Chief Executive Officer (Principal Executive Officer), Chief Financial Officer (Principal Financial and Accounting Officer) and Director	March 8, 2012
/s/ ISAAC STEIN **Isaac Stein**	Executive Chairman of the Board	March 8, 2012
/s/ LOUIS G. LANGE **Louis G. Lange**	Director	March 8, 2012
/s/ KENNETH B. LEE, JR. **Kenneth B. Lee, Jr.**	Director	March 8, 2012
/s/ ERNEST MARIO **Ernest Mario**	Director	March 8, 2012
/s/ GORDON RINGOLD **Gordon Ringold**	Director	March 8, 2012

EXHIBIT INDEX

Exhibit No.	Description of Exhibit	Incorporation by Reference				Filed Herewith
		Form	SEC File No.	Exhibit	Filing Date	
2.1	Series A Preferred Unit Purchase Agreement, dated as of May 16, 2011, between Maxygen, Inc., Astellas Bio Inc. and Perseid Therapeutics LLC	8-K	000-28401	2.1	5/20/2011	
2.2+	Technology Transfer Agreement, dated as of July 1, 2008, by and among Maxygen, Inc., Maxygen Holdings Ltd., Maxygen ApS and Bayer HealthCare LLC	10-Q/A	000-28401	2.1	1/9/2009	
2.2.1+	Intellectual Property Cross License Agreement, dated as of July 1, 2008, by and among Maxygen, Inc., Maxygen Holdings Ltd., Maxygen ApS and Bayer HealthCare LLC	10-Q/A	000-28401	2.1.1	1/9/2009	
2.2.2+	License Agreement, dated as of July 1, 2008, by and between Maxygen, Inc. and Bayer HealthCare LLC	10-Q/A	000-28401	2.1.2	1/9/2009	
2.3	Master Joint Venture Agreement, dated as of June 30, 2009, by and among Maxygen, Inc., Astellas Pharma Inc. and Astellas Bio Inc. (terminated as of May 16, 2011)	8-K	000-28401	2.1	7/1/2009	
2.3.1	Asset Contribution Agreement, dated as of September 18, 2009, by and between Maxygen, Inc. and Perseid Therapeutics LLC (terminated as of May 16, 2011)	8-K	000-28401	2.1.1	9/21/2009	
2.3.2	Other Products Collaboration Agreement, dated as of September 18, 2009, by and between Perseid Therapeutics LLC and Astellas Pharma Inc. (Form) (terminated as of May 16, 2011)	8-K	000-28401	2.1.2	7/1/2009	
2.3.3	Technology License Agreement, dated as of September 18, 2009, by and between Maxygen, Inc. and Perseid Therapeutics LLC	8-K	000-28401	2.1.2	9/21/2009	
2.3.4	Limited Liability Company Agreement of Perseid Therapeutics LLC, dated as of September 18, 2009 (terminated as of May 16, 2011)	8-K	000-28401	2.1.3	9/21/2009	
2.3.5	Series A and Series B Preferred Unit Purchase Agreement, dated as of September 18, 2009, by and among Maxygen, Inc., Astellas Bio, Inc. and Perseid Therapeutics LLC (terminated as of May 16, 2011)	8-K	000-28401	2.1.4	9/21/2009	

Exhibit No.	Description of Exhibit	Incorporation by Reference				Filed Herewith
		Form	SEC File No.	Exhibit	Filing Date	
2.3.6	Investors' Rights Agreement, dated as of September 18, 2009 by and between Perseid Therapeutics LLC and the persons and entities listed on Exhibit A thereto (terminated as of May 16, 2011)	8-K	000-28401	2.1.5	9/21/2009	
2.3.7	Co-Sale Agreement, dated as of September 18, 2009, by and among Perseid Therapeutics LLC, Maxygen, Inc. and Astellas Bio Inc. (terminated as of May 16, 2011)	8-K	000-28401	2.1.6	9/21/2009	
2.3.8	Voting Agreement, dated as of September 18, 2009, by and among Perseid Therapeutics LLC, Maxygen, Inc. and Astellas Bio Inc. (terminated as of May 16, 2011)	8-K	000-28401	2.1.7	9/21/2009	
2.4	Asset Purchase Agreement, dated as of October 28, 2010, between Maxygen, Inc., Codexis, Inc. and Codexis Mayflower Holdings, LLC	8-K	000-28401	2.1	8/28/2010	
2.4.1	License Agreement, dated as of October 28, 2010, between Maxygen, Inc. and Codexis Mayflower Holdings, LLC	8-K	000-28401	2.1.1	8/28/2010	
3.1	Amended and Restated Certificate of Incorporation	10-Q	000-28401	3.1	8/14/2000	
3.2	Amended and Restated Bylaws	8-K	000-28401	3.1	9/07/2007	
4.1	Specimen Common Stock Certificate	S-1	333-89413	4.1	11/22/1999	
*10.1	Form of Executive Officer and Director Indemnification Agreement	S-1	333-89413	10.7	10/20/1999	
*10.2	Offer Letter to James Sulat dated September 22, 2009	8-K	000-28401	10.1	9/28/2009	
*10.3	Form of Executive Officer Change of Control Agreement	8-K	000-28401	10.2	9/28/2009	
*10.4	Retention Agreement, dated June 30, 2009, between Maxygen, Inc. and Grant Yonehiro (including form of consulting agreement)	8-K	000-28401	10.2	7/1/2009	
*10.5	Contingent Offer Letter to Grant Yonehiro from Maxygen, Inc. dated June 26, 2009	8-K	000-28401	10.4	7/1/2009	
*10.6	Description of Non-Employee Director Compensation	10-K	000-28401	10.13	3/11/10	
*10.7	Consulting Agreement, between Maxygen, Inc. and Waverley Associates, Inc., dated as of April 1, 2006	8-K	000-28401	10.1	4/04/2006	

Exhibit No.	Description of Exhibit	Incorporation by Reference				Filed Herewith
		Form	SEC File No.	Exhibit	Filing Date	
*10.7.1	Letter Agreement (re extension of Consulting Agreement), between Maxygen, Inc. and Waverley Associates, Inc., dated as of December 19, 2007	10-K	000-28401	10.18.1	3/07/2008	
*10.7.2	Letter Agreement (re amendment of Consulting Agreement), between Maxygen, Inc. and Waverley Associates, Inc., dated as of May 27, 2008	10-Q	000-28401	10.2	8/05/2008	
*10.7.3	Letter Agreement (re amendment of Consulting Agreement), between Maxygen, Inc. and Waverley Associates, Inc., dated as of October 13, 2009	10-Q	000-28401	10.4	11/5/09	
*10.8	1997 Stock Option Plan, as amended, with applicable option agreement	10-Q	000-28401	10.1	8/14/2002	
*10.9	1999 Nonemployee Directors Stock Option Plan, as amended, with applicable option agreement	10-Q	000-28401	10.3	8/14/2001	
*10.10	1999 Employee Stock Purchase Plan, as amended	10-K	000-28401	10.11	3/21/2001	
*10.11	2000 International Stock Option Plan, as amended, with applicable option agreement	10-K	000-28401	10.6	3/25/2002	
10.12	2000 Non-Officer Stock Option Plan, as amended, with applicable option agreement	S-8	333-57486	99.3	3/23/2001	
*10.13	2006 Equity Incentive Plan (including related form of stock option agreement)	8-K	000-28401	10.4	6/30/2006	
*10.13.1	Form of Restricted Stock Award Agreement under 2006 Equity Incentive Plan	10-Q	000-28401	10.5	11/5/2009	
*10.13.2	Form of Amended and Restated Restricted Stock Unit Award Agreement under 2006 Equity Incentive Plan	10-K	000-28401	10.9.1	3/11/2009	
*10.13.3	Form of Contingent Performance Unit Award Agreement under 2006 Equity Incentive Plan	10-Q	000-28401	10.6	11/5/09	
*10.14	Perseid Therapeutics LLC 2009 Equity Incentive Plan (including related form of profits interest unit agreement) (terminated as of May 16, 2011)	8-K	000-28401	10.1	9/21/09	
21.1	List of Subsidiaries					X
23.1	Consent of Independent Registered Public Accounting Firm					X

Exhibit No.	Description of Exhibit	Incorporation by Reference				Filed Herewith
		Form	SEC File No.	Exhibit	Filing Date	
24.1	Power of Attorney (included on signature page)					X
31.1	Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
32.1	Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					X
101.INS	XBRL Instance Document					X
101.SCH	XBRL Taxonomy Extension Schema Document					X
101.CAL	XBRL Taxonomy Calculation Linkbase Document					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB	XBRL Taxonomy Label Linkbase Document					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document					X

* Management contract or compensatory plan or arrangement.

\+ Confidential treatment has been granted with respect to portions of the exhibit. A complete copy of the agreement, including the redacted terms, has been separately filed with the Securities and Exchange Commission.

Exhibit 21.1

List of Subsidiaries

Maxygen ApS (Denmark)
Maxygen Holdings, Inc. (Delaware)
Maxygen Holdings LLC (Delaware)
Maxygen Holdings (U.S.), Inc. (Delaware)

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statements on Forms S-8 (File Nos. 333-93423, 333-38078, 333-44794, 333-57486, 333-84904, 333-104108, 333-113651, 333-123323, 333-132478, 333-138898, 333-141287, 333-149622 and 333-157928) pertaining to the 2006 Equity Incentive Plan, the 2000 International Stock Option Plan, the 2000 Non-Officer Stock Option Plan, the 1997 Stock Option Plan, the 1999 Employee Stock Purchase Plan and the 1999 Nonemployee Directors Stock Option Plan of Maxygen, Inc. of our reports dated March 8, 2012, with respect to the consolidated financial statements of Maxygen, Inc., and the effectiveness of internal control over financial reporting of Maxygen, Inc., included in this Annual Report (Form 10-K) for the year ended December 31, 2011.

/s/ Ernst & Young LLP

Redwood City, California
March 8, 2012

Exhibit 31.1

Certification of Chief Executive Officer and Chief Financial Officer
Pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002

I, James R. Sulat, certify that:

1. I have reviewed this annual report on Form 10-K of Maxygen, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 8, 2012

/s/ James R. Sulat

James R. Sulat
Chief Executive Officer & Chief Financial Officer

Exhibit 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, James R. Sulat, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge the Annual Report of Maxygen, Inc. on Form 10-K for the annual period ended December 31, 2011 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Annual Report on Form 10-K fairly presents in all material respects the financial condition and results of operations of Maxygen, Inc.

By: /s/ James R. Sulat
Name: James R. Sulat
Title: Chief Executive Officer &
Chief Financial Officer
Date: March 8, 2012

OFFICERS

James R. Sulat
Chief Executive Officer, Chief Financial Officer and Director

John Borkholder
General Counsel & Secretary

BOARD OF DIRECTORS

Isaac Stein, Executive Chairman
President, Waverley Associates, Inc.

James R. Sulat
Chief Executive Officer and Chief Financial Officer

Louis G. Lange
Partner, Asset Management Company; Senior Advisor, Gilead Sciences, Inc.

Kenneth B. Lee, Jr.
General Partner, Hatteras Venture Partners, LLC

Ernest Mario
Chairman and Chief Executive Officer, Capnia, Inc.

Gordon Ringold
Senior Director, University of California, Santa Cruz, Silicon Valley Initiatives; Executive Chairman, Alavita Pharmaceuticals, Inc.

STOCKHOLDER INFORMATION

Corporate Headquarters
Maxygen, Inc.
411 Borel Avenue, Suite 616
San Mateo, CA 94402
(650) 241-2292

Transfer Agent
Computershare Trust Company, N.A.
P.O. Box 43078
Providence, RI 02940-3078

Courier/Registered Mail:
Computershare Trust Company, N.A.
250 Royall Street
Canton, MA 02021
(781) 575-2879
(800) 952-9245 Hearing Impaired
www.computershare.com

Common Stock
Maxygen, Inc. common stock is listed on the Nasdaq Global Market under the symbol MAXY

Independent Registered Public Accountants
Ernst & Young LLP
Redwood City, CA

Investor Relations Contact
Adriann Poat
Maxygen, Inc.
411 Borel Avenue, Suite 616
San Mateo, CA 94402
(650) 241-2292

For additional information regarding Maxygen, including access to press releases, financial information, SEC filings, webcasts and stock quotes, please visit our website at www.maxygen.com.