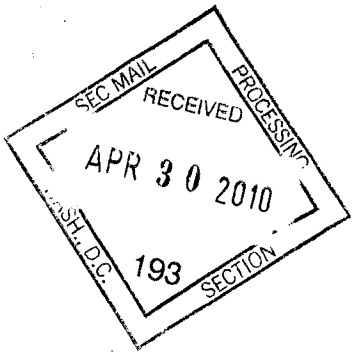

sunesis

Letter to Stockholders

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2010 Annual Meeting of Stockholders
Notice and Proxy Statement

o

2009 Annual Report on Form 10-K

Dear Fellow Stockholders:

We are pleased to report that Sunesis' lead product candidate, voreloxin, reached an important inflection point in 2009. Voreloxin has become a leading, pivotal-stage product candidate for the treatment of acute myeloid leukemia (AML) as a result of our execution of a focused development program and the promising data emerging from two Phase 2 trials in this indication.

In reaching this point, Sunesis has achieved a number of important objectives. These include securing U.S. orphan drug designation in AML, completing enrollment of two Phase 2 AML trials, presenting important results from these trials at major scientific meetings, conducting productive interactions with the U.S. Food and Drug Administration in early 2010 and raising additional capital to help realize our goals. The data emerging from our voreloxin program in AML underscore the potential of this first-in-class anticancer quinolone derivative, or AQD, and next-generation topoisomerase II inhibitor to impact the treatment landscape of this devastating disease. With these results, Sunesis is moving forward with plans to initiate a pivotal Phase 3 trial in AML, anticipated to begin in the second half of 2010. As the year unfolds, we will determine how best to fund this trial, as well as other ways to explore voreloxin as a significant new treatment for other malignancies. These options include potential financing, partnering or other strategic transactions.

Voreloxin has the potential to transform the AML therapeutic landscape, a market with few approved treatment options. Recent advances in treatment have brought progress to the management of many cancers, extending lives and improving patient outcomes. But for patients with AML, improvements in treatment standards have not kept pace. In fact, treatment options have not changed appreciably within this disease for over 30 years. Adding further complication is the fact that AML is generally a disease of older adults, many of whom are not considered candidates for standard therapy due to its toxicity, and many of whom are refractory to standard therapy or relapse shortly after an initial response. Voreloxin is chemically distinct from current standards in AML treatment, and the drug's following therapeutic characteristics can address the many shortcomings of current standards: the ability to evade drug resistance pathways; a chemical core structure that lessens the potential for cardio- and organ toxicity; limited distribution to normal tissues relative to anthracyclines that may limit off-target toxicities; lower potential for drug-drug interaction; and a convenient 10-minute IV administration.

Phase 2 data presented this year provide clinical evidence of voreloxin's potential to improve outcomes in AML. Key to voreloxin's advancement into a pivotal Phase 3 trial is the data yielded from our fully enrolled Phase 2 trials, which were most recently presented at the American Society of Hematology Annual Meeting in December 2009. Our combination trial, evaluating voreloxin plus cytarabine, a widely used chemotherapy, in patients with relapsed or refractory AML, demonstrated durable complete remissions and low all-cause mortality which translated into preliminary median overall survival (7.8 months) that compares favorably to historical outcomes (3.4 – 5.9 months, Giles et al, Litzow et al.). Our single agent trial in front-line elderly AML patients also produced meaningful remission rates

and promising preliminary survival data. In both trials and in both settings — as a single agent and in combination with cytarabine — voreloxin was well tolerated.

Moving into pivotal testing. Our efforts are now focused on advancing the voreloxin program into a pivotal trial in AML. We recently completed End-of-Phase 2 meetings with the FDA and, based on the development clarity received in these meetings, are proceeding with our plan to initiate a global registration trial in the second half of 2010. We expect this trial to be a randomized, double-blind, placebo-controlled, pivotal Phase 3 trial evaluating voreloxin in combination with cytarabine, compared to cytarabine with placebo, in approximately 450 patients with first relapsed or primary refractory AML. Overall survival, the gold standard measurement of both efficacy and safety in oncology clinical trials, will serve as the primary endpoint. As part of the preparation for this pivotal trial, Sunesis is obtaining the European Medicines Agency's scientific advice.

We continue to be pleased with the enthusiastic response toward voreloxin from the medical community. This enthusiasm is visible both in the speed with which we were able to enroll our Phase 2 trials and the growing network of support we enjoy among thought leaders in AML. This interest also extends to potential partners and investors and, we believe, will serve us well as voreloxin moves into Phase 3.

Our efforts in AML will lead the way for voreloxin in other indications, including solid tumors and other hematologic malignancies. Voreloxin is a first-in-class anticancer quinolone derivative whose properties have the potential to provide for an improved therapeutic profile compared to known topoisomerase inhibitors, such as the anthracyclines. Beyond our AML program, we continue to see signals of efficacy in the solid tumor setting. At the American Society for Clinical Oncology 2009 Annual Meeting last June, we provided an update from our ongoing Phase 2 trial of voreloxin in heavily pretreated, platinum-resistant ovarian cancer. We were encouraged by promising, durable anti-tumor activity and a manageable toxicity profile in this equally underserved patient population.

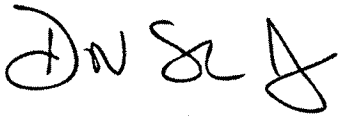
Unlike the anthracycline class of topoisomerase inhibitors, voreloxin evades several drug resistance pathways and, due to its less reactive quinolone-like chemical core, produces far fewer free radicals which are associated with the cardiotoxicity observed with anthracyclines. Voreloxin shows the potential to serve as a pipeline within a drug and ultimately change current treatment standards with improved outcomes. This potential encompasses a variety of hematologic malignancies and solid tumors, such as MDS, breast, prostate and ovarian cancers.

Sunesis is delivering on the promise of voreloxin. 2009 was an important year for the voreloxin program and for Sunesis, and I am extremely proud of what we have achieved in a short period of time. By dedicating our resources and efforts to the lead AML indication, we executed a thoughtful development and regulatory strategy that has produced tangible evidence of the potential of voreloxin and established a well-defined, efficient path toward registration. We have moved voreloxin to a leading position among investigational AML

treatments, and have set the stage for continued value creation over the coming year as we transition to Phase 3.

Our data in AML to date, combined with voreloxin's strong IP position, orphan drug designation, positive solid tumor data and broad commercial opportunity, has allowed us to execute the strategy we laid out in 2009 and paved the way for achieving our goals in 2010. In addition, it has afforded opportunities to translate our progress into funding, including our April 2009 equity financing commitment of up to $43.5 million, from which we have closed on $15 million to date in two tranches and the remainder of which is subject to further funding conditions.

I am grateful to our stockholders as well as our collaborators in the medical community for their ongoing support and commitment, and to my colleagues for their tireless efforts in bringing forward this important treatment candidate. 2010 promises to be an exciting year for the company, and we look forward with great enthusiasm to a new phase in our evolution as a company.



Daniel N. Swisher, Jr.
Chief Executive Officer and President

This letter contains forward-looking statements, including without limitation statements related to the potential safety, efficacy and commercial potential of voreloxin, voreloxin's mechanism of action, results that may warrant further clinical evaluation of voreloxin, and the planned commencement and timing of a pivotal Phase 3 trial of voreloxin. Words such as "believe," "expect," "promising," "potential," and "will" and similar expressions are intended to identify forward-looking statements. These forward-looking statements are based upon Sunesis' current expectations. Forward-looking statements involve risks and uncertainties. Sunesis' actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation, risks related to Sunesis' need for additional funding, the risk that Sunesis' drug development activities for voreloxin could be halted or significantly delayed for various reasons, the risk that Sunesis' clinical trials for voreloxin may not demonstrate safety or efficacy or lead to regulatory approval, the risk that preliminary data and trends may not be predictive of future data or results, the risk that Sunesis' nonclinical studies and clinical trials may not satisfy the requirements of the FDA or other regulatory agencies, risks related to the conduct of Sunesis' clinical trials, risks related to the manufacturing of voreloxin, and the risk that Sunesis' proprietary rights may not adequately protect voreloxin. These and other risk factors are discussed under "Risk Factors" and elsewhere in Sunesis' Annual Report on Form 10-K for the year ended December 31, 2009 and other filings with the Securities and Exchange Commission. Sunesis expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in the company's expectations with regard thereto or any change in events, conditions or circumstances on which any such statements are based.

SUNESIS

SUNESIS PHARMACEUTICALS, INC.
395 Oyster Point Boulevard, Suite 400
South San Francisco, CA 94080

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
To be held on June 2, 2010

To the Stockholders of Sunesis Pharmaceuticals, Inc.:

The 2010 annual meeting of stockholders of Sunesis Pharmaceuticals, Inc. ("Sunesis" or the "Company") will be held on Wednesday, June 2, 2010 at 10:00 a.m., local time, at our headquarters located at 395 Oyster Point Boulevard, Suite 400, South San Francisco, California, 94080 for the following purposes:

1. To elect two directors nominated by the Board of Directors to serve until the 2013 annual meeting of stockholders, as described in the accompanying proxy statement.
2. To ratify the selection of Ernst & Young LLP as the independent registered public accounting firm of the Company for the year ending December 31, 2010.
3. To approve an amendment to Sunesis' amended and restated certificate of incorporation in order to effect a reverse stock split of the issued and outstanding shares of Sunesis' common stock and preferred stock. A copy of the amendment to Sunesis' amended and restated certificate of incorporation to effect the reverse stock split is attached as Annex A to the accompanying proxy statement.
4. To transact any other business that may properly come before the annual meeting or any adjournment or postponement thereof.

These items of business are more fully described in the proxy statement accompanying this Notice. The record date for the annual meeting is April 7, 2010. Only stockholders of record at the close of business on that date are entitled to notice of and to vote at the annual meeting and any adjournment or postponement thereof.

Please see the map at *www.sunesis.com/site/contact_us.php* for directions to Sunesis. We look forward to seeing you at our Annual Meeting.

By Order of the Board of Directors,

South San Francisco, California
April 29, 2010

Eric H. Bjerkholt
Senior Vice President, Corporate Development and Finance, Chief Financial Officer and Corporate Secretary

You are cordially invited to attend the annual meeting in person. Whether or not you expect to attend the annual meeting, please complete, date, sign and return the enclosed proxy, or vote over the telephone or the Internet as instructed in these materials, as promptly as possible in order to ensure your representation at the annual meeting. A return envelope (which is postage prepaid if mailed in the United States) has been provided for your convenience. Even if you have voted by proxy, you may still vote in person if you attend the annual meeting. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the annual meeting, you must obtain a proxy issued in your name from that record holder.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Stockholders to be Held at 10:00 a.m., Pacific Time, on Wednesday, June 2, 2010 at Sunesis Pharmaceuticals, Inc. located at 395 Oyster Point Boulevard, Suite 400, South San Francisco, CA 94080.

The proxy statement and annual report to stockholders are available at https://materials.proxyvote.com/867328.

The Board of Directors recommends that you vote FOR each of the proposals identified above.

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SUNESIS PHARMACEUTICALS, INC.
PROXY STATEMENT FOR THE 2010 ANNUAL MEETING OF STOCKHOLDERS

JUNE 2, 2010

INFORMATION CONCERNING SOLICITATION AND VOTING

General

This proxy statement is furnished to our stockholders in connection with the solicitation of proxies by the Board of Directors of Sunesis Pharmaceuticals, Inc., which we sometimes refer to herein as the Company, Sunesis or we, for our 2010 annual meeting of stockholders, or Annual Meeting, to be held on June 2, 2010, and any adjournment, continuation or postponement thereof, for the purposes set forth in the attached Notice of Annual Meeting of Stockholders. Our principal executive office is located at 395 Oyster Point Boulevard, Suite 400, South San Francisco, California 94080. A copy of our Annual Report on Form 10-K for the year ended December 31, 2009 and this proxy statement and the accompanying proxy card are first being distributed to stockholders on or about April 29, 2010.

Solicitation

The expenses of preparing, printing and distributing the materials used in the solicitation of proxies on behalf of the Board of Directors will be borne by us. In addition to the solicitation of proxies by use of the mail, we may utilize the services of certain of our officers and employees (who will receive no compensation in addition to their regular salaries) to solicit proxies personally and by mail, telephone and electronic means from brokerage houses and other stockholders. We have retained American Stock Transfer & Trust Company, or AST, to aid in the distribution of proxies and the provision of telephone and Internet voting services, which will be paid by us. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

Voting Rights and Outstanding Shares

Our common stock and Series A preferred stock are the only types of securities entitled to vote at the Annual Meeting. Each share of common stock and Series A preferred stock entitles the holder of record thereof at the close of business on April 7, 2010 to notice of, and to vote on, each of the matters to be voted upon at the Annual Meeting. There are no statutory or contractual rights of appraisal or similar remedies available to those stockholders who dissent from any matter to be acted on at the Annual Meeting. Cumulative voting is not available and each share of common stock is entitled to one vote per share of common stock and each share of Series A preferred stock is entitled to ten votes per share of Series A preferred stock.

Unless otherwise instructed, shares represented by executed proxies in the form accompanying this proxy statement will be voted as follows:

- FOR the election of two directors nominated by the Board of Directors to serve until the 2013 annual meeting of stockholders (Proposal No. 1);
- FOR the ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm for the year ending December 31, 2010 (Proposal No. 2);

- FOR an amendment to our amended and restated certificate of incorporation in order to effect a reverse stock split of the issued and outstanding shares of our common stock and preferred stock (Proposal No. 3); and
- At the proxyholder's discretion, on such other matters, if any, that may come before the Annual Meeting.

Voting Quorum, Abstentions and Voting Requirements

In order to conduct any business at the Annual Meeting, a quorum must be present in person or represented by valid proxy. A majority of the outstanding shares of the capital stock entitled to vote at the Annual Meeting, present or represented by proxy, constitutes a quorum. As of April 7, 2010, the record date for the Annual Meeting, we had 57,981,195 shares of capital stock outstanding and entitled to vote (on an as-if converted to common stock basis). Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other nominee holding your shares in "street name") or if you vote in person at the Annual Meeting.

Votes will be counted by the inspector of election appointed for the Annual Meeting, who will separately count FOR and WITHHELD votes, with respect to Proposal No. 1, and, with respect to all proposals other than Proposal No. 1, AGAINST votes and abstentions. Abstentions will be counted towards the vote total with respect to all proposals other than Proposal No. 1 and will have the same effect as AGAINST votes. In the event that a broker, bank, custodian, nominee or other record holder of our common stock or preferred stock indicates on a proxy that it does not have discretionary authority to vote certain shares on a particular matter, which is called a broker non-vote, those shares will be counted for the purposes of establishing a quorum, but will not be counted for any purpose in determining whether a proposal has been approved. An automated system administered by AST will tabulate all votes cast at the Annual Meeting.

- For Proposal No. 1 to be approved, the two nominees nominated by the Board of Directors to serve as Class II directors, whose terms will expire at our 2013 annual meeting of stockholders, must receive the most FOR votes (among votes properly cast in person or by proxy) of nominees for the vacancies in such director class in order to be elected. Only votes FOR or WITHHELD will affect the outcome. The director nominees listed in Proposal No. 1 will be elected by a plurality of the votes of the shares present or represented by proxy at the Annual Meeting and entitled to vote on the election of directors.
- To be approved, Proposal No. 2, the ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm for the year ending December 31, 2010, must receive a FOR vote from the majority of the outstanding shares entitled to vote and present either in person or by proxy at the Annual Meeting. If you ABSTAIN from voting, it will be counted towards the tabulation of votes cast on the proposal and will have the same effect as an AGAINST vote.
- To be approved, Proposal No. 3, an amendment to our amended and restated certificate of incorporation to effect a reverse stock split, must receive a FOR vote from a majority of the outstanding shares entitled to vote either in person or by proxy at the Annual Meeting. If you ABSTAIN from voting, it will be counted towards the tabulation of votes cast on the proposal and will have the same effect as an AGAINST vote.

Voting Procedures and Options

The procedures for voting are fairly simple:

Stockholder of Record: Shares Registered in Your Name

If you are a stockholder of record, you may vote in person at the Annual Meeting, vote by proxy using the enclosed proxy card, vote by proxy over the telephone, or vote by proxy via the Internet. Whether or not you plan

to attend the Annual Meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the Annual Meeting and vote in person even if you have already voted by proxy.

- To vote in person, come to the Annual Meeting and we will give you a ballot when you arrive.
- To vote using the proxy card, simply complete, sign and date the enclosed proxy card and return it promptly in the envelope provided. If you return your signed proxy card to us before the Annual Meeting, we will vote your shares as you direct.
- To vote over the telephone, dial toll-free 1-800-776-9437 in the United States or 1-718-921-8500 outside the United States using a touch-tone phone and follow the recorded instructions. You will be asked to provide the company number and control number from the enclosed proxy card. Your vote must be received by 11:59 p.m., Eastern Time, on June 1, 2010 to be counted.
- To vote via the Internet, go to *www.voteproxy.com* to complete an electronic proxy card. You will be asked to provide the company number and control number from the enclosed proxy card. Your vote must be received by 11:59 p.m., Eastern Time, on June 1, 2010 to be counted.

Beneficial Owner: Shares Registered in the Name of a Bank, Broker or Other Nominee

Most beneficial owners whose stock is held in the name of a bank, broker or other nominee, or "street name," will receive instructions for granting proxies from their banks, brokers or other nominees, rather than our proxy card. If your shares are held in street name, you will need to obtain a proxy form from the institution that holds your shares and follow the instructions included on that form regarding how to instruct your broker or other nominee holding the shares to vote your shares. Broker non-votes occur when a beneficial owner of shares held in street name does not give instructions to the broker or nominee holding the shares as to how to vote on matters deemed "non-routine." Generally, if shares are held in street name, the beneficial owner of the shares is entitled to give voting instructions to the broker or nominee holding the shares. If the beneficial owner does not provide voting instructions, the broker or nominee can still vote the shares with respect to matters that are considered to be "routine," but not with respect to "non-routine" matters. Under the rules and interpretations of the New York Stock Exchange, or the NYSE, "non-routine" matters are matters that may substantially affect the rights or privileges of stockholders, such as mergers, stockholder proposals and, for the first time, under a new amendment to the NYSE rules, elections of directors, even if not contested.

For admission to the Annual Meeting, stockholders may be asked to present proof of identification and a statement from their bank, broker or other nominee reflecting their beneficial ownership of our common stock or preferred stock as of April 7, 2010 as well as a proxy from the record holder to the stockholder.

We provide Internet proxy voting to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your Internet access, such as usage charges from Internet access providers and telephone companies.

Shares Registered in the Name of Stockholder

Shares may only be voted by or on behalf of the record holder of shares as indicated in our stock transfer records. If you are a stockholder of record, you are requested either to vote in person at the Annual Meeting, over the telephone, via the Internet or to complete, sign and date the enclosed proxy card and return it in the enclosed envelope. The envelope requires no postage if mailed in the United States. If you return your signed proxy card to us before the Annual Meeting, we will vote your shares as you direct. Unless there are different instructions on the proxy, all shares represented by valid proxies (and not revoked before they are voted) will be voted at the

Annual Meeting FOR each of the nominees named in Proposal No. 1 and FOR Proposals No. 2 and No. 3. With respect to any other business which may properly come before the Annual Meeting or any adjournment or postponement thereof and submitted to a vote of stockholders, proxies will be voted in accordance with the best judgment of the designated proxyholder.

Revocability of Proxies

You may revoke your proxy at any time before it is voted at the Annual Meeting by:

- delivering written notice of revocation to our Corporate Secretary at Sunesis Pharmaceuticals, Inc., 395 Oyster Point Boulevard, Suite 400, South San Francisco, California 94080, or in person at the Annual Meeting;
- submitting a later dated proxy; or
- attending the Annual Meeting and voting in person.

Your attendance at the Annual Meeting will not, by itself, constitute revocation of your proxy.

Results of the Annual Meeting

Preliminary voting results will be announced at the Annual Meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file within four business days after the Annual Meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

Internet Availability of Proxy Materials

This proxy statement and our Annual Report on Form 10-K for the year ended December 31, 2009 are available at https://materials.proxyvote.com/867328.

Availability of Our Independent Registered Public Accounting Firm

Representatives of Ernst & Young LLP, or Ernst & Young, our independent registered public accounting firm, are expected to be present at the Annual Meeting. They will have an opportunity to make a statement if they so desire and will be available to respond to appropriate questions. For additional information regarding the Audit Committee and its activities with Ernst & Young, see "*Information about the Board of Directors and Corporate Governance*" and "*Report of the Audit Committee of the Board of Directors.*"

YOUR VOTE IS IMPORTANT. ACCORDINGLY, PLEASE COMPLETE, SIGN AND RETURN THE ACCOMPANYING PROXY CARD WHETHER OR NOT YOU PLAN TO ATTEND THE ANNUAL MEETING IN PERSON.

PROPOSAL NO. 1

ELECTION OF NOMINEES TO THE BOARD OF DIRECTORS

Our Board of Directors, or our Board, consists of nine members with one vacancy and is divided into three classes of directors serving staggered three-year terms. Directors for each class are elected at the annual meeting of stockholders held in the year in which the term for their class expires and hold office until their earlier death, resignation or removal or their successors are duly elected and qualified. In accordance with our amended and restated certificate of incorporation and bylaws, our Board may fill existing vacancies on the Board by appointment, subject to the terms and conditions of the Investor Rights Agreement described in more detail below.

The term of office of the Class II directors will expire at the Annual Meeting. There are two directors eligible for nomination for the upcoming three-year term. Proxies cannot be voted for more than two persons. The two nominees for Class II director are Drs. James W. Young and Homer L. Pearce, both of whom currently serve as Class II directors. If elected at the Annual Meeting, each of these nominees would serve until our 2013 annual meeting of stockholders and until his successor is elected and qualified, or, if sooner, until his death, resignation or removal.

Directors are elected by a plurality of the votes of the shares present in person or represented by proxy and entitled to vote at the meeting. The two nominees nominated by the Board of Directors to serve as Class II directors, whose terms will expire at our 2013 annual meeting of stockholders, must receive the most FOR votes (among votes properly cast in person or by proxy) of nominees for the vacancies in such director class in order to be elected. Shares represented by executed proxies will be voted, if authority to do so is not withheld, FOR the election of the nominees named below. Only votes FOR or WITHHELD will affect the outcome. Each nominee has indicated his willingness to serve if elected. Our management has no reason to believe that any nominee will be unable to serve. In the event that either of the nominees should be unavailable for election as a result of an unexpected occurrence, shares represented by executed proxies will be voted for the election of a substitute nominee proposed by management.

Pursuant to an Investor Rights Agreement, as of May 1, 2010, we are required to establish and maintain the size of the Board at nine members, five of which may be designated by investors holding a majority-in-interest of our Series A preferred stock. Alta Partners, Bay City Capital LLC, Growth Equity Opportunities Fund, LLC and ONC Partners, L.P., together with their respective affiliates, are each entitled to designate one such investor seat. Alta Partners, Bay City Capital LLC and Growth Equity Opportunities Fund, LLC presently have a designee serving on our Board as described below. See the section titled "*Certain Relationships and Related Party Transactions—Investor Rights Agreements*" for a more complete description of the Investor Rights Agreement.

The following table sets forth information as of March 31, 2010 with respect to our directors, including the two persons nominated for election by our Board at the Annual Meeting.

Name	Age	Director Since
James W. Young, Ph.D.	65	2000
Daniel N. Swisher, Jr.	47	2004
Matthew K. Fust	45	2005
Homer L. Pearce, Ph.D.	57	2006
David C. Stump, M.D.	60	2006
Edward Hurwitz	46	2009
Dayton Misfeldt	36	2009
Helen S. Kim	47	2009

The principal occupations and positions of our directors, including the two persons nominated for election by our Board at the Annual Meeting, for at least the past five years, are as follows:

Class II Nominees for Election to the Board of Directors for a Three-Year Tem Expiring in 2013

James W. Young, Ph.D. served as Executive Chairman of our Board from December 2003 to April 2009 and has served as non-executive Chairman of our Board since April 2009. From May 2000 to November 2003, Dr. Young served as our Chief Executive Officer. In April 2006, he joined 5AM Ventures, a venture capital firm, as a Venture Partner. From September 1995 to March 2000, Dr. Young served as Vice President of Research, as Senior Vice President, Research and Development, and as Group Vice President at ALZA Corporation, a pharmaceutical company. From September 1992 to August 1995, Dr. Young served as Senior Vice President for Business Development and as President of the Pharmaceuticals Division of Affymax, N.V., a biopharmaceutical company. From September 1987 to August 1992, he served as Senior Vice President for Business Development and as Senior Vice President and General Manager of the Pharmaceuticals Division at Sepracor Inc., a pharmaceutical company. Dr. Young also served as a director of Corixa Corporation, a biopharmaceutical company, from 2000 to July 2005. Dr. Young holds a B.S. in Chemistry from Fordham University and a Ph.D. in Organic Chemistry from Cornell University. The Board has concluded that Dr. Young should serve on our Board due to Dr. Young's prior history as chief executive officer and his long tenure as Board Chair, which brings continuity to the Board and a depth of understanding. In addition, the Board believes that he brings operational and industry expertise due to his experience in management of other pharmaceutical and biopharmaceutical companies, as well as leadership skills that are important to the Board.

Homer L. Pearce, Ph.D. served in various capacities at Eli Lilly & Company between 1979 and March 2006, including Vice President, Cancer Research and Clinical Investigation from 1994 to 2002 and Distinguished Research Fellow, Cancer Research, Lilly Research Laboratories from 2002 to March 2006. Since August 2006, Dr. Pearce has served as a consultant to Sunesis, reviewing, assessing and advising us on our development plans and strategies. He is a member of the American Association for Cancer Research, the American Chemical Society and the American Association for the Advancement of Science. Dr. Pearce holds a B.S. from Texas A&M University and a Ph.D. in Organic Chemistry from Harvard University. The Board has concluded that Dr. Pearce should serve on our Board due to his scientific expertise and industry background, which position him to make an effective contribution to the scientific understanding of the Board, which the Board believes to be particularly important as we continue our drug development efforts.

Class III Directors Continuing in Office Until the 2011 Annual Meeting

Matthew K. Fust has been Executive Vice President and Chief Financial Officer at Onyx Pharmaceuticals, Inc., a biopharmaceutical company, since January 2009. Prior to joining Onyx, Mr. Fust was Executive Vice President and Chief Financial Officer at Jazz Pharmaceuticals, Inc., a pharmaceutical company, which he joined in May 2003. From May 2002 to May 2003, Mr. Fust was Chief Financial Officer at Perlegen Sciences, Inc., a biotechnology company. From June 1996 to January 2002, Mr. Fust was with ALZA Corporation, first as Controller and then as Chief Financial Officer. Mr. Fust holds a B.A. in Accounting from the University of Minnesota and an M.B.A. from the Stanford Graduate School of Business. The Board has concluded that Mr. Fust should serve on our Board due to his financial expertise with its focus on the pharmaceutical and biopharmaceutical industries. This expertise makes him an important resource for the Board in its oversight of our financial operations and related reporting.

David C. Stump, M.D. is Executive Vice President, Research and Development, at Human Genome Sciences, Inc., a biopharmaceutical company, and has served at that company since November 1999. From December 2003 to May 2007, Dr. Stump served as Executive Vice President of Drug Development at Human Genome Sciences and, from November 1999 to December 2003, as its Senior Vice President, Drug Development. Prior to joining Human Genome Sciences, Dr. Stump held roles of increasing responsibility at Genentech, Inc., a biopharmaceutical company, from 1989 to 1999, including Vice President, Clinical Research

and Genentech Fellow. Prior to joining Genentech, Dr. Stump was an Associate Professor of Medicine and Biochemistry at the University of Vermont. Since September 2006, Dr. Stump has served as a consultant to Sunesis, reviewing, assessing and advising us on our development plans and strategies. Dr. Stump is a member of the Board of Trustees of Adventist HealthCare and Earlham College. Dr. Stump holds an A.B. from Earlham College and an M.D. from Indiana University and did his residency and fellowship training in internal medicine, hematology, oncology and biochemistry at the University of Iowa. The Board has concluded that Dr. Stump should serve on our Board due to his scientific and clinical expertise and industry background, which are valuable as we continue our drug development efforts and move forward through clinical trials.

Daniel N. Swisher, Jr. has served as our Chief Executive Officer, or CEO, and a member of our Board since January 2004 and also as our President since August 2005. From December 2001 to December 2003, he served as our Chief Business Officer and Chief Financial Officer. From June 1992 to September 2001, Mr. Swisher served in various management roles, including Senior Vice President of Sales and Marketing, for ALZA Corporation. In 2007, Mr. Swisher joined the Board of Directors of the Okizu Foundation, an organization that provides support to families affected by childhood cancers. Mr. Swisher holds a B.A. in History from Yale University and an M.B.A. from the Stanford Graduate School of Business. The Board has concluded that Mr. Swisher should serve on our Board due to his long tenure as chief executive officer, which brings continuity to the Board, his operational and industry expertise through his previous managerial roles as well as his detailed understanding of our business.

Class I Directors Continuing in Office Until the 2012 Annual Meeting

Edward Hurwitz has served as a director of Alta Partners, a venture capital firm, since June 2002. From June 1997 to October 2002, Mr. Hurwitz served as Senior Vice President and Chief Financial Officer of Affymetrix, Inc., a microarray technology company. From April 1994 to June 1997, Mr. Hurwitz was a biotechnology research analyst for Robertson Stephens & Company, and from April 1992 to April 1994 was a biotechnology research analyst for Smith Barney Shearson. From November 1990 to April 1992, Mr. Hurwitz practiced commercial law at Cooley Godward LLP. Mr. Hurwitz holds a B.A. in Molecular Biology from Cornell University, a J.D. from the University of California, Berkeley Boalt Hall School of Law and an M.B.A. from the Haas School of Business. Mr. Hurwitz was appointed as a director pursuant to the Investor Rights Agreement executed in connection with Alta Partners' purchase of our securities in the Private Placement. See "*Certain Relationships and Related Party Transactions—Investor Rights Agreements*" for a description of this agreement. The Board has concluded that Mr. Hurwitz should serve on our Board due to his financial, legal and scientific expertise, as well as his deep understanding of the biotechnology industry, which the Board believes makes him an important resource for the Board as it assesses both financial and strategic decisions.

Helen S. Kim is currently the chief business officer of NGM Biopharmaceuticals, Inc., where she has served since August 2009. Prior to joining NGM, Ms. Kim was the chief executive officer of TRF Pharma, where she has served since December 2008. Prior to her service at TRF, Ms. Kim served as the president and chief executive officer of Kosan Biosciences, Inc. from January 2008 to July 2008. From August 2003 to December 2007, Ms. Kim served as chief program officer of the Gordon and Betty Moore Foundation and from 2002 to 2003 as chief business officer of Affymax, Inc. Prior to her service at Affymax, Ms. Kim was senior vice president of corporate development of Onyx Pharmaceuticals, Inc. from 1999 to 2002. Ms. Kim also served as the vice president of strategic marketing at Chiron Corporation from 1989 to 1998. Ms. Kim holds a B.S. in Chemical Engineering from Northwestern University and an M.B.A. from the University of Chicago. Ms. Kim was appointed as a director pursuant to the Investor Rights Agreement executed in connection with Growth Equity Opportunities Fund, LLC's purchase of our securities in the Private Placement. See "*Certain Relationships and Related Party Transactions—Investor Rights Agreements*" for a description of this agreement. The Board has concluded that Ms. Kim should serve on our Board due to her corporate development, managerial and scientific expertise, which the Board believes makes her an important resource for the Board as it assesses both tactical and strategic business decisions.

Dayton Misfeldt is an Investment Partner at Bay City Capital LLC, a venture capital firm, and focuses on biopharmaceutical investment opportunities. Prior to joining Bay City Capital in May 2000, Mr. Misfeldt was a Vice President at Roth Capital Partners where he worked as a sell-side analyst covering the biopharmaceutical industry. Mr. Misfeldt has also worked as a Project Manager at LifeScience Economics. Mr. Misfeldt received a B.A. in Economics from the University of California, San Diego. Mr. Misfeldt was appointed as a director pursuant to the Investor Rights Agreement executed in connection with Bay City Capital's purchase of our securities in the Private Placement. See "*Certain Relationships and Related Party Transactions—Investor Rights Agreements*" for a description of this agreement. The Board has concluded that Mr. Misfeldt should serve on our Board due to his financial expertise and strong understanding of the biotechnology industry, which the Board believes makes him an important resource for the Board as it assesses both financial and strategic decisions.

There are no family relationships among any of our executive officers, directors or persons nominated to become one of our directors.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE *FOR* THE DIRECTOR NOMINEES NOMINATED IN PROPOSAL NO. 1.

PROPOSAL NO. 2

RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee of the Board, or the Audit Committee, has selected Ernst & Young as our independent registered public accounting firm for the year ending December 31, 2010 and has further directed that management submit the selection of Ernst & Young for ratification by the stockholders at the Annual Meeting. Ernst & Young has audited our financial statements since our inception in 1998. Representatives of Ernst & Young are expected to be present at our Annual Meeting, will have an opportunity to make a statement if they so desire and will be available to respond to appropriate questions.

Stockholder ratification of the selection of Ernst & Young as our independent registered public accounting firm is not required by our bylaws or other governing documents. However, the Audit Committee is submitting the selection of Ernst & Young to our stockholders for ratification as a matter of good corporate governance. If the stockholders fail to ratify the selection, the Audit Committee will reconsider whether or not to retain Ernst & Young. Even if the selection is ratified, the Audit Committee in their discretion may direct the appointment of a different independent registered public accounting firm at any time during the year if they determine that such a change would be in the best interests of Sunesis and our stockholders.

Stockholders are requested in this Proposal No. 2 to ratify the selection of Ernst & Young as our independent registered public accounting firm for the year ending December 31, 2010. The affirmative vote of the holders of a majority of the shares present in person or represented by proxy and entitled to vote at the Annual Meeting will be required to ratify this Proposal No. 2. Abstentions will be counted towards the tabulation of votes cast on proposals presented to the stockholders and will have the same effect as **AGAINST** votes. Broker non-votes are counted towards a quorum, but are not counted for any purpose in determining whether this matter has been approved.

THE BOARD OF DIRECTORS RECOMMENDS
A VOTE *FOR* PROPOSAL NO. 2.

PROPOSAL NO. 3

APPROVAL OF AMENDMENT TO AMENDED AND RESTATED CERTIFICATE OF INCORPORATION TO EFFECT A REVERSE STOCK SPLIT

Overview

Our Board has unanimously approved an amendment to our amended and restated certificate of incorporation to effect a reverse stock split of all outstanding shares of our common stock and preferred stock at an exchange ratio ranging from one-for-three (1:3) to one-for-fifteen (1:15). A similar amendment to effect a reverse stock split at an exchange ratio ranging from one-for-five (1:5) to one-for-fifteen (1:15) was previously approved at the 2009 Annual Meeting of Stockholders; however, the Board has not yet elected to effect the reverse stock split and its authorization to do so expires as of June 18, 2010. You are now being asked to vote again upon an amendment to our amended and restated certificate of incorporation. Should we receive the required stockholder approval, the Board will have the sole authority to elect, at any time prior to the first anniversary of the Annual Meeting:

- whether or not to effect a reverse stock split, and
- if so, the number of whole shares of our common stock and preferred stock, as applicable, between and including three and 15 which will be combined into one share of our common stock or preferred stock, as applicable.

The Board believes that providing the flexibility for the Board to choose an exact split ratio based on then-current market conditions is in the best interests of Sunesis and its stockholders.

The text of the form of proposed amendment to our amended and restated certificate of incorporation is attached to this proxy statement as Annex A. Such form provides that any whole number of outstanding shares between and including three and 15 would be combined into one share of our common stock or preferred stock, as applicable. If approved by the stockholders, and following such approval, the Board determines that a reverse stock split is in the best interests of Sunesis and its stockholders, the reverse stock split will become effective upon filing the amendment with the Secretary of State of the State of Delaware. The amendment will contain the number of shares selected by the Board within the limits set forth in this Proposal No. 3 to be combined into one share of our common stock or preferred stock, as applicable.

Except for adjustments that may result from the treatment of fractional shares as described below, each stockholder will hold the same percentage of our outstanding common stock or preferred stock, as applicable, immediately following the reverse stock split as such stockholder held immediately prior to the reverse stock split.

The par value of Sunesis' common stock and preferred stock would remain unchanged at $0.0001 per share. The amendment would not change the number of authorized shares of common stock or preferred stock. Accordingly, the reverse stock split will have the effect of creating additional unreserved shares of our authorized common stock and preferred stock. Although at present, apart from the sale of the additional equity securities contemplated by the Private Placement described in "*Certain Relationships and Related Party Transactions—Purchases of Our Securities*" below, we have no other current arrangements or understandings providing for the issuance of the additional shares that would be made available for issuance upon effectiveness of the reverse stock split. These additional shares may be used by us for various purposes in the future without further stockholder approval, including, among other things:

- raising capital to fund our clinical trials and to continue as a going concern;
- establishing strategic relationships with other companies;

- providing equity incentives to our employees, officers or directors; and
- expanding our business or product lines through the acquisition of other businesses or products.

Certain of our officers and directors have an interest in this reverse split as a result of their ownership of shares of our stock, as set forth in the section entitled "*Security Ownership of Certain Beneficial Owners and Management*" below.

Reasons for the Reverse Stock Split

The Board believes that a reverse stock split may be desirable and should be approved by stockholders for a number of reasons, including:

- *Increase in Eligible Investors.* A reverse stock split would allow a broader range of institutions to invest in our stock (namely, funds that are prohibited from buying stocks whose price is below a certain threshold), potentially increasing the trading volume and liquidity of our common stock.
- *Increased Analyst and Broker Interest.* A reverse stock split would help increase analyst and broker interest in our stock as their policies can discourage them from following or recommending companies with low stock prices. Because of the trading volatility often associated with low-priced stocks, many brokerage houses and institutional investors have adopted internal policies and practices that either prohibit or discourage them from investing in such stocks or recommending them to their customers. Some of those policies and practices may also function to make the processing of trades in low-priced stocks economically unattractive to brokers. Additionally, because brokers' commissions on transactions in low-priced stocks generally represent a higher percentage of the stock price than commissions on higher-priced stocks, the current average price per share of our common stock can result in individual stockholders paying transaction costs representing a higher percentage of their total share value than would be the case if the share price were substantially higher.
- *Reduced Risk of NASDAQ Delisting.* By potentially increasing our stock price, the reverse stock split would reduce the risk that our stock could be delisted from The NASDAQ Capital Market, which requires, among other things, that issuers maintain a closing bid price of at least $1.00 per share. We announced on September 18, 2009 that we had received a letter, dated September 16, 2009, from the Listing Qualifications Department of The NASDAQ Stock Market, or the Staff, notifying us that, for 30 consecutive business days, the bid price for our common stock had closed below the minimum $1.00 per share requirement, or the Bid Price Requirement, for continued inclusion on The NASDAQ Capital Market pursuant to NASDAQ Listing Rules. In accordance with NASDAQ Listing Rules, we were given 180 calendar days, or until March 15, 2010, to regain compliance. To regain compliance, the bid price of our common stock needed to close at or above $1.00 for at least 10 consecutive business days at any time prior to March 15, 2010, which it did achieve in the 10 consecutive business days ending on December 23, 2009. On December 24, 2009, we received notification from NASDAQ that we had regained compliance with the Bid Price Requirement. However, as of March 30, 2010, the bid price for our common stock had again closed below the Bid Price Requirement for 30 consecutive business days. As a result, on March 31, 2010, we received a letter from the Staff notifying us that we do not satisfy the Bid Price Requirement, and, in accordance with NASDAQ's Listing Rules, that we will be afforded 180 calendar days, or until September 27, 2010, to regain compliance. If we fail to regain compliance during the grace period, our common stock could be subject to delisting.

Effects of the Reverse Stock Split

Reduction of Shares Held by Individual Stockholders. After the effective date of the proposed reverse stock split, each stockholder will own fewer shares of our common stock or preferred stock, as applicable. However, the proposed reverse stock split will affect all of our stockholders uniformly and will not affect any stockholder's percentage ownership interests in us, except to the extent that the reverse split results in any of our stockholders owning a fractional share as described below. Proportionate voting rights and other rights and preferences of the holders of our common stock or preferred stock, as applicable, will not be affected by the proposed reverse stock split (other than as a result of the payment of cash in lieu of fractional shares as described more fully below). For example, a holder of two percent of the voting power of the outstanding shares of common stock immediately prior to reverse stock split would continue to hold two percent of the voting power of the outstanding shares of common stock immediately after the reverse stock split. The number of stockholders of record will not be affected by the proposed reverse stock split (except to the extent that any stockholder holds only a fractional share interest and receives cash for such interest after the proposed reverse stock split). However, if the proposed reverse stock split is implemented, it will increase the number of stockholders of Sunesis who own "odd lots" of less than 100 shares of our common stock. Brokerage commissions and other costs of transactions in odd lots may be higher than the costs of transactions of more than 100 shares of common stock.

Reduction in Total Outstanding Shares. The proposed reverse stock split will reduce the total number of outstanding shares of common stock and preferred stock by the split ratio determined by the Board within the limits set forth in this Proposal No. 3.

The following table contains approximate information relating to our common stock under certain of the possible split ratios based on share information as of March 31, 2010:

	Pre Reverse Stock Split	1-for-3	1-for-10	1-for-15
Authorized	400,000,000	400,000,000	400,000,000	400,000,000
Outstanding	57,981,195	19,327,065	5,798,119	3,865,413
Reserved for future issuance pursuant to conversion of Series A preferred stock	43,478,120	14,492,706	4,347,812	2,898,541
Reserved for future issuance pursuant to outstanding warrants	36,056,545	12,018,848	3,605,654	2,403,769
Reserved for future issuance pursuant to outstanding awards under equity incentive plans	6,336,170	2,112,056	633,617	422,411
Reserved for future issuance pursuant to awards available for grant under equity incentive plans	2,756,522	918,840	275,652	183,768
Reserved for future issuance pursuant to 2005 Employee Stock Purchase Plan	233,637	77,879	23,363	15,575
Authorized and unreserved	253,157,811	351,052,606	385,315,783	390,210,523

The following table contains approximate information relating to our preferred stock under certain of the possible split ratios based on share information as of March 31, 2010:

	Pre Reverse Stock Split	1-for-3	1-for-10	1-for-15
Authorized	10,000,000	10,000,000	10,000,000	10,000,000
Outstanding	4,347,812	1,449,270	434,781	289,854
Authorized and unreserved	5,652,188	8,550,730	9,565,219	9,710,146

Change in Number and Exercise Price of Employee and Director Equity Awards. The proposed reverse stock split will reduce the number of shares of common stock available for issuance under our equity plans in proportion to the exchange ratio selected by the Board within the limits set forth in this Proposal No. 3. Under the

terms of our outstanding equity awards, the proposed reverse stock split will cause a reduction in the number of shares of common stock issuable upon exercise or vesting of such awards in proportion to the exchange ratio of the reverse stock split and will cause a proportionate increase in the exercise price of such awards. The number of shares authorized for future issuance under our equity plans will also be proportionately reduced. The number of shares of common stock issuable upon exercise or vesting of outstanding equity awards will be rounded to the nearest whole share and no cash payment will be made in respect of such rounding.

Regulatory Effects. Our common stock is currently registered under Section 12(b) of the Exchange Act, and we are subject to the periodic reporting and other requirements of the Exchange Act. The proposed reverse stock split will not affect the registration of our common stock under the Exchange Act or our obligation to publicly file financial and other information with the SEC. If the proposed reverse stock split is implemented, our common stock will continue to trade on The NASDAQ Capital Market under the symbol "SNSS" (although NASDAQ would likely add the letter "D" to the end of the trading symbol for a period of 20 trading days to indicate that the reverse stock split has occurred), assuming our common stock has not otherwise been delisted due to our failure to comply with the minimum stockholders' equity continued listing requirement or otherwise.

No Going Private Transaction. Notwithstanding the decrease in the number of outstanding shares following the proposed reverse stock split, the Board does not intend for this transaction to be the first step in a series of plans or proposals of a "going private transaction" within the meaning of Rule 13e-3 of the Exchange Act.

Risks of Proposed Reverse Stock Split

The proposed reverse stock split may not increase our stock price, which would prevent us from realizing some of the anticipated benefits of the reverse stock split.

The Board expects that a reverse stock split of our common stock will increase the market price of our common stock so that we are able to maintain compliance with the NASDAQ minimum bid price listing standard. However, the effect of a reverse stock split upon the market price of our common stock cannot be predicted with any certainty, and the history of similar stock splits for companies in like circumstances is varied. It is possible that the per share price of our common stock after the reverse stock split will not rise in proportion to the reduction in the number of shares of our common stock outstanding resulting from the reverse stock split, and there can be no assurance that the market price per post-reverse split share will either exceed or remain in excess of the $1.00 minimum bid price for a sustained period of time. The market price of our common stock may also be based on other factors which may be unrelated to the number of shares outstanding, including our future performance. In addition, there can be no assurance that we will not be delisted due to a failure to meet other continued listing requirements, including the minimum stockholders' equity requirement, even if the market price per post-reverse stock split share of our common stock remains in excess of $1.00 per share. Notwithstanding the foregoing, the Board would only implement the proposed reverse stock split within the proposed exchange ratio range, if it believed it would result in the market price of our common stock rising to the level necessary to satisfy the $1.00 minimum bid price requirement for the foreseeable future.

The proposed reverse stock split may decrease the liquidity of our stock.

The liquidity of our capital stock may be harmed by the proposed reverse split given the reduced number of shares that would be outstanding after the reverse stock split, particularly if the stock price does not increase as a result of the reverse stock split.

Board Discretion to Implement the Reverse Stock Split

If the reverse stock split is approved by our stockholders, it will be effected, if at all, only upon a determination by the Board that a reverse stock split is in the best interests of Sunesis and our stockholders. Such determination shall be based upon certain factors, including our then-current stock price, the existing and

expected marketability and liquidity of our common stock, prevailing market conditions, the likely effect on the market price of our common stock and the desire to continue to meet the continued listing requirements of The NASDAQ Capital Market. Notwithstanding the approval of the reverse stock split by our stockholders, the Board may, in its sole discretion, abandon the proposed amendment to our amended and restated certificate of incorporation and determine not to effect the reverse stock split as permitted under Section 242(c) of the Delaware General Corporation Law. If the Board fails to implement the reverse stock split prior to the one year anniversary of the Annual Meeting, additional stockholder approval would be required prior to implementing any reverse stock split.

Effective Date

The proposed reverse stock split would become effective on the date of filing of a certificate of amendment to our amended and restated certificate of incorporation with the office of the Secretary of State of the State of Delaware. Except as explained below with respect to fractional shares, on the effective date, shares of common stock and preferred stock issued and outstanding immediately prior thereto will be combined and converted, automatically and without any action on the part of the stockholders, into new shares of common stock or preferred stock, as applicable, in accordance with the reverse stock split ratio determined by the Board within the limits set forth in this Proposal No. 3.

Payment for Fractional Shares

No fractional shares of common stock or preferred stock will be issued as a result of the proposed reverse stock split. Instead, stockholders who otherwise would be entitled to receive fractional shares, upon surrender to the exchange agent of such certificates representing such fractional shares, will be entitled to receive cash in an amount equal to the product obtained by multiplying (a) the closing sales price of our common stock on the effective date as reported on The NASDAQ Capital Market by (b) the number of shares of our common stock or preferred stock, as applicable, held by such stockholder that would otherwise have been exchanged for such fractional share interest (on an as-if converted to common stock basis).

Exchange of Stock Certificates

As soon as practicable after the effective date, stockholders will be notified that the reverse stock split has been effected. Our transfer agent will act as exchange agent for purposes of implementing the exchange of stock certificates for record holders (i.e., stockholders who hold their shares directly in their own name and not through a broker). Record holders of pre-reverse split shares will be asked to surrender to the exchange agent certificates representing pre-reverse split shares in exchange for a book entry with the transfer agent or certificates representing post-reverse split shares in accordance with the procedures to be set forth in a letter of transmittal to be sent by us. No new certificates will be issued to a stockholder until such stockholder has surrendered such stockholder's outstanding certificate(s) together with the properly completed and executed letter of transmittal to the exchange agent. STOCKHOLDERS OF RECORD SHOULD NOT DESTROY ANY STOCK CERTIFICATE(S) AND SHOULD NOT SUBMIT ANY CERTIFICATE(S) UNTIL REQUESTED TO DO SO.

For beneficial holders of pre-reverse split shares (i.e., stockholders who hold their shares through a broker), your broker will make the appropriate adjustment to the number of shares held in your account following the effective date of the reverse stock split.

Accounting Consequences

The par value per share of our common stock and preferred stock will remain unchanged at $0.0001 per share after the reverse stock split. As a result, on the effective date of the reverse split, the stated capital on our consolidated balance sheet attributable to common stock and preferred stock will be reduced and the additional paid-in-capital account will be increased by the amount by which the stated capital is reduced. Per share net

income or loss will be increased because there will be fewer shares of our common stock and preferred stock outstanding. We do not anticipate that any other accounting consequences, including changes to the amount of stock-based compensation expense to be recognized in any period, will arise as a result of the reverse stock split.

No Appraisal Rights

Under the Delaware General Corporation Law, our stockholders are not entitled to dissenter's rights with respect to the proposed amendment to our amended and restated certificate of incorporation to effect the reverse stock split.

Material Federal U.S. Income Tax Consequences of the Reverse Stock Split

The following is a summary of important tax considerations of the proposed reverse stock split. It addresses only stockholders who hold the pre-reverse split shares and post-reverse split shares as capital assets. It does not purport to be complete and does not address stockholders subject to special rules, such as financial institutions, tax-exempt organizations, insurance companies, dealers in securities, mutual funds, foreign stockholders, stockholders who hold the pre-reverse split shares as part of a straddle, hedge, or conversion transaction, stockholders who hold the pre-reverse split shares as qualified small business stock within the meaning of Section 1202 of the Internal Revenue Code of 1986, as amended, or the Code, stockholders who are subject to the alternative minimum tax provisions of the Code, or stockholders who acquired their pre-reverse split shares pursuant to the exercise of employee stock options or otherwise as compensation. This summary is based upon current law, which may change, possibly even retroactively. It does not address tax considerations under state, local, foreign, and other laws. Furthermore, we have not obtained a ruling from the Internal Revenue Service or an opinion of legal or tax counsel with respect to the consequences of the reverse stock split. Each stockholder is advised to consult his or her tax advisor as to his or her own situation.

The reverse stock split is intended to constitute a reorganization within the meaning of Section 368 of the Code. Assuming the reverse stock split qualifies as a reorganization, a stockholder generally will not recognize gain or loss on the reverse stock split, except to the extent of cash, if any, received in lieu of a fractional share interest in the post-reverse split shares. The aggregate tax basis of the post-reverse split shares received will be equal to the aggregate tax basis of the pre-reverse split shares exchanged therefor (excluding any portion of the holder's basis allocated to fractional shares), and the holding period of the post-reverse split shares received will include the holding period of the pre-reverse split shares exchanged.

A holder of the pre-reverse split shares who receives cash generally will recognize gain or loss equal to the difference between the portion of the tax basis of the pre-reverse split shares allocated to the fractional share interest and the cash received. Such gain or loss will be a capital gain or loss and will be short term if the pre-reverse split shares were held for one year or less and long term if held more than one year. No gain or loss will be recognized by Sunesis as a result of the reverse stock split.

Required Vote and Recommendation of the Board of Directors

Approval and adoption of an amendment to our amended and restated certificate of incorporation to effect the reverse stock split requires the affirmative vote of at least a majority of Sunesis' issued and outstanding shares of common stock and preferred stock entitled to vote either in person or by proxy at the Annual Meeting. If you ABSTAIN from voting, it will be counted towards the tabulation of votes cast on the proposal and will have the same effect as an AGAINST vote.

THE BOARD OF DIRECTORS RECOMMENDS
A VOTE *FOR* PROPOSAL NO. 3.

INFORMATION ABOUT THE BOARD OF DIRECTORS AND CORPORATE GOVERNANCE

Meetings of the Board of Directors

Our Board held nine meetings during 2009. Each Board member attended 75% or more of the aggregate meetings of the Board and of the committees on which he or she served, with the exception of Steven D. Goldby, who attended two out of three meetings of each of the Board and Audit Committee prior to his resignation from the Board in April 2009.

Independence of the Members of the Board of Directors

The laws and rules governing public companies and the NASDAQ listing requirements obligate our Board to affirmatively determine the independence of its members. The Board consults with our corporate counsel to ensure that the Board's determinations are consistent with relevant securities and other laws and regulations regarding the definition of "independent," including those set forth in NASDAQ listing requirements, as in effect from time to time.

Consistent with these considerations, after a review of all relevant transactions or relationships between each director, or any of their family members, and Sunesis, our senior management and our independent registered public accounting firm, the Board has affirmatively determined that Ms. Kim, Drs. Pearce and Stump and Messrs. Fust, Hurwitz and Misfeldt, a majority of our Board, are independent directors within the meaning of the applicable NASDAQ listing requirements. In addition, the Board has affirmatively determined that each of Jonathan S. Leff and Anthony B. Evnin, Ph.D., Stephen P.A. Fodor, Ph.D. and Steven D. Goldby were independent directors within the meaning of the applicable NASDAQ requirements until their respective resignations from the Board in February 2009 and April 2009.

In making its determination of independence, the Board considered our consulting relationships with Drs. Pearce and Stump and the relationships of Messrs. Hurwitz and Misfeldt and Ms. Kim with certain of our principal stockholders, which are described under "*Director Compensation*" beginning on page 25 of this proxy statement. In 2009, neither Dr. Pearce nor Dr. Stump received consulting fees pursuant to these arrangements. Our Board does not believe that these stockholder relationships or these consulting arrangements interfere with these directors' exercise of independent judgment in carrying out their responsibilities as directors.

Board Leadership Structure

The Board is currently chaired by Dr. Young, Sunesis' former Executive Chairman. Dr. Young, or the Board Chair, has authority, among other things, to call and preside over Board meetings, to set meeting agendas and to determine materials to be distributed to the Board. Accordingly, the Board Chair has substantial ability to shape the work of the Board. We believe that separation of the positions of Board Chair and Chief Executive Officer reinforces the independence of the Board in its oversight of our business and affairs. In addition, we believe that such separation creates an environment that is more conducive to objective evaluation and oversight of management's performance, increasing management accountability and improving the ability of the Board to monitor whether management's actions are in the best interests of Sunesis and its stockholders. As a result, we believe that having a Board Chair separate from the Chief Executive Officer can enhance the effectiveness of the Board as a whole. In addition, Dr. Young's recent position as Executive Chairman helps ensure that the Board and management act with a common purpose. In our view, having a Board Chair far removed from management has the potential to give rise to divided leadership, which could interfere with good decision making or weaken our ability to develop and implement strategy. Instead, we believe that Dr. Young's recent management position makes him best positioned to act as a bridge between management and the Board, facilitating the regular flow of information and implementation of our strategic initiatives and business plans. We also believe that it advantageous to have a Board Chair with extensive history and knowledge of Sunesis (as is the case with Dr. Young).

Role of the Board in Risk Oversight

The Board has an active role in overseeing management of Sunesis' risks, which it administers directly as well as through various Board standing committees that address risks inherent in their respective areas of oversight. In particular, our Board is responsible for monitoring and assessing strategic risk exposure, including information regarding our credit, liquidity and operations and the risks associated with each. Our primary risks are currently associated with our ability to raise additional capital to fund our clinical trials and operations, and the various risks associated with the development of voreloxin. The Audit Committee of the Board has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures. However, due to the criticality of these risks, they are also discussed to a great extent by the full Board at regularly scheduled meetings, or at ad hoc meetings with the full Board or a subset thereof. The Board also monitors the various risks associated with the development of voreloxin, drawing on the experience and insight of the full membership thereof. The Audit Committee also monitors compliance with legal and regulatory requirements, in addition to oversight of the performance of our internal controls over financial reporting. The Nominating and Corporate Governance Committee of the Board monitors the effectiveness of our corporate governance guidelines, including whether they are successful in preventing illegal or improper liability-creating conduct, and manages risks associated with the independence of the Board and potential conflicts of interest. The Compensation Committee of the Board assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk taking. While each committee is responsible for evaluating certain risks and overseeing management of such risks, the entire Board is regularly informed through committee reports about such risks.

Executive Sessions

The independent directors meet in executive session without management directors, non-independent directors or management present. These sessions take place prior to or following regularly scheduled Board meetings. The directors met in such sessions four times during 2009.

Information Regarding Committees of the Board of Directors

Our Board has three standing committees: the Audit Committee; the Compensation Committee; and the Nominating and Corporate Governance Committee. Each of these three standing committees has a written charter approved by our Board that reflects the applicable standards and requirements adopted by the SEC and NASDAQ. A copy of each charter can be found on our website, *www.sunesis.com*, under the section titled "Investors & Media" and under the subsection "Corporate Governance." Information contained in, or accessible through, our website is not a part of this proxy statement. The following table provides membership and meeting information for 2009 for each of the committees of the Board:

Name(1)	Audit	Compensation	Nominating and Corporate Governance
Anthony B. Evnin, Ph.D.	X**	X**	
Stephen P.A. Fodor, Ph.D.			X**
Matthew K. Fust(2)(3)	X*	X	X**
Steven D. Goldby	X**	X**	
Edward Hurwitz	X	X	
Jonathan S. Leff		X**	
Dayton Misfeldt(3)		X*	X
Homer L. Pearce, Ph.D.(4)			X*
David C. Stump, M.D.	X		
Total Meetings in 2009	9	8	1

* Committee Chairperson.

** Former Committee member.

(1) Ms. Kim was not a member of any Board committee in 2009.

(2) On April 3, 2009, Mr. Fust was appointed as a member of the Compensation Committee.

(3) On April 3, 2009, Mr. Fust resigned as a member of the Nominating and Corporate Governance Committee and Mr. Misfeldt was appointed as a member of such Committee.

(4) On April 3, 2009, Dr. Pearce was appointed chairman of the Nominating and Corporate Governance Committee.

Below is a description of each standing committee of the Board. The Board has determined that each committee member meets the applicable NASDAQ rules and regulations regarding "independence" and is free of any relationship that would impair his individual exercise of independent judgment with regard to Sunesis. The standing committees regularly report to the Board on their actions and recommendations. The committees periodically review their charters and assesses their own performance. In addition, the Board, through the Nominating and Corporate Governance Committee, conducts an annual review of the role, function, roster and operation of each of the Board's standing committees.

Audit Committee

The Audit Committee was established by our Board to oversee our corporate accounting and financial reporting processes and audits of our financial statements. For this purpose, our Audit Committee is responsible for, among other things:

- overseeing the accounting and financial reporting processes of Sunesis and the audits of our financial statements, including reviewing our disclosures under "Management's Discussion and Analysis of Financial Condition and Results of Operations," earnings press releases and earnings guidance provided to analysts and ratings agencies;
- assisting our Board in its oversight of the integrity of our financial statements;
- determining and approving the initial engagement and retention of the independent registered public accounting firm;
- reviewing and approving the independent registered public accounting firm's performance of any proposed permissible audit and non-audit services and the fees for such services;
- reviewing and approving or rejecting transactions between us and any related persons;
- reviewing significant issues regarding accounting principles and financial statement presentations, including any significant changes in our selection or application of accounting principles, policies or practices;
- conferring with management and the independent registered public accounting firm regarding our policies and procedures regarding risk assessment and management;
- establishing procedures, as required under applicable law, for the receipt, retention and treatment of complaints received by us regarding accounting, internal accounting controls or auditing matters and the confidential and anonymous submission by employees or agents of concerns regarding questionable accounting or auditing matters;

- reviewing with counsel, the independent registered public accounting firm and management, as appropriate, any significant regulatory or other legal or accounting initiative or matter that may have a material impact on our financial statements, compliance programs and policies; and

- preparing the report required by the SEC rules to be included in our annual proxy statement.

The Audit Committee is chaired by Mr. Fust, and also includes Mr. Hurwitz and Dr. Stump. The Board reviews the NASDAQ definition of "independence" for Audit Committee members on an annual basis and has determined that all members of our Audit Committee are independent (as independence is currently defined in Rule 5605(c)(2)(A)(i) and (ii) of the NASDAQ listing requirements). The Board has also determined that Mr. Fust qualifies as an "audit committee financial expert," as defined in applicable SEC rules. The Board made a qualitative assessment of Mr. Fust's level of knowledge and experience based on a number of factors, including his formal education and experience as a chief financial officer for public reporting companies.

Report of the Audit Committee of the Board

The Audit Committee oversees our accounting and financial reporting processes and the audits of our financial statements on behalf of the Board. Management has the primary responsibility for establishing and maintaining adequate internal control over financial reporting, preparing the financial statements, and establishing and maintaining adequate controls over public reporting. Our independent registered public accounting firm for 2009, Ernst & Young had responsibility for conducting an audit of our annual financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States), or PCAOB, and expressing an opinion on the conformity of those audited financial statements with U.S. generally accepted accounting principles.

In fulfilling its oversight responsibilities, the Audit Committee reviewed and discussed with management and with Ernst & Young our audited consolidated financial statements for the year ended December 31, 2009 included in our Annual Report on Form 10-K, including a discussion of the quality, not just the acceptability, of the accounting principles, the reasonableness of significant judgments and the clarity of disclosures in the financial statements.

The Audit Committee is responsible for evaluating, managing and approving the engagement of Ernst & Young, including the scope, extent and procedures for the annual audit and the compensation to be paid for these services, and all other matters the Audit Committee deems appropriate, including ensuring the independent registered public accounting firm's accountability to the Board and the Audit Committee.

The Audit Committee has discussed with Ernst & Young the matters required to be discussed by Statement on Auditing Standards No. 61, as amended ("*Codification of Statements on Auditing Standards,*" AICPA, *Professional Standards*, Vol. 1. AU section 380), which include, among other items, matters related to the conduct of the audit of our financial statements. The Audit Committee has also received the written disclosures and the letter from Ernst & Young required by applicable requirements of the PCAOB regarding Ernst & Young's communications with the audit committee concerning independence, and has discussed with Ernst & Young their independence.

Based on the review and discussions referred to above, the Audit Committee has recommended to the Board that the audited consolidated financial statements be included in our Annual Report on Form 10-K for the year ended December 31, 2009.

Matthew K. Fust, *Chairperson*
Edward Hurwitz
David C. Stump, M.D.

The material in this report 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 of 1933, as amended, or the Securities Act, or the Exchange Act, other than our Annual Report on Form 10-K, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

Compensation Committee

Our Compensation Committee is responsible for, among other things:

- fulfilling the Board's role in overseeing our compensation plans, policies and programs, including reviewing and approving corporate performance goals and objectives;
- assisting our Board in discharging its responsibilities with respect to officer, employee, consultant and director compensation, including making recommendations to our Board regarding non-employee director compensation;
- establishing corporate and individual performance objectives relevant to the compensation of our executive officers and other senior management and evaluating their performance in light of these stated objectives;
- reviewing and discussing the disclosures contained in our Compensation Discussion and Analysis report included in our annual proxy statement, if required;
- preparing the report required by SEC rules to be included in our annual proxy statement, if required;
- supervising the administration of our stock option plans, employee stock purchase plan and other compensation and incentive programs and administering any plans and programs designed and intended to provide compensation for our officers, including severance arrangements and change of control protections; and
- determining and approving the compensation and establishing the individual performance objectives relevant to compensation of our CEO, Executive Chairman (if one is serving), as well as for our other executive officers and senior management.

The Compensation Committee is chaired by Mr. Misfeldt, and also includes Messrs. Hurwitz and Fust. All members of our Compensation Committee are "independent" (as independence is currently defined in Rule 5605(c)(2)(A)(i) and (ii) of the NASDAQ listing requirements). Each member of the Compensation Committee is an "outside" director as that term is defined in Section 162(m) of the Internal Revenue Code of 1986, as amended, or the Code, and a "non-employee" director within the meaning of Rule 16b-3 of the rules promulgated under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Role and Authority of the Compensation Committee and the Board

Prior to December 2007, the Compensation Committee was charged with determining and approving the compensation of our CEO and other members of senior management, including those designated as reporting officers under Section 16 of the Exchange Act and referred to as executive officers. In December 2007, the Board approved certain amendments to the Compensation Committee Charter, including a change which requires full Board approval of the compensation of our CEO and Executive Chairman, based upon recommendations from the Compensation Committee. As a result, beginning in 2008, decisions regarding the compensation of the CEO and Executive Chairman were made by the full Board. In May 2009, the Board approved certain amendments to the Compensation Committee Charter to provide that decisions regarding the compensation of the CEO and Executive Chairman, if one is serving, will be made by the Compensation Committee.

In recommending or determining (as applicable) executive compensation, the Compensation Committee and the Board take into consideration each executive's success in achieving his or her individual performance goals and objectives and the achievement of our corporate performance goals and objectives deemed relevant to such executive. The Compensation Committee and our Board also consider the compensation paid to similarly situated officers at comparable companies, the compensation paid to executives in past years and any other factors deemed appropriate under the circumstances. In addition, in the case of the long-term equity incentive component of compensation, the Compensation Committee and the Board consider Sunesis' performance and relative stockholder return.

While the Compensation Committee is, and, in the case of our CEO and Executive Chairman from December 2007 through May 2009, the Board was, ultimately responsible for making all compensation decisions affecting our executives, our CEO plays an important role in the process underlying such decisions. However, none of our executives participate in the portion of any Compensation Committee or Board meetings regarding the review of his or her own performance or the determination of the actual amounts of his or her compensation.

Compensation Committee Process

Throughout the year, the Compensation Committee meets in person or via telephone. As a general rule, the Compensation Committee conducts the annual process described below with respect to determining executive compensation:

Review Overall Compensation Philosophy. The compensation process for the upcoming year generally begins in the prior year, with a review and analysis of our total compensation philosophy to confirm the frame of reference which will be used in setting compensation for the upcoming year. This analysis also includes a determination of the composition of our peer group and the target levels of various components of compensation based on market data from such peer group. At the request of the Compensation Committee, a compensation consulting firm may assist with this analysis.

Analyze Peer Data; Make Equity Awards. Annually, a representative of management compiles data regarding executive total compensation (base salary, bonus and equity) from our selected peer group, with the assistance of a compensation consulting firm as deemed necessary. The Compensation Committee then meets to review the peer data to determine the equity awards to be granted to executives. The same data is also analyzed in preparation for making any adjustments to base salary and bonus targets in the coming year.

Approve Corporate Objectives for the Coming Year. The Compensation Committee typically meets to select the corporate objectives against which to measure executive performance for the coming year and to recommend such objectives to the full Board for adoption. In addition, the Compensation Committee reviews and approves individual performance goals and objectives for our executive officers.

Assess Prior Year's Performance; Determine Cash Bonuses. Historically, every year, the Compensation Committee engages in an active dialogue with our CEO regarding Sunesis' performance in the prior year as measured against the established corporate objectives for such year. The Compensation Committee also reviews with our CEO the performance of each executive, taking into consideration each executive's success in achieving his or her individual and applicable team objectives and the achievement of our corporate objectives deemed relevant to such executive. Our CEO also provides his evaluation of his own performance for the prior year. Our CEO then makes recommendations to the Compensation Committee of individual payouts of cash bonuses for executives (other than himself and our Executive Chairman, during the period in which he was an employee) in light of the analysis of the prior year's performance.

Following our private placement in April 2009 and the reconstitution of the Compensation Committee in May 2009, the Compensation Committee reviewed and approved both corporate and individual performance objectives for the period from May 8, 2009 to March 31, 2010, or the Performance Period, that will form the basis for the evaluation of cash bonuses to be paid to employees for this period under the 2009 Bonus Program.

The Compensation Committee also approved a resolution to recommend such performance objectives to the Board for approval. These performance objectives were approved by the Board. On March 31, 2010, the Compensation Committee agreed to extend the Performance Period to April 30, 2010. See section titled *Narrative to Summary Compensation Table—2009 Bonus Program* below for more information regarding our 2009 Bonus Program.

Determine Base Salary, Bonus Target and Individual Objectives for the Coming Year. Each year, the Compensation Committee generally meets to discuss and, as appropriate, approve adjustments to base salary and bonus targets for executives for the coming year.

In 2010, due to the atypical Performance Period under the 2009 Bonus Program, which ends more than a quarter after the fiscal year end, this meeting is expected to occur in May 2010. At this time, the Compensation Committee will generally review our established total compensation philosophy, as well as the selected peer group data previously compiled by a representative of management and a compensation consulting firm, if engaged. Our CEO will make recommendations to the Compensation Committee regarding the base salary and bonus targets of executives (other than for himself) based on such data. As part of this process, each executive will work with our CEO to develop individual performance goals for the new performance period. The Compensation Committee will then approve total compensation of our CEO, including base salary, bonus and equity compensation and approval of individual objectives for the applicable new performance period.

Nominating and Corporate Governance Committee

Our Nominating and Corporate Governance Committee is responsible for, among other things:

- recommending to our Board the composition and operations of our Board;
- identifying and evaluating individuals qualified to serve as members of our Board, and recommending to our Board director nominees for the annual meeting of stockholders and to fill vacancies;
- overseeing all aspects of corporate governance on behalf of our Board, including making recommendations regarding corporate governance issues and developing a set of corporate governance guidelines applicable to us;
- recommending to our Board the responsibilities of each Board committee, the composition and operation of each Board committee, and director nominees for assignment to each Board committee; and
- overseeing our Board's annual evaluation of its performance and the performance of our Board committees.

The Nominating and Corporate Governance Committee is chaired by Dr. Pearce and also includes Mr. Misfeldt, each of whom is "independent" within the meaning of applicable SEC and NASDAQ rules.

Director Nominations Process

The Nominating and Corporate Governance Committee is charged with monitoring the size and composition of our Board. In addition, the Nominating and Corporate Governance Committee has primary responsibility for reviewing, evaluating and recommending to the Board the slate of nominees for directors to be elected by the stockholders at each annual meeting of stockholders and, where applicable, to fill vacancies. In its exercise of these responsibilities, the Nominating and Corporate Governance Committee considers the appropriate size and composition of our Board, taking into account that our Board as a whole should have competency in the following areas:

- industry knowledge;
- accounting and finance;
- business judgment;
- management;
- leadership;
- business strategy;
- corporate governance; and
- risk management.

The Nominating and Corporate Governance Committee evaluates the types of backgrounds, skills, and attributes which are needed to help strengthen our Board in light of the need for an appropriate balance of the above competencies. This evaluation takes place in the context of the current composition of the Board, our operating requirements and the interests of Sunesis and our stockholders.

The Nominating and Corporate Governance Committee identifies nominees for director by first evaluating the current directors whose terms are about to expire, considering the above criteria and any potential conflicts of interest as well as applicable independence and experience requirements. In the case of incumbent directors whose terms are about to expire, the Nominating and Corporate Governance Committee considers the director's demonstrated service and commitment to Sunesis, as well as his or her willingness to continue in service on our Board. If any incumbent director whose term is expiring does not wish to continue in service as a director, if the Nominating and Corporate Governance Committee decides not to nominate a member for re-election, or if the Nominating and Corporate Governance Committee wishes to increase the size of the Board, the committee will identify the desired skills and experience of a new nominee as outlined above unless the Board determines not to fill the vacancy. In 2009, we did not engage a third party to identify or assist in identifying potential director nominees, although we have done so in the past and reserve the right to do so in the future.

In addition to evaluating core competencies, when considering candidates for director, the Nominating and Corporate Governance Committee will consider whether such candidates have sufficient time to devote to the affairs of Sunesis as well as each candidate's reputation for integrity and commitment to rigorously represent the long-term interests of our stockholders. Other considerations include any potential conflicts of interest as well as applicable independence and experience requirements as set forth by applicable NASDAQ and SEC rules and regulations. In addition, the Nominating and Corporate Governance Committee balances the value of continuity of service of incumbent Board members with that of obtaining new perspectives. With respect to new candidates for the Board, the Nominating and Corporate Governance Committee will also conduct any necessary or appropriate inquiries into the backgrounds and qualifications of such candidates. The committee also believes

that it is essential that directors represent diverse viewpoints, and thus diversity is typically another factor that the committee takes into account in identifying and evaluating candidates.

In addition, in connection with the initial closing of the Private Placement, the Company entered into an Investor Rights Agreement, pursuant to which the investors in the Private Placement have certain Board designation rights, as further described in "*Certain Relationships and Related Party Transactions—Investor Rights Agreement.*" These designation rights may cause the composition of the Board to be different than it would have been without such designation rights, and may impact the retention of current members or the selection of future members of the Board.

The Nominating and Corporate Governance Committee also recommends to our Board the responsibilities and composition of the Board's committees and evaluates and recommends to the Board those directors to be appointed to the various committees, including the directors recommended to serve as chairperson of each committee. The evaluation of such appointments takes into consideration, among other factors, applicable independence and experience requirements as set forth by applicable NASDAQ and SEC rules and regulations and the membership criteria specified in the relevant committee charter.

The Nominating and Corporate Governance Committee will consider director candidates recommended by our stockholders. The committee does not intend to alter the manner in which it evaluates candidates, including the criteria set forth above, based on whether or not the candidate is recommended by a stockholder. The committee will consider stockholders' nominations for directors only if written notice is timely received by our Corporate Secretary at Sunesis Pharmaceuticals, Inc., 395 Oyster Point Boulevard, Suite 400, South San Francisco, California 94080, and contains the information required for such nominations in accordance with our bylaws. To be timely, notice must be received not less than 120 days prior to the first anniversary of the date on which we first mailed a proxy statement to stockholders in connection with the preceding year's annual meeting, unless the date of the annual meeting has been changed by more than 30 days from the date of the prior year's meeting, in which case notice must be received not later than the later of the 120th day prior to such annual meeting or the 10th day following the day on which public announcement of the date of such meeting is first made. Submissions must include the full name of the proposed nominee, a description of the proposed nominee's business experience for at least the previous five years, complete biographical information, a description of the proposed nominee's qualifications as a director and a representation that the nominating stockholder is a beneficial or record holder of our stock and has been a holder for at least one year. Any such submission must be accompanied by the written consent of the proposed nominee to be named as a nominee and to serve as a director if elected. The Nominating and Corporate Governance Committee did not receive any stockholder nominations during 2009.

Director Evaluations

On an annual basis, the Nominating and Corporate Governance Committee conducts an evaluation of the Board, the functioning of the committees and each individual member of the Board as deemed appropriate and necessary.

Stockholder Communications with the Board of Directors

Our stockholders may communicate with the Board by writing to our Corporate Secretary at Sunesis Pharmaceuticals, Inc., 395 Oyster Point Boulevard, Suite 400, South San Francisco, California 94080. Our Corporate Secretary will review these communications and will determine whether they should be presented to our Board. The purpose of this screening is to allow the Board to avoid having to consider irrelevant or inappropriate communications. All communications directed to the Audit Committee in accordance with our Complaint, Investigation and Whistleblower Policy that relate to questionable accounting or auditing matters involving Sunesis will be promptly and directly forwarded to the chairman of the Audit Committee.

Annual Meeting Attendance

In March 2008, we adopted a policy to encourage our directors to attend our annual stockholder meetings. In 2009, Mr. Swisher attended our annual meeting.

Corporate Governance Guidelines

In April 2004, the Board documented our governance practices by adopting Corporate Governance Guidelines to assure that the Board will have the necessary authority and practices in place to review and evaluate our business operations as needed and to make decisions that are independent of our management. The guidelines are also intended to align the interests of directors and management with those of our stockholders. The Corporate Governance Guidelines clarify the role of the Board in reviewing, approving and monitoring fundamental financial and business strategy and major corporate actions; ensuring processes are in place for maintaining the integrity of Sunesis and its financial statements; assessing major risks presented to Sunesis and reviewing options for their mitigation; and selecting, evaluating and compensating our CEO, Chairman and other officers of Sunesis. The Corporate Governance Guidelines also set forth the practices our Board intends to follow with respect to director qualification and selection, board composition and selection, board meetings and involvement of senior management, board committee composition and selection, director access to management and independent advisors, and non-employee director compensation and continuing education. The Corporate Governance Guidelines were adopted by the Board to, among other things, reflect changes to the legal and regulatory requirements, including the NASDAQ listing requirements and SEC rules, and evolving best practices and other developments.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our executive officers, directors and persons who own more than 10% of our common stock to file reports of ownership and changes in ownership with the SEC. Executive officers, directors and greater than 10% stockholders are required by SEC regulations to furnish us with copies of all Section 16(a) forms they file.

To our knowledge, based solely on a review of the copies of reports furnished to us, we believe that during the year ended December 31, 2009, our executive officers, directors and greater than 10% stockholders complied with all Section 16(a) filing requirements.

Director Compensation

Board and Committee Fees and Awards

On the date of our annual meeting of stockholders each year, each non-employee director of our Board, except the Chairman of our Board, is entitled to receive $20,000 in connection with his or her services as a director. A non-employee Chairman of our Board is entitled to receive $50,000 in connection with his or her services as a director and chair of our Board. Additionally, each non-employee director who serves on a committee is entitled to receive an annual payment of $5,000 for service as chairman of a committee and $3,000 for service as a member on a committee. However, Messrs. Hurwitz and Misfeldt directors waived their cash compensation in 2009. Our chief executive officer did not receive any compensation in 2009 for his service on our Board, nor did our Chairman while his status was that of an employee.

Each continuing non-employee director receives a non-qualified stock option grant to purchase 10,000 shares of our common stock on the date of our annual meeting of stockholders each year. These options vest in equal installments over a 12-month period from the grant date. On July 31, 2009, the Compensation Committee elected to grant to each of Mr. Fust and Drs. Young, Pearce and Stump an additional non-qualified stock option to purchase 90,000 shares and grant Ms. Kim a non-qualified stock option to purchase 70,000 shares with vesting in equal installments over a 12-month period measured from the grant date, given the significant dilution in our capital

stock and the desire to continue to create long term incentives for these non-employee Board members. The Compensation Committee has yet to determine whether it will make any discretionary grants of stock options for non-employee directors in 2010. Upon first being elected to our Board, non-employee directors are granted, in addition to the Board and committee fees discussed above, an initial grant of non-qualified stock options to purchase 30,000 shares of our common stock. These options vest over a two-year period, with 50% annual vesting on each anniversary of the grant date.

Consulting Arrangements

We have entered into consulting agreements with Drs. Pearce and Stump.

In August 2006, we entered into a consulting agreement with Dr. Pearce under which his services include reviewing, assessing and advising us on our development plans and strategies. Pursuant to the consulting agreement, Dr. Pearce is entitled to receive up to $3,000 a day, prorated at an hourly rate of $375 an hour, for his consulting services. Total payments to Dr. Pearce under this agreement may not exceed $40,000 during any one-year period.

In September 2006, we entered into a consulting agreement with Dr. Stump under which his services include reviewing, assessing and advising us on our development plans and strategies. Pursuant to the consulting agreement, Dr. Stump is entitled to receive up to $3,000 a day, prorated at an hourly rate of $375 an hour, for his consulting services. Total payments to Dr. Stump under this agreement may not exceed $40,000 during any one-year period.

Director Compensation Table

The following table sets forth the compensation information for our non-employee directors, as well as Dr. Young, the current Chairman of our Board and former Executive Chairman, for the year ended December 31, 2009. The compensation received by Mr. Swisher, as a named executive officer, is set forth in the "*Summary Compensation Table*" on page 29 of this proxy statement.

Name	Fees Earned or Paid in Cash ($)(1)	Option Awards ($)(2)(3)	All Other Compensation ($)	Total ($)
Anthony B. Evnin, Ph.D.(4)	$ —	$ —	$ —	$ —
Stephen P.A. Fodor, Ph.D.(5)	—	—	—	—
Matthew K. Fust	28,000	26,684	—	54,684
Steven D. Goldby(6)	—	—	—	—
Edward Hurwitz(7)	—	6,149	—	6,149
Helen S. Kim(8)	—	25,602	—	25,602
Jonathan S. Leff(9)	—	—	—	—
Dayton Misfeldt(10)	—	6,149	—	6,149
Homer L. Pearce, Ph.D.	25,000	26,684	—	51,684
David C. Stump M.D.	23,000	26,684	—	49,684
James W. Young, Ph.D.(11)	50,000	26,684	53,828	130,512

(1) Consists of fees earned for Board and committee meeting attendance as described above.

(2) The dollar amounts in this column represent the aggregate grant date fair value of stock option awards granted pursuant to our equity compensation plans in the year ended December 31, 2009. These amounts have been calculated in accordance with FASB ASC Topic 718. Pursuant to SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. For additional information on the valuation assumptions, refer to Note 11, *Stock-Based Compensation* to the Notes to Consolidated Financial Statements in our Annual Report on Form 10-K for the year ended December 31, 2009 which identifies assumptions made in the valuation of option awards in accordance with FASB ASC Topic 718.

(3) On June 18, 2009, each non-employee director received a stock option to purchase 10,000 shares. The aggregate grant date fair value of each such option award was $2,384, calculated in accordance with FASB ASC Topic 718. On July 31, 2009, each non-employee director who had served for at least one year received a stock option to purchase 90,000 shares, each with an aggregate grant date fair value of $24,300, and each non-employee director who had served for less than one year received a stock option to purchase 70,000 shares, each with an aggregate grant date fair value of $18,900. However, Messrs. Hurwitz and Misfeldt each waived their respective July 31, 2009 grant. As of December 31, 2009, each non-employee director held stock options to purchase the following aggregate number of shares of our common stock: Mr. Fust held options to purchase 160,000 shares of our common stock; Mr. Hurwitz held options to purchase 40,000 shares of our common stock; Ms. Kim held options to purchase 100,000 shares of our common stock; Mr. Misfeldt held options to purchase 40,000 shares of our common stock; and Drs. Pearce and Stump each held options to purchase 150,000 shares of our common stock. In addition, Drs. Evnin and Fodor and Mr. Goldby each held options to purchase 27,500 shares of our common stock and Mr. Leff held options to purchase 25,833 shares of our common stock as of December 31, 2009.

(4) Dr. Evnin resigned effective as of April 3, 2009.

(5) Dr. Fodor resigned effective as of April 3, 2009.

(6) Mr. Goldby resigned effective as of April 3, 2009.

(7) Mr. Hurwitz was appointed to the Board on April 3, 2009. Upon his appointment, he was automatically granted a stock option to purchase 30,000 shares, with an aggregate grant date fair value of $3,765.

(8) Ms. Kim was appointed to the Board on July 24, 2009. Upon her appointment, she was automatically granted a stock option to purchase 30,000 shares, with an aggregate grant date fair value of $6,702.

(9) Mr. Leff resigned effective as of February 3, 2009.

(10) Mr. Misfeldt was appointed to the Board on April 3, 2009. Upon his appointment, he was automatically granted a stock option to purchase 30,000 shares, with an aggregate grant date fair value of $3,765.

(11) Until April 2009, Dr. Young served as our Executive Chairman. As noted above, Dr. Young did not receive any compensation for his service on our Board while also serving as an employee. "All Other Compensation" includes the portion of Dr. Young's annual salary paid by us prior to his resignation as Executive Chairman, $52,273, as well as $1,556 in group term life insurance premiums and $2,500 in profit sharing contributions paid by us. As of December 31, 2009, Dr. Young held stock options to purchase 429,118 shares of our common stock.

CERTAIN INFORMATION WITH RESPECT TO EXECUTIVE OFFICERS

Biographies of Our Executive Officers

Set forth below is information regarding each of our executive officers as of March 31, 2010. Biographical information with regard to Mr. Swisher is presented under *Proposal No. 1: Election of Nominees to the Board of Directors* on page 5 of this proxy statement.

Name	Age	Position
Daniel N. Swisher, Jr.	47	CEO, President and Director
Eric H. Bjerkholt	50	Senior Vice President, Corporate Development and Finance and Chief Financial Officer
Steven B. Ketchum, Ph.D.	45	Senior Vice President, Research and Development

The principal occupations and positions for at least the past five years of our executive officers, other than Mr. Swisher, are as follows:

Eric H. Bjerkholt has served as our Senior Vice President, Corporate Development and Finance and Chief Financial Officer since February 2007. From January 2004 to January 2007, he served as our Senior Vice President and Chief Financial Officer. From January 2002 to January 2004, Mr. Bjerkholt served as Senior Vice President and Chief Financial Officer at IntraBiotics Pharmaceuticals, Inc., a pharmaceutical company focused on the development of antibacterial and antifungal drugs for the treatment of serious infectious diseases. Mr. Bjerkholt was a co-founder of LifeSpring Nutrition, Inc., a privately held nutraceutical company, and from May 1999 to March 2002 served at various times as its Chief Executive Officer, President and Chief Financial Officer. From 1990 to 1997, Mr. Bjerkholt was an investment banker at J.P. Morgan & Co. Mr. Bjerkholt is a member of the Board of Directors of StemCells, Inc., a biotechnology company. Mr. Bjerkholt holds a Cand. Oecon degree in Economics from the University of Oslo and an M.B.A. from Harvard Business School.

Steven B. Ketchum, Ph.D. has served as our Senior Vice President, Research and Development since June 2008. From May 2005 to May 2008, Dr. Ketchum served as Senior Vice President, Research & Development and Medical Affairs of Reliant Pharmaceuticals, Inc., a pharmaceutical company, which was acquired by GlaxoSmithKline in 2007. From June 2002 to April 2005, Dr. Ketchum served as Senior Vice President, Operations and Regulatory Affairs for IntraBiotics Pharmaceuticals, Inc. Dr. Ketchum also held positions at ALZA Corporation from November 1994 to May 2002, most recently as Senior Director, Regulatory Affairs. Dr. Ketchum earned a Ph.D. in Pharmacology from University College London (funded by the Sandoz Institute for Medical Research) and a B.S. in Biological Sciences from Stanford University.

EXECUTIVE COMPENSATION AND RELATED INFORMATION

Summary Compensation Table

The following table sets forth the compensation information for our CEO and our two most highly compensated executive officers other than our CEO who were serving as executive officers as of December 31, 2009, as well as one former executive officer who would have qualified as our most highly compensated executive officer during 2009, but was no longer serving as an executive officer as of December 31, 2009. Such individuals are referred to as our "named executive officers," or NEOs, for the year ended December 31, 2009. All compensation awarded to, earned by, or paid to our NEOs are included in the table below for the years indicated.

Name and Principal Position	Year	Salary(1) ($)	Bonus ($)	Option Awards ($)(2)	All Other Compensation ($)	Total ($)
Daniel N. Swisher, Jr.	2009	$405,000	$ —(3)	$241,950	$ 6,450(4)	$653,400
Chief Executive Officer and President	2008	403,125	—(3)	—	930(5)	404,055
Eric H. Bjerkholt	2009	340,000	—(3)	145,170	5,966(6)	491,136
Senior Vice President, Corporate Development and Finance, Chief Financial Officer and Corporate Secretary	2008	321,458	—(3)	59,380	930(5)	381,768
Steven B. Ketchum, Ph.D.	2009	360,000	100,000(3)(7)	145,170	137,280(8)	742,450
Senior Vice President, Research and Development	2008	210,000	50,000(9)	131,955	55,783(10)	447,738
Valerie L. Pierce(11)	2009	95,303	—	—	257,072(12)	352,803
Former Senior Vice President, General Counsel and Corporate Secretary	2008	318,958	—	59,380	630(13)	378,968

(1) Includes amounts earned but deferred at the election of the named executive officer, such as salary deferrals under our 401(k) Plan established under Section 401(k) of the Internal Revenue Code of 1986, as amended, or the Code.

(2) The dollar amounts in this column represent the aggregate grant date fair value of stock option awards granted pursuant to our equity compensation plans in the year ended December 31, 2009. These amounts have been calculated in accordance with FASB ASC Topic 718. Pursuant to SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. For additional information on the valuation assumptions, refer to Note 11, *Stock-Based Compensation,* to the Notes to Consolidated Financial Statements in our Annual Report on Form 10-K for the year ended December 31, 2009 which identifies assumptions made in the valuation of option awards in accordance with FASB ASC Topic 718.

(3) We anticipate that cash bonuses earned for performance in 2009 pursuant to our amended and restated 2009 Bonus Program will be determined no later than July 31, 2010. See "*Narrative to Summary Compensation Table—2009 Bonus Program*" below for the terms of our 2009 Bonus Program.

(4) Consists of $630 in group term life insurance premiums, $420 for health club membership reimbursement, $400 for airline club fees, $2,500 in matching 401(k) plan contributions and $2,500 in profit sharing contributions paid by us.

(5) Consists of $630 in group term life insurance premiums and $300 for airline club fees.

(6) Consists of $966 in group term life insurance premiums, $2,500 in matching 401(k) plan contributions and $2,500 in profit sharing contributions paid by us.

(7) Includes $50,000 paid as a signing bonus to Dr. Ketchum pursuant to his offer letter and $50,000 paid on a discretionary basis by our compensation committee to cover Dr. Ketchum's commuting expenses. See "*Narrative to Summary Compensation Table—Offer Letter to Dr. Ketchum*" below.

(8) Consists of $131,650 in housing allowances, $630 in group term life insurance premiums, $2,500 in matching 401(k) plan contributions and $2,500 in profit sharing contributions paid by us.

(9) Consists of a $50,000 signing bonus paid to Dr. Ketchum pursuant to the terms of his offer letter. See "*Narrative to Summary Compensation Table—Offer Letter to Dr. Ketchum*" below.

(10) Consists of $55,538 in housing allowances and $245 in group term life insurance premiums.

(11) Ms. Pierce's employment terminated as of April 10, 2009.

(12) Consists of $272,572 in severance payments, representing $255,000 of continuing base salary and $17,572 of continuing health benefits, and $2,500 in profit sharing contributions paid by us.

(13) Consists of group term life insurance premiums.

Narrative to Summary Compensation Table

Offer Letter to Dr. Ketchum

Pursuant to Dr. Ketchum's offer letter, dated June 2, 2008, we agreed to pay Dr. Ketchum a $100,000 signing bonus payable in two installments. The first installment of $50,000 of Dr. Ketchum's signing bonus was paid in 2008, which amount is reflected in the "Bonus" column for the year ended December 31, 2008 of the *Summary Compensation Table* above. The second installment of $50,000 of Dr. Ketchum's signing bonus was paid in 2009, as well as an additional $50,000 bonus paid to Dr. Ketchum on an ad hoc basis in connection with his commute from his home in Far Hills, New Jersey to our offices, which amounts are reflected in the "Bonus" column for the year ended December 31, 2009 of the *Summary Compensation Table.*

2009 Cash Bonus Program

In May 2009, the Board of Sunesis Pharmaceuticals, Inc. approved our 2009 Bonus Program that provides our executive officers and other eligible employees the opportunity to earn cash bonuses based on the level of achievement from the date of adoption through March 31, 2010 by us of certain corporate objectives and by each participant of certain individual performance objectives. A participant must remain an employee through the payment date under the program to earn a cash bonus.

The program originally provided that the closing of a financing or corporate transaction with net proceeds of $20 million had to occur on or before March 31, 2010 in order for bonuses to be earned under the program, or the Financing Threshold. In March 2010, the board extended the end date of the period covered by the program from March 31, 2010 to April 30, 2010 and removed the Financing Threshold. However, if our cash balance does not equal or exceed $25 million on or before July 31, 2010, or the Cash Balance Threshold, as a result of proceeds from one or more transactions deemed to be aligned with the value-creating objectives of the program, no cash bonuses will be earned under the program regardless of whether the corporate objectives and/or individual objectives are deemed to be achieved by the Compensation Committee. The Compensation Committee shall determine in its sole discretion whether the Cash Balance Threshold has been achieved.

The Board, with input from the Compensation Committee, approved the corporate objectives and assigned a weighting to each such objective. The Compensation Committee sets the individual objectives of our chief executive officer, as well as the individual objectives of the remaining executive officers based on the recommendations of the chief executive officer. The individual objectives of non-executive participants shall be set by each participant's immediate supervisor.

Each eligible participant in the 2009 Bonus Program may receive a cash bonus in an amount up to a specified percentage of such participant's annual base salary earned in 2009, or the Bonus Targets. The Bonus Targets range from 25% to 40% of a participant's 2009 base salary for Vice President level employees and above and from 6% to 20% of a participant's 2009 base salary for other participants. The bonus target percentage and bonus target amount for each of our NEOs are as follows:

Named Executive Officer	Bonus Target Percentage	Bonus Target Amount
Daniel N. Swisher, Jr. ..... *President and Chief Executive Officer*	40%	$162,000
Eric H. Bjerkholt ..... *Senior Vice President, Corporate Development and Finance, Chief Financial Officer and Corporate Secretary*	30%	$102,000
Steven B. Ketchum, Ph.D. ..... *Senior Vice President, Research and Development*	30%	$108,000

The Compensation Committee shall determine the degree to which the corporate objectives have been met after receiving the analysis and recommendations of management. Based on such determination, the Compensation Committee will adjust these bonus targets.

The Compensation Committee shall also determine the level of achievement of the individual objectives by our chief executive officer based on its evaluation of the chief executive officer's achievements and by the remaining executive officers based on the recommendations of the chief executive officer. Achievement of the individual objectives by non-executive participants shall be determined by the executive committee with input from team leaders, department heads or supervisors, as appropriate.

There is no set formula for determining the amount of bonus earned under the program based on the achievement of the corporate and individual objectives. Rather, the Compensation Committee will exercise its discretion in determining the amount of cash bonus actually earned, which determination will be final and binding. Payment under the program is expected to occur upon the later of (a) the first quarter following April 30, 2010 or (b) within fifteen (15) business after our cash balance exceeds the Cash Balance Threshold, on such date as determined by the Compensation Committee in its sole discretion.

Stock Option Grants in 2009

See "*Outstanding Equity Awards Table at December 31, 2009*" below for the terms of the stock options granted to certain of our NEOs in 2009.

Severance Payments in 2009

See "*Post-Termination Compensation—Executive Severance Benefits Agreements*" below regarding severance payments made to certain of our NEOs in 2009.

Outstanding Equity Awards Table at December 31, 2009

The following information sets forth the outstanding stock options held by our NEOs as of December 31, 2009. As of December 31, 2009, none of our NEOs held unearned equity incentive awards or stock awards.

	Option Awards			
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date
Daniel N. Swisher, Jr.	129,412	—	$2.55	02/06/12
	47,059	—	2.55	04/16/13
	70,589	—	2.55	01/21/14
	21,176	—	2.55	06/24/14
	235,000	—	5.25	11/29/15
	95,000(1)	25,000(1)	4.85	10/13/16
	87,187(2)	67,813(2)	2.59	09/13/17
	62,500(3)	687,500(3)	0.49	08/31/19
Eric H. Bjerkholt	58,824	—	2.55	01/21/14
	17,647	—	2.55	06/09/14
	120,000	—	5.25	11/29/15
	47,500(1)	12,500(1)	4.85	10/13/16
	50,625(2)	39,375(2)	2.59	09/13/17
	25,312(4)	42,188(4)	1.44	06/30/18
	37,500(3)	412,500(3)	0.49	08/31/19
Steven B. Ketchum, Ph.D.	52,500(5)	87,500(5)	1.44	06/30/18
	3,750(6)	6,250(6)		
	37,500(3)	412,500(3)	0.49	08/31/19
Valerie L. Pierce	—	—	—	—

(1) This stock option was granted on October 13, 2006 pursuant to our 2005 Equity Incentive Award Plan and vests monthly during the 48-month period measured from the grant date, subject to the holder's continued service with Sunesis.

(2) This stock option was granted on September 13, 2007 pursuant to our 2005 Equity Incentive Award Plan and vests monthly during the 48-month period measured from the grant date, subject to the holder's continued service with Sunesis.

(3) This stock option was granted on August 31, 2009 pursuant to our 2005 Equity Incentive Award Plan and vests monthly during the 48-month period measured from the grant date, subject to the holder's continued service with Sunesis.

(4) This stock option was granted on June 30, 2008 pursuant to our 2005 Equity Incentive Award Plan and vests monthly during the 48-month period measured from the grant date, subject to the holder's continued service with Sunesis.

(5) This stock option was granted on June 30, 2008 pursuant to our 2006 Employment Commencement Incentive Plan and vested as to 1/4th of the shares on June 30, 2009, with the remaining shares vesting monthly over the following 36 months, subject to the holder's continued service with Sunesis.

(6) This stock option was granted on June 30, 2008 pursuant to our 2005 Equity Incentive Award Plan and vested as to 1/4th of the shares on June 30, 2009, with the remaining shares vesting monthly over the following 36 months, subject to the holder's continued service with Sunesis.

Post-Termination Compensation

Executive Severance Benefits Agreements

We entered into executive severance benefits agreements with each of our NEOs to provide certain benefits upon a termination of employment.

The Compensation Committee believes such agreements help us attract and retain employees in a marketplace where such protections are commonly offered by our peer companies. We also believe that severance protections offered upon terminations arising in connection with a change of control allow our executives to assess a potential change of control objectively, without regard to the potential impact of the transaction on their own job security. At the time we originally entered into the executive severance benefits agreements with each of the NEOs, the Compensation Committee determined that the terms of such executive severance benefits agreements reflected industry standard severance payments, benefits and equity acceleration.

Mr. Swisher. Under the executive severance benefits agreement with Mr. Swisher, if Mr. Swisher is terminated without cause or he is constructively terminated, he is entitled to receive a payment equal to 12 months salary and continued health benefits for a maximum period of the first 12 months following termination (which may be terminated earlier upon his coverage by a new employer), subject to the execution of a general release in favor of Sunesis. In the event that Mr. Swisher is terminated by an acquirer within six months after a change of control transaction, the above-described severance benefits payable in the event Mr. Swisher is terminated without cause or constructively terminated would be reduced on a dollar-for-dollar basis by the amount paid or payable to Mr. Swisher pursuant to the Change of Control Payment Plan, as detailed in the "Change of Control Payment Plan" section below. Under Mr. Swisher's executive severance benefits agreement, he will also be eligible for certain option acceleration benefits, as described in more detail below.

Mr. Bjerkholt and Dr. Ketchum. Under the respective executive severance benefits agreements with Mr. Bjerkholt and Dr. Ketchum, if such executive is terminated without cause or is constructively terminated, each is entitled to receive a payment equal to nine months salary and continued health benefits for a maximum period of the first nine months following termination (which may be terminated earlier upon his coverage by a new employer), subject to the execution of a general release in favor of Sunesis. In the event that Mr. Bjerkholt or Dr. Ketchum, as the case may be, is terminated by an acquirer within six months after a change of control transaction, the above-described severance benefits payable in the event the executive is terminated without cause or constructively terminated would be reduced on a dollar-for-dollar basis by the amount paid or payable to the executive pursuant to the Change of Control Payment Plan. Under Mr. Bjerkholt's and Dr. Ketchum's respective executive severance benefits agreements, they will also be eligible for certain option acceleration benefits, as described in more detail below.

Under the executive severance benefits agreements, with Messrs. Swisher and Bjerkholt and Dr. Ketchum, in connection with a change of control of Sunesis, the vesting of 50% of each such executive officer's outstanding unvested option awards is automatically accelerated immediately prior to the effective date of such change of control. In the event of a termination without cause or a constructive termination of any of these executives officers (i) within 12 months following a change of control, 100% of such executive officer's outstanding unvested awards would automatically accelerate on the date of termination, or (ii) if prior to or more than 12 months following a change of control, the outstanding awards that would have vested over the 12 month period following the date of termination would automatically accelerate for such executive officer.

In general, a "change of control" under these executive severance benefits agreements, as amended, includes an acquisition transaction in which a person or entity (with certain exceptions described in the agreements) becomes the direct or indirect beneficial owner of more than 50% of our voting stock, as well as the

consummation of certain types of corporate transactions, such as a merger, consolidation, reorganization, business combination or sale of all or substantially all of our assets, pursuant to which our stockholders own, directly or indirectly, less than 50% of Sunesis or our successor, or if our stockholders approve a liquidation or dissolution of Sunesis. However, a cash financing transaction will not constitute a change of control transaction pursuant to the terms of the executive severance benefits agreements.

Each of the executive severance benefits agreements described above provides that, in the event that any benefits provided in connection with a change of control (or a related termination of employment) would be subject to the 20% excise tax imposed by Section 4999 of the Internal Revenue Code of 1986, or the Code, the executive officer will receive the greater, on an after-tax basis (taking account of all federal, state and local taxes and excise taxes), of such benefits or such lesser amount of benefits as would result in no portion of the benefits being subject to the excise tax. An executive officer's receipt of any severance benefits is subject to his execution of a release in favor of Sunesis. Any benefits under the executive severance benefits agreement would terminate immediately if the executive officer, at any time, violates any proprietary information or confidentiality obligation to us.

Ms. Pierce. The employment of Ms. Pierce terminated on April 10, 2009. Ms. Pierce received the following severance benefits pursuant to her executive severance benefits agreement with Sunesis in connection with the termination of her employment:

Name	Cash Severance ($)	Health Benefits ($)
Valerie L. Pierce	$255,000(1)	$20,043(2)

(1) Represents nine months of base salary at time of termination.

(2) Represents nine months of health care benefits.

Retirement Savings

We encourage our executives and employees generally to plan for retirement compensation through voluntary participation in our 401(k) Plan. All of our employees, including our executives, may participate in our 401(k) Plan by making pre-tax contributions from wages of up to 60% of their annual cash compensation, up to the current Internal Revenue Service limits. All of our executives can participate in the 401(k) Plan on the same terms as our employees. We believe this program is comparable with programs offered by our peer companies and assists us in attracting and retaining our executives.

During the year ended December 31, 2009, Messrs. Swisher and Bjerkholt and Dr. Ketchum elected to defer a portion of their compensation under the 401(k) plan and, as a result, received corresponding matching contributions from us.

Medical Benefits

On April 3, 2009, Dr. Young retired as our Executive Chairman. In connection with his resignation, we agreed to cover Dr. Young's medical benefits for a period of 12 months; however, Dr. Young is not otherwise entitled to any severance in connection with his resignation pursuant to the terms of his Second Amended and Restated Executive Severance Benefits Agreement with us, dated December 23, 2008.

Change of Control Benefits

Change of Control Payment Plan

On April 3, 2009, we adopted a Change of Control Payment Plan, or the Plan, pursuant to which 10.5% to 12.0% of the transaction value, or the Plan Pool, of a change of control transaction of Sunesis would be allocated to our eligible employees, including our NEOs remaining employed by Sunesis, pursuant to the terms of such Plan. The aggregate proceeds available for distribution to eligible employees under the Plan are as follows:

Transaction Value	Aggregate Plan Pool (%)
≤$30 million	10.5%
>$30 million but less than $45 million	11.0
≥$45 million but less than $60 million	11.5
≥$60 million	12.0

In order for an employee to be eligible to participate in the Plan, the individual must be a full-time regular U.S. employee and designated in writing by our Board, subject to certain limitations. Each participant shall be allocated a percentage of the Plan Pool. The percentage allocations of the Plan Pool for our executive officers are as follows:

Title of Executive Officer	Pro Rata Share (%)
Chairman of the Board of Directors	3.0%
Chief Executive Officer	20.0
Senior Vice Presidents	12.5 each, 25.0 in the aggregate

Our other employees are also eligible to participate in the Plan. If the number of employees at a level of Vice President or higher participating in the Plan changes after April 3, 2009, the Plan Pool allocations shown above shall be reallocated by the Compensation Committee on a pro rata basis without increasing or decreasing the aggregate Plan Pool. If there are significant decreases in the number of eligible employees below the level of Vice President, the Compensation Committee, in its sole discretion but considering the recommendation of our CEO, may reallocate a portion of the Plan Pool to other allocation categories (including those at or above the level of Vice President) without increasing or decreasing the aggregate Plan Pool.

If a change of control occurs, a participant in the Plan shall receive, in exchange for a general release of claims against us, a payment under the Plan in the same consideration received by us or our stockholders in the transaction if the participant is still an eligible employee on the date that payments pursuant to the Plan are scheduled to be made, and any cash severance payments owed by us in the future to the participant on account of a termination by us without cause or a constructive termination by us within six months following the change of control transaction under any severance agreement shall be reduced on a dollar-for-dollar basis by any payments pursuant to the Plan. If the participant has been terminated by us without cause or constructively terminated by us at the time payments under the Plan are scheduled to be made, we shall still provide the participant with such participant's allocated portion of the Plan Pool, but any cash severance payments otherwise payable to the participant by us shall be reduced on a dollar-for-dollar basis by such allocated portion of the Plan Pool, which shall be paid in cash to the extent of the cash severance payments that have been so reduced. The application of the Plan to amounts that are paid from escrow or pursuant to earn-out or other contingencies shall be determined at a future date in the sole discretion of our Board, recognizing that it is the present intention of our Board to apply the Plan to such amounts in the same manner as it applies to amounts payable immediately upon the effective date of the change of control, subject, however, to the requirements for either compliance with or exemption from Section 409A of the Code.

In general, a "change of control" under the Plan includes an acquisition transaction in which a person or entity (with certain exceptions) becomes the direct or indirect beneficial owner of more than 50% of our voting

stock, as well as the consummation of certain types of corporate transactions, such as a merger, consolidation, reorganization, business combination or sale of all or substantially all of our assets, pursuant to which our stockholders own, directly or indirectly, less than 50% of Sunesis or our successor, or if our stockholders approve a liquidation or dissolution of Sunesis. However, a cash financing transaction will not constitute a change of control transaction pursuant to the terms of the Plan.

The Plan shall remain in effect until the earlier of the conclusion of a change of control transaction and payout under the Plan or six months after the earlier of (a) the common equity closing of the Private Placement (see "*Purchases of Our Securities*" below), or (b) the conversion of our outstanding shares of Series A preferred stock; provided, however, that our obligation to make payments pursuant to a change of control transaction that occurs on or prior to such termination shall be unaffected by such termination. We reserve the right to amend or terminate the Plan at any time, subject to the consent of any adversely affected participant.

Change of Control Equity Incentive Plan Protections

Our 1998 Stock Plan and our 2001 Stock Plan both provide that in the event of a proposed sale of all or substantially all of our assets or a merger of Sunesis with or into another corporation in which we are not the surviving corporation, each outstanding award shall be assumed or an equivalent award substituted by such successor corporation, unless the successor corporation does not agree to assume the award, in which case, the award shall terminate upon the consummation of the merger or sale of assets.

Our 2005 Equity Incentive Award Plan, or 2005 Plan, and 2006 Employment Commencement Incentive Plan, or 2006 Plan provide that upon any change of control of Sunesis, our Board (or any committee delegated authority by our Board) may, in its discretion, make adjustments it deems appropriate to reflect such change with respect to (i) the aggregate number and type of awards that may be issued under the applicable plan, (ii) the terms and conditions of any outstanding awards, and (iii) and the grant or exercise price of any outstanding awards. If outstanding awards are not assumed by the surviving or successor entity and such successor entity does not substitute substantially similar awards for those awards outstanding under the 2005 Plan and the 2006 Plan, such outstanding awards shall become fully exercisable and/or payable as applicable and all forfeiture restrictions on such outstanding awards shall lapse.

In addition, our 2005 Plan and 2006 Plan include change in control provisions, which may result in the accelerated vesting of outstanding awards. In the event of a change in control of our company, for example, if we are acquired by merger or asset sale, each outstanding award under the 2005 Plan and 2006 Plan will accelerate and immediately vest with respect to 50% of the unvested award, and if the remainder of the award is not to be assumed by the successor corporation, the full amount of the award will automatically accelerate and become immediately vested. Additionally, in the event the remainder of the award is assumed by the successor corporation, any remaining unvested shares would accelerate and immediately vest in the event the optionee is terminated without cause or resigns for good reason within 12 months following such change in control. Pursuant to amendments to the 2005 Plan and 2006 Plan approved by our Board in March 2009, a cash financing will not constitute a change of control. In order to make the treatment of outstanding options granted under the 1998 Stock Plan and 2001 Stock Plan for then-current employees identical to the treatment of options granted under the 2005 Plan and 2006 Plan, all options outstanding under the 1998 Stock Plan and 2001 Stock Plan were amended to reflect identical change in control provisions.

We believe that the terms of our equity incentive plans described above are consistent with industry practice.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Principal Accountant Fees and Services

The following is a summary of the aggregate fees billed to us by Ernst & Young, our independent registered public accounting firm, for the years ended December 31, 2009 and 2008 for each of the following categories of professional services:

	Year Ended December 31,	
Fee Category	2009	2008
Audit fees(1)	$309,729	$320,872
Audit-related fees(2)	40,000	—
Tax fees	—	—
Other fees(3)	—	1,320
Total fees	$349,729	$322,192

(1) Audit fees for 2009 and 2008 included the aggregate fees for professional services rendered for the audit of our financial statements, review of our interim financial statements, review of our registration statements on Forms S-3 and Form S-8, review of our internal controls over financial reporting, and the issuance of comfort letters and consents.

(2) Audit-related fees in 2009 were for accounting consultations related to the Private Placement.

(3) Other fees in 2008 were for a subscription to Ernst & Young's online accounting research tool.

All of the fees described above were pre-approved by the Audit Committee.

Pre-approval Policies

The Audit Committee has adopted a policy relating to the approval of all audit and non-audit services that are to be performed by our independent registered public accounting firm. This policy generally provides that we will not engage our independent registered public accounting firm to render audit or non-audit services unless the service is specifically approved in advance by the Audit Committee or the engagement is entered into pursuant to pre-approval procedures established by the Audit Committee, including policies for delegating authority to a member of the Audit Committee. Any service that is approved pursuant to a delegation of authority to a member of the Audit Committee must be reported to the full Audit Committee at a subsequent meeting.

The Audit Committee has determined that the rendering of the services other than audit services by Ernst & Young as described above is compatible with maintaining their independence.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Certain Related Party Transactions

Other than as described below, there were no other related party transactions during 2008 or 2009 with our executive officers, directors and beneficial owners of five percent or more of our securities.

Executive Severance Benefits Agreements

We have entered into executive severance benefits agreements and related amendments with our executive officers. See "*Executive Compensation and Related Information*" above for further discussion of these arrangements.

Stock Option Grants

We have granted stock options to our executive officers and our non-employee directors. See "*Executive Compensation and Related Information*" and "*Information about the Board of Directors and Corporate Governance—Director Compensation*" above for further discussion of these awards.

Indemnification of Directors and Officers

We have entered into indemnity agreements with our executive officers and directors which provide, among other things, that we will indemnify such executive officer or director, under the circumstances and to the extent provided for therein, for expenses, damages, judgments, fines and settlements he or she may be required to pay in actions or proceedings which he or she is or may be made a party by reason of his or her position as a director, executive officer or other agent of Sunesis, and otherwise to the fullest extent permitted under Delaware law and our bylaws. We also intend to execute these agreements with our future executive officers and directors.

There is no pending litigation or proceeding naming any of our directors or executive officers as to which indemnification is being sought, nor are we aware of any pending or threatened litigation that may result in claims for indemnification by any director or executive officer.

Consulting Agreements

We have entered into consulting agreements with two of our directors, Drs. Pearce and Stump. See "*Information about the Board of Directors and Corporate Governance—Director Compensation*" above for further discussion of these agreements.

Purchases of Our Securities

On March 31, 2009, we entered into a securities purchase agreement with accredited investors, including certain members of management, providing for a private placement of our securities, or the Private Placement. The Private Placement contemplates the sale of up to $15.0 million of units, consisting of Series A preferred stock and warrants to purchase common stock in two closings, and a common stock closing of up to $28.5 million. $10.0 million in units were sold at the initial closing on April 3, 2009 and $5.0 million in units were sold at the second closing on October 30, 2009. The participation in the Private Placement by some of our executive officers was approved by the Audit Committee.

The shares of Series A preferred stock and warrants to purchase common stock set forth in the table below were issued and sold in the initial and second closings of the Private Placement held on April 3, 2009 and October 30, 2009, respectively, to entities affiliated with certain of our executive officers and directors. We believe the terms obtained or consideration that we received in connection with the Private Placement were comparable to terms available or the amounts that would be received by us in arm's-length transactions.

Investor	Executive Officer or Director Affiliation (if any)	Series A Preferred Stock	Warrants	Amount Invested as of December 31, 2009 ($)	Total Participation Amount ($)(1)
Entities affiliated with Bay City Capital	Dayton Misfeldt	999,499(2)	9,994,990(3)	$3,448,276	$10,000,000
Growth Equity Opportunities Fund, LLC	Helen S. Kim	999,499(4)	9,994,990	3,448,276	10,000,000
Entities affiliated with Alta Partners	Ed Hurwitz	499,747(5)	4,997,470(6)	1,724,138	5,000,000
Swisher Revocable Trust	Daniel N. Swisher, Jr.	19,989	199,890	68,962	200,000
Bjerkholt / Hahn Family Trust	Eric H. Bjerkholt	9,994	99,940	34,479	100,000
Steven B. Ketchum, Ph.D.	Self	9,994	99,940	34,479	100,000

(1) Reflects the total dollars that such entities and individual could invest in the aggregate in the Private Placement.

(2) Consists of (i) 980,809 shares purchased by Bay City Capital Fund V, L.P. and (ii) 18,690 shares purchased by Bay City Capital Fund V Co-Investment Fund, L.P. In addition, entities affiliated with Bay City Capital may participate in the subsequent closing of the Private Placement with an additional investment of up to approximately $6,551,724. In connection with and immediately subsequent to the initial closing of the Private Placement, an affiliate of Bay City Capital was appointed to our Board. The director on our Board designated by Bay City Capital is Dayton Misfeldt, an investment partner of Bay City Capital. See "*Security Ownership of Certain Beneficial Owners and Management*" below for more information regarding the holdings of Mr. Misfeldt and these entities.

(3) Consists of warrants to purchase (i) 9,808,090 shares of common stock purchased by Bay City Capital Fund V, L.P. and (ii) 186,900 shares of common stock purchased by Bay City Capital Fund V Co-Investment Fund, L.P.

(4) Growth Equity Opportunities Fund, LLC, or GEO, may participate in the subsequent closing of the Private Placement with an additional investment of up to approximately $6,551,724. In connection with the Private Placement and following the initial closing, Helen S. Kim was appointed to our Board as a designee of GEO on July 24, 2009. See "*Security Ownership of Certain Beneficial Owners and Management*" below for more information regarding the holdings of Ms. Kim and GEO.

(5) Consists of (i) 457,728 shares purchased by Alta BioPharma Partners III, L.P., (ii) 30,739 shares purchased by Alta BioPharma Partners III GmbH & Co. Beteiligungs KG, and (iii) 11,280 shares purchased by Alta Embarcadero BioPharma Partners III, LLC. In addition, the entities affiliated with Alta Partners may participate in the subsequent closings of the Private Placement with an additional investment of up to approximately $3,275,862. In connection with and immediately subsequent to the initial closing of the Private Placement, an affiliate of Alta Partners was appointed to our Board. The director on our Board designated by Alta Partners is Edward Hurwitz, a director of Alta Partners. See "*Security Ownership of Certain Beneficial Owners and Management*" for more information regarding the holdings of Mr. Hurwitz and these entities.

(6) Consists of warrants to purchase (i) 4,577,280 shares of common stock purchased by Alta BioPharma Partners III, L.P., (ii) 307,390 shares of common stock purchased by Alta BioPharma Partners III GmbH & Co. Beteiligungs KG, and (iii) 112,800 shares of common stock purchased by Alta Embarcadero BioPharma Partners III, LLC.

Investor Rights Agreements

Eighth Amended and Restated Investor Rights Agreement

We have entered into an Eighth Amended and Restated Investor Rights Agreement, dated August 30, 2004 and as subsequently amended, with the prior holders of our convertible preferred stock and certain holders of warrants to purchase convertible preferred stock, including entities with which certain of our directors are affiliated. The parties to the Eight Amended and Restated Investor Rights Agreement were entitled to certain rights with respect to the registration of their shares pursuant to the terms and conditions of such agreement; however, all registration rights under this agreement terminated on or about May 4, 2009. These registration rights were waived with respect to the issuance of our securities contemplated by the Private Placement.

Investor Rights Agreement

In connection with the initial closing of the Private Placement, we entered into an Investor Rights Agreement on April 3, 2009, as amended, with the investors in the Private Placement, pursuant to which we granted to the investors certain registration rights with respect to the securities issued and sold pursuant to the Private Placement, or the Investor Rights Agreement. As of March 31, 2010, the holders of 4,347,812 shares of our preferred stock, 1,096,219 shares of common stock issued upon the exercise of warrants, and 33,416,500 shares of common stock issuable upon the exercise of outstanding warrants are entitled to certain rights with respect to the registration of their shares pursuant to the terms and conditions of such agreement.

Pursuant to the Investor Rights Agreement, we also granted to the investors certain rights of first refusal with respect to certain future issuances of our securities as long as they continue to hold Series A Preferred Stock, including as part of a future equity financing, subject to customary exclusions. If we determine to issue any such securities not subject to such exceptions, then we must provide notice and an offer to sell the securities to the purchasing stockholders a pro rata amount of such securities on the same terms as we propose to sell such securities to other investors, based on such investors' respective percentage ownership of our outstanding common stock, calculated as if all shares of Series A preferred stock (including any dividends thereon) had been converted into shares of common stock immediately following the original issuance of our Series A preferred stock.

The Investor Rights Agreement also includes an agreement between the parties with respect to the size and composition of our Board. Specifically, following the initial closing of the Private Placement, the size of our Board was set at eight members, and the holders of a majority of the Series A preferred stock have the right to designate, and we are required to nominate, three members to our Board. Alta BioPharma Partners III, L.P., or Alta, Bay City Capital LLC, or Bay City Capital, and Growth Equity Opportunities Fund, LLC, or GEO, together with their respective affiliates, each have the right to designate one such investor designee. As a result, our Board elected Messrs. Hurwitz and Misfeldt to our Board on April 3, 2009 as designees of Alta and Bay City Capital, respectively, and Ms. Kim to our Board on July 24, 2009 as designee of GEO. In connection with the second closing of the Private Placement on October 30, 2009, the size of our Board was increased to nine members, with one vacancy, pursuant to the Investor Rights Agreement. From May 1, 2010, investors holding a majority-in-interest of our Series A preferred stock are entitled to designate, and we will be required to nominate, five members to our Board. Alta, Bay City Capital and GEO, together with their respective affiliates, would each have the right to designate one such investor designee.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth, as of March 31, 2010, information regarding beneficial ownership of our common stock by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common stock;
- each of our NEOs;
- each director and nominee for director; and
- all of our executive officers and directors as a group.

Beneficial ownership is determined according to the rules of the SEC and generally means that a person has beneficial ownership of a security if he, she or it possesses sole or shared voting or investment power of that security, and includes options and warrants that are currently exercisable or exercisable within 60 days of March 31, 2010. Shares of common stock subject to stock options and warrants currently exercisable or exercisable within 60 days of March 31, 2010 are deemed to be outstanding for computing the percentage ownership of the person holding these options and warrants and the percentage ownership of any group of which the holder is a member, but are not deemed outstanding for computing the percentage of any other person. Except as indicated by footnote, and subject to community property laws where applicable, we believe the persons named in the table have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them.

This table lists applicable percentage ownership based on 57,981,195 shares of common stock outstanding and 4,347,812 shares of Series A preferred stock outstanding, or an aggregate of 101,459,315 shares of capital stock (on an as-if-converted to common stock basis), as of March 31, 2010. Unless otherwise indicated, the address for each of the beneficial owners in the table below is c/o Sunesis Pharmaceuticals, Inc., 395 Oyster Point Boulevard, Suite 400, South San Francisco, California 94080.

	Beneficial Ownership(1)				
Name of Beneficial Owner	**Shares of Common Stock Beneficially Owned (#)(2)**	**Percentage of Common Stock Beneficially Owned (%)**	**Shares of Preferred Stock Beneficially Owned (#)**	**Percentage of Preferred Stock Beneficially Owned (%)**	**Percentage of Capital Stock Beneficially Owned (on an as-if-converted basis) (%)**
5% Stockholders:					
Entities affiliated with Alta Partners(3)	5,577,209	8.8%	499,747	11.5%	9.9
Entities affiliated with Bay City Capital(4)	10,004,081	14.7	999,499	23.0	17.9
Biogen Idec(5)	2,912,022	5.0	—	*	2.9
Caxton Advantages Life Sciences Fund, L.P.(6)	2,498,740	4.1	249,874	5.7	4.8
Growth Equity Opportunities Fund, LLC(7)	9,994,990	14.7	999,499	23.0	17.9
Entities affiliated with Merlin Biomed(8)	1,699,140	2.8	509,744	11.7	6.6
ONC General Partnership Limited(9)	1,665,830	2.8	499,749	11.5	6.5
Vision Opportunity Master Fund, Ltd.(10)	999,500	1.7	299,850	6.9	3.9
Named Executive Officers and Directors:					
James W. Young, Ph.D.(11)	637,748	1.1	—	*	*
Daniel N. Swisher, Jr.(12)	1,079,811	1.8	19,989	*	1.2
Eric H. Bjerkholt(13)	522,191	*	9,994	*	*
Steven B. Ketchum, Ph.D.(14)	246,041	*	9,994	*	*
Valerie L. Pierce	3,528	*	—	*	*
Matthew K. Fust(15)	136,666	*	—	*	*
Edward Hurwitz(16)	5,601,375	8.8	499,747	11.5	9.9
Helen S. Kim (17)	52,500	*	—	*	*
Dayton Misfeldt(18)	10,028,247	14.7	999,499	23.0	18.0
Homer L. Pearce, Ph.D.(19)	126,666	*	—	*	*
David C. Stump, M.D.(20)	126,666	*	—	*	*
All executive officers and directors as a group (10 persons)	**18,557,911**	**24.3**	**1,539,223**	**35.4**	**28.4**

* Represents beneficial ownership of less than one percent (1%) of the outstanding shares of our capital stock.

(1) This table is based upon information provided to us by our executive officers and directors and upon information about principal stockholders known to us based on Schedules 13G and 13D filed with the SEC.

(2) Includes shares issuable pursuant to stock options and warrants exercisable within 60 days of March 31, 2010.

(3) Includes (i) 30,739 shares of our Series A preferred stock and 343,051 shares of common stock issuable upon exercise of warrants outstanding held by Alta BioPharma Partners III GmbH & Co. Beteiligungs KG, (ii) 457,728 shares of our Series A preferred stock and 5,108,272 shares of common stock issuable upon exercise of warrants outstanding held by Alta BioPharma Partners III, L.P., and (iii) 11,280 shares of our Series A preferred stock and 125,886 shares of common stock issuable upon exercise of warrants outstanding held by Alta Embarcadero BioPharma Partners III, LLC. Alta Partners III, Inc. provides investment advisory services to Alta BioPharma Partners III GmbH & Co. Beteiligungs KG, Alta BioPharma Partners III, L.P. and Alta Embarcadero BioPharma Partners III, LLC, which we refer to collectively as the Alta Funds. The managing directors of Alta BioPharma Management III, LLC, which is the general partner of Alta BioPharma Partners III, L.P. and the managing limited partner of Alta BioPharma Partners III GmbH & Co. Beteiligungs KG, and the managers of Alta Embarcadero BioPharma Partners III, LLC (together, the "Principals") exercise sole dispositive and voting power over the shares owned by the Alta Funds. The Principals include Jean Deleage, Farah Campsi, Edward Penhoet and Edward Hurwitz. These individuals may be deemed to share dispositive and voting power over the shares held by the Alta Funds. Each of these individuals disclaims beneficial ownership of such shares, except to the extent of his or her pecuniary interest therein. The address of Alta Partners III, Inc. and its affiliates is One Embarcadero Center, Suite 3700, San Francisco, California 94111.

(4) Includes (i) 9,091 shares of our common stock held by Bay City Capital LLC, a Delaware limited liability company, or BCC, (ii) 980,809 shares of our Series A preferred stock and 9,808,090 shares of common stock issuable upon exercise of warrants outstanding held by Bay City Capital Fund V, L.P., or Fund V, and (iii) 18,690 shares of our Series A preferred stock and 186,900 shares of common stock issuable upon exercise of warrants outstanding held by Bay City Capital Fund V Co-Investment Fund, L.P., or Co-Investment V. BCC is the manager of Bay City Capital Management V, LLC, a Delaware limited liability company, or Management V. Management V is the general partner of Fund V and Co-Investment V and has sole voting and dispositive power with respect to the securities held by Fund V and Co-Investment V. BCC is also an advisor to Fund V and Co-Investment V. Dayton Misfeldt is a partner of BCC. The address of the principal business and office of Bay City Capital and its affiliates is 750 Battery Street, Suite 400, San Francisco, California 94111.

(5) Biogen Idec MA, Inc., a Massachusetts corporation, is a wholly owned subsidiary of Biogen Idec Inc., a biotechnology company. Paul Clancy, Michael F. MacLean and Michael F. Phelps are the directors of Biogen Idec MA, Inc. These individuals may be deemed to share dispositive and voting power over the shares which are, or may be, deemed to be beneficially owned by Biogen Idec MA, Inc. Each of these individuals disclaims beneficial ownership of these shares, except to the extent of his pecuniary interest therein.

(6) Includes 249,874 shares of our Series A preferred stock and 2,498,740 shares of common stock issuable upon the exercise of warrants outstanding owned by Caxton Advantages Life Sciences Fund, L.P. ("Caxton"). The principal address for Caxton is c/o Caxton Advantage Venture Partners, L.P., 500 Park Avenue, 9th Floor, New York, New York 10022.

(7) Includes 999,499 shares of our Series A preferred stock and 9,994,990 shares of common stock issuable upon the exercise of warrants outstanding owned by Growth Equity Opportunities Fund, LLC, or GEO. The sole member of GEO is New Enterprise Associates 12, Limited Partnership, or NEA 12. NEA Partners 12, Limited Partnership, or NEA Partners 12, is the sole general partner of NEA 12 and NEA 12 GP, LLC, or NEA 12 GP, is the sole general partner of NEA Partners 12. M. James Barrett, Peter J. Barris, Forest Baskett, Ryan D. Drant, Patrick J. Kerins, Krishna "Kittu" Kolluri, C. Richard Kramlich, Charles W. Newhall III, Mark W. Perry and Scott D. Sandell are the individual managers of NEA 12 GP, GEO, NEA 12, NEA Partners 12 and NEA 12 GP. Each of the above named entities and persons, except GEO, disclaims beneficial ownership of the securities except to the extent of their pecuniary interest therein, if any. The address for GEO is 119 St. Paul Street, Baltimore, Maryland 21202.

(8) Includes (i) 209,894 shares of our Series A preferred stock and 699,640 shares of common stock issuable upon the exercise of warrants outstanding owned by Nexus Gemini, L.P., or Gemini, and (ii) 299,850 shares of our Series A preferred stock and 999,500 shares of common stock issuable upon the exercise of warrants outstanding owned by Merlin Nexus III, L.P. ("Nexus III"). Merlin BioMed Private Equity Advisors, LLC, a Delaware limited liability company, or Merlin, is the investment adviser to Gemini and Nexus III. Dominique Semon is the controlling principal and chief investment officer of Merlin. Merlin and Mr. Semon share voting power and dispositive power over the shares held by Gemini and Nexus III. The principal address for Merlin and it affiliates is 424 West 33rd Street, Suite 520, New York, New York 10001.

(9) Includes 499,749 shares of our Series A preferred stock and 1,665,830 shares of common stock issuable upon the exercise of warrants outstanding owned by ONC General Partner Limited ("ONC"). The principal address for ONC is 26 New Street, St. Helier, Jersey, Channel Islands JE4 8PP.

(10) Includes 299,850 shares of our Series A preferred stock and 999,500 shares of common stock issuable upon the exercise of warrants outstanding owned by Vision Opportunity Master Fund, Ltd., a Cayman Islands company, or the Vision Fund. Vision Capital Advisors, LLC, a Delaware limited liability company, is the investment manager of the Vision Fund and Adam Benowitz is the Managing Member of the investment manager. The Vision Fund directly beneficially owns all of the shares reported in this table. Mr. Benowitz and the investment manager may be deemed to share with the Vision Fund voting and dispositive power with respect to such shares. The principal address of the Vision Fund is c/o Citi Hedge Fund Services (Cayman) Limited, P.O. Box 1748, Cayman Corporate Centre, 27 Hospital Road, 5th Floor, Grand Cayman KY1-1109, Cayman Islands.

(11) Includes 11,765 shares of our common stock held by family members of Dr. Young. Dr. Young disclaims beneficial ownership of such shares, except to the extent of his pecuniary interest therein. Also includes options held by Dr. Young to purchase 381,200 shares of common stock that are exercisable within 60 days of March 31, 2010.

(12) Includes options held by Mr. Swisher to purchase 839,068 shares of our common stock that are exercisable within 60 days of March 31, 2010. Also includes 19,989 shares of our Series A preferred stock and 199,890 shares of common stock issuable upon the exercise of warrants outstanding that are held in the Swisher Revocable Trust for which Mr. Swisher is the trustee.

(13) Includes options held by Mr. Bjerkholt to purchase 416,156 shares of our common stock exercisable within 60 days of March 31, 2010. Also includes 9,994 shares of our Series A preferred stock and 99,940 shares of common stock issuable upon the exercise of warrants outstanding that are held in the Bjerkholt/Hahn Family Trust for which Mr. Bjerkholt is the trustee.

(14) Includes options held by Dr. Ketchum to purchase 143,749 shares of our common stock exercisable within 60 days of March 31, 2010. Also includes 9,994 shares of our Series A preferred stock and 99,940 shares of common stock issuable upon the exercise of warrants outstanding.

(15) Includes options held by Mr. Fust to purchase 136,666 shares of our common stock exercisable within 60 days of March 31, 2010.

(16) Includes the shares of common stock, Series A preferred stock and shares of common stock issuable upon the exercise of warrants outstanding detailed in Note (3) above held by the Alta Funds. Mr. Hurwitz is a principal of Alta Partners III, Inc., one of the managing directors of Alta BioPharma Management III, LLC, and a manager of Alta Embarcadero BioPharma Partners III, LLC. He may be deemed to share dispositive and voting power over the shares held by the Alta Funds. Mr. Hurwitz disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein. Also includes options held by Mr. Hurwitz to purchase 24,166 shares of our common stock exercisable within 60 days of March 31, 2010. The address of Mr. Hurwitz is c/o Alta Partners III, Inc., One Embarcadero Center, 37th Floor, San Francisco, California 94111.

(17) Consists of options held by Ms. Kim to purchase 52,500 shares of our common stock exercisable within 60 days of March 31, 2010.

(18) Includes the shares of our common stock, Series A preferred stock and shares of common stock issuable upon the exercise of warrants outstanding detailed in Note (4) above held by the entities affiliated with BCC. Mr. Misfeldt is a partner of BCC. BCC is the manager of Management V. Management V, the general partner of Fund V and Co-Investment V, has sole voting and dispositive power with respect to the securities held by Fund V and Co-Investment V. BCC, as the manager of Management V, is also an advisor to Fund V and Co-Investment V. Also includes options held by Mr. Misfeldt to purchase 24,166 shares of our common stock exercisable within 60 days of March 31, 2010. The address for Mr. Misfeldt is c/o Bay City Capital, 750 Battery Street, Suite 400, San Francisco, California 94111.

(19) Includes options held by Dr. Pearce to purchase 126,666 shares of our common stock exercisable within 60 days of March 31, 2010.

(20) Includes options held by Dr. Stump to purchase 126,666 shares of our common stock exercisable within 60 days of March 31, 2010.

OTHER INFORMATION

Stockholder Proposals for Inclusion in our 2011 Proxy Statement

Our stockholders may submit proposals on matters appropriate for stockholder action at meetings of our stockholders in accordance with Rule 14a-8 promulgated under the Exchange Act. For such proposals to be included in our proxy materials relating to the 2011 annual meeting of stockholders, all applicable requirements of Rule 14a-8 must be satisfied and such proposals must be received by us no later than December 30, 2010. However, if our 2010 annual meeting of stockholders is not held between May 2, 2011 and July 1, 2011, then the deadline will be a reasonable time prior to the time we begin to print and mail our proxy materials. Such proposals should be submitted to our Corporate Secretary at Sunesis Pharmaceuticals, Inc., 395 Oyster Point Boulevard, Suite 400, South San Francisco, California 94080.

Our bylaws establish an advance notice procedure with regard to certain matters, including stockholder proposals, not included in our proxy statement, to be brought before an annual meeting of stockholders. In general, notice must be received in writing by our Corporate Secretary at Sunesis Pharmaceuticals, Inc., 395 Oyster Point Boulevard, Suite 400, South San Francisco, California 94080 not less than 120 days before the one year anniversary of the date on which we first mailed our proxy statement to stockholders in connection with the previous year's annual meeting of stockholders and must contain specified information concerning the matters to be brought before such meeting and concerning the stockholder proposing such matters. Therefore, to be presented at our 2011 annual meeting, such a proposal must be received by us on or before December 30, 2010. If the date of the annual meeting is before May 2, 2011 or after July 1, 2011, our Corporate Secretary must receive such notice no later than the close of business on the later of 120 calendar days in advance of such annual meeting and 10 calendar days following the date on which public announcement of the date of such meeting is first made. We also advise you to review our bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations. The chairman of the 2011 annual meeting of stockholders may determine, if the facts warrant, that a matter has not been properly brought before the meeting and, therefore, may not be considered at the meeting. In addition, if you do not also comply with the requirements of Regulation 14A under the Exchange Act, our management will have discretionary authority to vote all shares for which it has proxies in opposition to any such stockholder proposal or director nomination.

Householding of Proxy Materials

The SEC has adopted rules that permit companies and intermediaries (such as brokers) to satisfy the delivery requirements for proxy statements and annual reports with respect to two or more stockholders sharing the same address by delivering a single proxy statement addressed to those stockholders. This process, which is commonly referred to as "householding," potentially means extra convenience for stockholders and cost savings for companies.

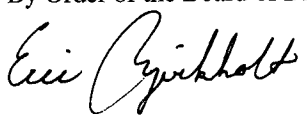
This year, a number of brokers with account holders who are our stockholders will be "householding" our proxy materials. A single proxy statement may be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that it will be "householding" communications to your address, "householding" will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in "householding" and would prefer to receive a separate proxy statement and annual report in the future, you may write or call either our (i) Investor Relations Department at Sunesis Pharmaceuticals, Inc., 395 Oyster Point Boulevard, Suite 400, South San Francisco, California 94080, Attention: Eric H. Bjerkholt, Senior Vice President, Corporate Development and Finance, Chief Financial Officer and Corporate Secretary, telephone: (650) 266-3500, or (ii) the transfer agent for our common stock, American Stock Transfer & Trust Company, 59 Maiden Lane, New York, New York 10007, telephone: (877) 777-0800. You will be removed from the householding program within 30 days of receipt of the revocation of your consent. Stockholders who currently receive multiple copies of the proxy materials at their addresses and would like to request "householding" of their communications should contact their brokers.

OTHER MATTERS

Other Matters at the Annual Meeting

The Board knows of no other matters to be submitted at the Annual Meeting. If any other matters properly come before the Annual Meeting, it is the intention of the persons named in the enclosed form of proxy to vote the shares they represent as the Board may recommend.

By Order of the Board of Directors,



Eric H. Bjerkholt
Senior Vice President, Corporate Development and Finance, Chief Financial Officer and Corporate Secretary

April 29, 2010

A COPY OF OUR ANNUAL REPORT ON FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2009, AS FILED WITH THE SEC, IS BEING MAILED TO STOCKHOLDERS IN CONNECTION WITH THIS PROXY SOLICITATION. WE WILL FURNISH WITHOUT CHARGE, UPON WRITTEN REQUEST OF ANY STOCKHOLDER, A COPY OF OUR ANNUAL REPORT ON FORM 10-K AND WE WILL PROVIDE COPIES OF THE EXHIBITS TO OUR ANNUAL REPORT ON FORM 10-K IF SPECIFICALLY REQUESTED. PLEASE ADDRESS ALL SUCH REQUESTS TO OUR INVESTOR RELATIONS DEPARTMENT AT SUNESIS PHARMACEUTICALS, INC., 395 OYSTER POINT BOULEVARD, SUITE 400, SOUTH SAN FRANCISCO, CALIFORNIA 94080, ATTENTION: ERIC H. BJERKHOLT, SR. VICE PRESIDENT, CORPORATE DEVELOPMENT AND FINANCE, CHIEF FINANCIAL OFFICER AND CORPORATE SECRETARY BY TELEPHONE TO: (650) 266-3717, OR BY E-MAIL TO: EBJERKHOLT@SUNESIS.COM.

NOTE 11 OF THE NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS, INCLUDED IN OUR ANNUAL REPORT ON FORM 10-K FILED ON MARCH 31, 2009, IS INCORPORATED BY REFERENCE INTO THIS PROXY STATEMENT.

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CERTIFICATE OF AMENDMENT TO THE AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF SUNESIS PHARMACEUTICALS, INC.

SUNESIS PHARMACEUTICALS, INC. (the "Corporation"), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify:

FIRST: The name of the Corporation is Sunesis Pharmaceuticals, Inc.

SECOND: The original name of this company was Mosaic Pharmaceuticals, Inc., and the date of filing the original Certificate of Incorporation of this company with the Secretary of State of the State of Delaware was February 10, 1998.

THIRD: The Board of Directors of the Corporation, acting in accordance with the provisions of Sections 141 and 242 of the General Corporation Law of the State of Delaware, adopted resolutions amending its Amended and Restated Certificate of Incorporation as follows:

Article IV, Paragraph A shall be amended to add the following provisions in their entirety to the existing provisions of Article IV, Paragraph A:

"Effective as of 5:00 p.m., Eastern time, on the date this Certificate of Amendment to the Amended and Restated Certificate of Incorporation is filed with the Secretary of State of the State of Delaware (the "Effective Time"), each [ ][1] shares of the Corporation's Common Stock, par value $0.0001 per share, issued and outstanding prior to the Effective Time shall, automatically and without any action on the part of the respective holders thereof, be combined and converted into one (1) share of Common Stock, par value $0.0001 per share, of the Corporation, and each [ ][1] shares of the Corporation's Preferred Stock, par value $0.0001 per share, issued and outstanding prior to the Effective Time shall, automatically and without any action on the part of the respective holders thereof, be combined and converted into one (1) share of Preferred Stock, par value $0.0001 per share, of the Corporation. No fractional shares shall be issued and, in lieu thereof, any holder of less than one share of Common Stock shall, upon surrender after the Effective Time of a certificate which formerly represented shares of Common Stock that were issued and outstanding immediately prior to the Effective Time, be entitled to receive cash for such holder's fractional share based upon the closing sales price of the Corporation's Common Stock as reported on the NASDAQ Global Market on the date this Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Corporation is filed with the Secretary of State of the State of Delaware, and any holder of less than one share of Preferred Stock shall, upon surrender after the Effective Time of a certificate which formerly represented shares of Preferred Stock that were issued and outstanding immediately prior to the Effective Time, be entitled to receive cash for such holder's fractional share based upon the then fair value of the Preferred Stock as determined by the Board of Directors."

FOURTH: This Certificate of Amendment to the Amended and Restated Certificate of Incorporation was submitted to the stockholders of the Corporation and was duly adopted and approved in accordance with the provisions of Sections 228 and 242 of the General Corporate Law of the State of Delaware at the annual meeting of the stockholders of the Corporation.

* * * * *

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1 By approving these amendments, stockholders will approve the combination of any whole number of shares of Common Stock between and including three (3) and fifteen (15) into one (1) share of Common Stock, and the combination of such whole number of shares of Preferred Stock between and including three (3) and fifteen (15) into one (1) share of Preferred Stock. The Certificate of Amendment filed with the Secretary of State of the State of Delaware will include only that number determined by the Board of Directors to be in the best interests of the Corporation and its stockholders. In accordance with these resolutions, the Board of Directors will not implement any amendment providing for a different split ratio.

IN WITNESS WHEREOF, Sunesis Pharmaceuticals, Inc. has caused this Certificate of Amendment to be signed by its Chief Executive Officer as of , 20 .

SUNESIS PHARMACEUTICALS, INC.

By: _____

Name: _____

Title: _____

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 Year Ended December 31, 2009
OR
☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission File Number 000-51531

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

Delaware	**94-3295878**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

395 Oyster Point Boulevard, Suite 400
South San Francisco, California 94080
(Address of principal executive offices, including zip code)

(650) 266-3500
(Registrant's telephone number, including area code)

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

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

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

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

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

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

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

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

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

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

The aggregate market value of common stock held by non-affiliates of the registrant, based on the closing sales price for such stock on June 30, 2009, as reported by The Nasdaq Stock Market, was $11,301,666. The calculation of the aggregate market value of voting and non-voting stock excludes 6,854,138 shares of the registrant's common stock held by current executive officers, directors and stockholders that the registrant has concluded are affiliates of the registrant. Exclusion of such shares should not be construed to indicate that any such person possesses the power, direct or indirect, to direct or cause the direction of the management or policies of the registrant or that such person is controlled by or under common control with the registrant.

The total number of shares outstanding of the registrant's common stock, $0.0001 par value per share, as of March 31, 2010, was 57,981,195.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Definitive Proxy Statement, to be filed with the Securities and Exchange Commission pursuant to Regulation 14A in connection with the 2010 Annual Meeting of Stockholders of Sunesis Pharmaceuticals, Inc. (hereinafter referred to as "Proxy Statement") are incorporated by reference in Part III of this report. Such Proxy Statement will be filed with the Securities and Exchange Commission not later than 120 days after the conclusion of the registrant's fiscal year ended December 31, 2009.

SUNESIS PHARMACEUTICALS, INC.

PART I

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report, including the information we incorporate by reference, contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, that involve risks, uncertainties and assumptions. All statements, other than statements of historical facts, are "forward-looking statements" for purposes of these provisions, including without limitation any statements relating to the completion of any financing transaction or the satisfaction of closing conditions relating to any financing, any projections of revenue, expenses or other financial items, any statement of the plans and objectives of management for future operations, any statements concerning proposed clinical trials, regulatory activities or licensing or collaborative arrangements, any statements regarding future economic conditions or performance, and any statement of assumptions underlying any of the foregoing. In some cases, forward-looking statements can be identified by the use of terminology such as "anticipates," "believe," "continue," "estimates," "expects," "intend," "look forward," "may," "could," "seeks," "plans," "potential," or "will" or the negative thereof or other comparable terminology. Although we believe that the expectations reflected in the forward-looking statements contained herein are reasonable, there can be no assurance that such expectations or any of the forward-looking statements will prove to be correct, and actual results could differ materially from those projected or assumed in the forward-looking statements. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of many factors, including but not limited to those set forth under "Risk Factors," and elsewhere in this report. We urge you not to place undue reliance on these forward-looking statements, which speak only as of the date of this report. All forward-looking statements included in this report are based on information available to us on the date of this report, and we assume no obligation to update any forward-looking statements contained in this report.

In this report, "Sunesis," the "Company," "we," "us," and "our" refer to Sunesis Pharmaceuticals, Inc. and its wholly owned subsidiary, Sunesis Europe Limited, except where it is made clear that the term refers only to the parent company.

ITEM 1. *BUSINESS*

General

We are a biopharmaceutical company focused on the development and commercialization of new oncology therapeutics for the treatment of hematologic and solid tumor cancers. Our efforts are currently focused primarily on the development of voreloxin for the treatment of acute myeloid leukemia, or AML. We have built a highly experienced cancer drug development organization committed to advancing our lead product candidate, voreloxin, in multiple indications to improve the lives of people with cancer.

We own worldwide development and commercialization rights to voreloxin and are currently preparing for anticipated Phase 3 development of the compound. Voreloxin is a first-in-class anti-cancer quinolone derivative, or AQD—a class of compounds that has not been used previously for the treatment of cancer. Quinolone derivatives have been shown to mediate anti-tumor activity by targeting mammalian topoisomerase II, an enzyme critical for cell replication, and have demonstrated promising preclinical anti-tumor activity.

We are currently completing three clinical trials of voreloxin: (i) a Phase 2 clinical trial (known as the REVEAL-1 trial) in previously untreated elderly patients with AML, for which enrollment was completed in October 2009, with a total of 113 patients dosed in one of three dosing schedules, (ii) a Phase 1b/2 clinical trial of voreloxin in combination with cytarabine for the treatment of patients with relapsed/refractory AML, for which enrollment was completed in January 2010, with a total of 108 patients dosed, and (iii) a Phase 2 single agent clinical trial in platinum-resistant ovarian cancer patients, for which enrollment was completed in

December 2008, with a total of 137 patients dosed across one of three dosing schedules. In November 2009, we announced that the U.S. Food and Drug Administration, or FDA, had granted voreloxin orphan drug designation for the treatment of AML. In February 2010, we announced that we received formal guidance from the FDA from End-of-Phase 2 meetings regarding further development of voreloxin for AML. Based on this guidance, we will look to conduct a randomized, double-blind, placebo-controlled, pivotal trial evaluating the effect on overall survival of voreloxin in combination with cytarabine, a widely used chemotherapy in AML, compared to placebo with cytarabine, in patients with relapsed or refractory AML. We anticipate initiating this multi-national Phase 3 trial in the second half of 2010. Management is currently in the process of evaluating alternatives for funding the voreloxin development program.

The most recent data from our two Phase 2 trials of voreloxin in AML were presented at the 51st Annual Meeting of the American Society of Hematology (ASH) in December 2009. The most recent data from the Phase 2 trial of voreloxin in platinum-resistant ovarian cancer were presented at the American Society of Clinical Oncology (ASCO) 2009 Annual Meeting in June 2009. We believe the data from these three ongoing clinical trials demonstrate that voreloxin shows promising safety and efficacy in AML and in platinum-resistant ovarian cancer.

From our incorporation in 1998 through 2001, our operations consisted primarily of developing and refining our proprietary methods of discovering drugs in pieces, or fragments. From 2002 through June 2008, we focused on the discovery, in-licensing and development of novel small molecule drugs. In June 2008, we announced a corporate realignment to focus on the development of voreloxin. In conjunction with this strategic restructuring, or the 2008 Restructuring, we expanded our late-stage development team, announced the winding down of our internal discovery research activities, ceasing development of an enhanced fragment-based discovery platform, and reduced our workforce by approximately 60%.

We have also taken a number of other important steps to focus our resources and efforts on the advancement of voreloxin:

- We discontinued development of our product candidate, SNS-032, a selective inhibitor of cyclin-dependent kinases, or CDKs, 2, 7 and 9, which we had in-licensed from Bristol-Myers Squibb Company, or BMS. In March 2009, the license agreement was terminated and SNS-032 was returned to BMS.

- In the first quarter of 2009, we completed a Phase 1 trial of SNS-314, a potent and selective pan-Aurora kinase inhibitor discovered internally at Sunesis, in patients with advanced solid tumors. As a maximum tolerated dose was not established in the trial and no responses were observed, further development of SNS-314 was suspended.

- In March 2009, we announced the sale of our interest in all of our lymphocyte function-associated antigen-1, or LFA-1, patents and related know-how to SARcode Corporation, or SARcode, for total cash consideration of $2.0 million, which was recorded as revenue in the second quarter of 2009. In connection with the sale, the license agreement was terminated. SARcode had been the exclusive licensee of those assets since March 2006.

- In February 2010, we granted Carmot Therapeutics, Inc. an exclusive license to our proprietary fragment-based lead discovery technology. We retain full rights to the technology for use in our future internal discovery efforts.

In July 2009, we received a milestone of $1.5 million pursuant to a collaboration entered into with Biogen Idec in 2002 for Biogen Idec's selection of a Raf kinase inhibitor development candidate for the treatment of cancer, which was earned and recorded as revenue in the second quarter. Biogen Idec is currently conducting IND-enabling preclinical work with the Raf kinase development candidate.

On March 31, 2009, we entered into a securities purchase agreement with accredited investors, including certain members of management, providing for a private placement of up to $43.5 million, or the Private Placement. We completed the initial closing of $10.0 million of the Private Placement on April 3, 2009, and the second closing of $5.0 million on October 30, 2009. In the initial closing, $10.0 million of units were sold, resulting in net proceeds of $8.8 million, and in the second closing, $5.0 million of units were sold, resulting in net proceeds of $4.7 million. The units consist of Series A convertible preferred stock and warrants to purchase common stock. The Private Placement also contemplates the sale of up to the remaining $28.5 million in common stock at $0.275 per share to the same group of investors, subject to certain terms and conditions described in "Management's Discussion and Analysis of Financial Condition and Results of Operations" below.

On January 20, 2010, we entered into a controlled equity offering sales agreement with Cantor Fitzgerald & Co., or Cantor, pursuant to which we could issue and sell shares of our common stock having an aggregate offering price of up to $15.0 million from time to time through Cantor acting as agent and/or principal. Sales of our common stock through Cantor, if any, would be made on the NASDAQ Capital Market by means of ordinary brokers' transactions at market prices, in block transactions or as otherwise agreed by Cantor and us. Cantor agreed to use its best efforts to sell our common stock from time to time, based upon our instructions (including any price, time or size limits or other customary parameters or conditions we might impose). We agreed to pay Cantor a commission rate ranging between 3.0% and 5.0% of the gross sales price per share of any common stock sold through Cantor as agent under the sales agreement. We also agreed to reimburse Cantor for certain expenses incurred in connection with entering into the sales agreement and provided Cantor with customary indemnification rights. Under the terms of the sales agreement, we may also sell shares of our common stock to Cantor, as principal for its own account, at a price negotiated at the time of sale. If we sell shares to Cantor in this manner, we will enter into a separate agreement setting forth the terms of any such transactions. As of March 31, 2010, the full $15.0 million available under the facility had been sold, for net proceeds of $14.2 million after commissions and expenses.

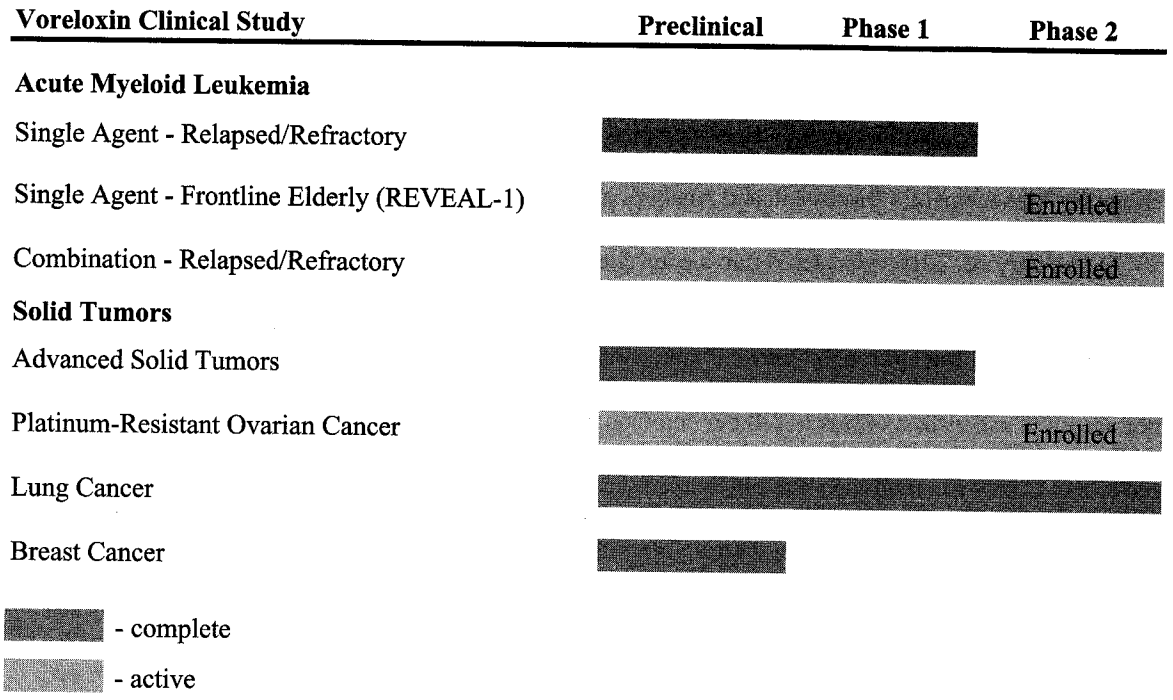
We have incurred significant losses in each year since our inception. As of December 31, 2009, we had an accumulated deficit of $356.4 million. We expect to continue to incur significant net losses for the foreseeable future, as we continue the development of, and seek regulatory approvals for, voreloxin. We believe that currently available cash, cash equivalents and marketable securities, including the net proceeds of $14.2 million from sales of common stock through March 31, 2010 under the agreement with Cantor, are sufficient to fund our operations through at least September 30, 2010. We will need to raise substantial additional funding in the near term in order to sustain operations beyond that date and before undertaking any additional clinical trials of voreloxin. Our significant negative cash flows and lack of financial resources raise substantial doubt as to our ability to continue as a going concern. Management is currently in the process of evaluating alternative funding sources. If we are unable to raise additional funding to meet our working capital needs, we will be forced to delay or reduce the scope of our voreloxin development program and/or limit or cease our operations.

On August 3, 2009, upon NASDAQ's approval, the listing of our common stock was transferred from The NASDAQ Global Market to The NASDAQ Capital Market.

Voreloxin

Voreloxin is a first-in-class AQD—a class of compounds that has not been used previously for the treatment of cancer. Quinolone derivatives have been shown to mediate anti-tumor activity by targeting mammalian topoisomerase II, an enzyme critical for cell replication, and have demonstrated promising preclinical anti-tumor activity. Voreloxin acts by DNA intercalation and inhibition of topoisomerase II in replicating cancer cells. The resulting site-selective DNA damage rapidly causes the cancer cells to stop dividing and die. In preclinical studies, voreloxin demonstrates broad anti-tumor activity and appears to exhibit additive or synergistic activity when combined with several therapeutic agents currently used in the treatment of cancer. Clinical activity is observed in both solid and hematologic malignancies. We licensed worldwide development and commercialization rights to voreloxin from Dainippon Sumitomo Pharma Co., Ltd. in 2003.

The following chart summarizes the status of the clinical trials that have been conducted or that we are currently conducting with voreloxin:



Since 2004, we have initiated eight clinical trials with voreloxin. Two Phase 1 clinical trials were conducted to evaluate doses and schedules of administration of voreloxin in patients with advanced solid tumors. We also conducted Phase 2 studies in non-small cell lung cancer and small cell lung cancer. Partial responses were observed in both lung cancer studies, but it was determined that voreloxin could be dosed with greater intensity given the low incidence of grade 3/4 neutropenia (15% or less). Thus, the studies were halted and we may consider future voreloxin studies in lung cancer either as a single agent at higher doses or in combination with other anti-cancer agents.

In January 2010, we completed enrollment of a Phase 1b/2 clinical trial of voreloxin in combination with cytarabine for the treatment of patients with relapsed/refractory AML The trial is designed to evaluate the safety, pharmacokinetics and anti-leukemic activity of escalating doses of voreloxin when administered in combination with cytarabine given either as continuous infusion or as a two hour IV infusion. A total of 66 patients have been treated in the expansion Phase 2 populations of the trial, which includes primary refractory and first relapse AML patients. Of these, 64 patients were evaluable for efficacy outcomes. Among evaluable first relapse (n=36) and primary refractory patients (n=28), preliminary median overall survival is 7.8 months and the remission rate is 31% (complete remission, or CR, is 27%, complete remission without full platelet recovery, or CRp, is 2%, and complete remission with incomplete recovery, or CRi, is 2%). Voreloxin in combination with either bolus or continuous infusion cytarabine was generally well-tolerated. Infection-related toxicities were the most common Grade 3 or higher non-hematologic adverse events. In addition, Grade 3 or higher oral mucositis was observed. All-cause mortality among these patients was 2% at 30 days and 8% at 60 days.

In October 2009, we completed enrollment in a Phase 2 single agent clinical trial of voreloxin in previously untreated elderly AML patients. The trial includes three dosing schedules: Schedule A, once weekly for three weeks (n=29); Schedule B, once weekly for two weeks (n=35); and Schedule C, on days one and four at either 72 mg/m^2 (n=29) or 90 mg/m^2 (n=20). Median survival was 8.7 months in Schedule A, 5.8 months in Schedule B, and 7.3 months (preliminary) in Schedule C (72 mg/m^2 on days one and four). Median duration of remission was 10.7 months and one year survival was 38% for Schedule A. For the other schedules, median

duration of remission has not been reached and one year survival is too early to evaluate. Patients age 75 or older (n=49) with at least 1 additional risk factor at diagnosis, a population identified by the National Comprehensive Cancer Network (2010) AML Guidelines as having poor outcome to standard treatment, experienced a CR rate of 30% and a 30-day all-cause mortality of 5%. Survival in these patients was too early to evaluate. Based on trial results, Schedule C has been determined to be the recommended pivotal dose regimen. For Schedule C, response rates (CR and CRp) are 38%; 30- and 60-day all-cause mortality are 7% and 17%, with improved tolerability over Schedule A.

In December 2008, we completed enrollment in a Phase 2 single agent trial of voreloxin in platinum-resistant ovarian cancer. Three dose cohorts of voreloxin were studied: 48 mg/m^2 given every three weeks (n=65), 60 mg/m^2 given every four weeks (n=37) and 75 mg/m^2 given every four weeks (n=35). Data from this trial show encouraging durable anti-tumor activity across all three dose cohorts. The overall response rate, or ORR, was 11% for each of the three dosing cohorts. A total of 74 patients (52%) experienced disease control, defined as an objective response or stable disease for 12 weeks or more. The median progression free survival, or PFS, for cohort A was 82 days. The preliminary median PFS for cohorts B and C is 84 days and 109 days, respectively. Overall PFS was longer in the 60 and 75 mg/m^2 cohorts vs. 48 mg/m^2, suggesting a benefit to higher voreloxin doses. Four partial responses were achieved in the 44 women who were Doxil® failures for an ORR of 9% and 28, or 64%, achieved disease control. The preliminary median PFS in these Doxil® failure patients is 90 days. PFS was not statistically different from those who had not failed Doxil®. Overall, the adverse event profile was similar across cohorts and voreloxin was generally well-tolerated. Grade 3 or higher adverse events occurring in more than 10% of patients include neutropenia febrile neutropenia, and anemia.

Licensing Agreements

Dainippon Sumitomo Pharma Co., Ltd.

In October 2003, we entered into an agreement with Dainippon Sumitomo Pharma Co., Ltd., or Dainippon, to acquire exclusive worldwide development and marketing rights for our lead anti-cancer product candidate, voreloxin. We may in the future make a series of milestone payments of up to $7.5 million to Dainippon for starting Phase 3 clinical testing, for filing new drug applications, or NDAs, and for receiving regulatory approval in the United States, Europe and Japan for cancer treatment. If voreloxin is approved for a non-cancer indication, additional milestone payments become payable to Dainippon.

The agreement also provides for royalty payments to Dainippon at rates that are based on total annual net sales. Under the agreement, we may reduce our royalty payments to Dainippon if a third party markets a competitive product and we must pay royalties for third-party intellectual property rights necessary to commercialize voreloxin. Royalty obligations under the agreement continue on a country-by-country and product-by-product basis until the later of the date on which no valid patent claims relating to a product exist or 10 years from the date of the first sale of the product.

If we discontinue seeking regulatory approval and/or the sale of the product in a region, we are required to return to Dainippon its rights to the product in that region. The agreement may be terminated by either party for the other party's uncured breach or bankruptcy.

Strategic Collaborations

Overview

Over the past three years, we generated revenue primarily through payments received in connection with our collaborations with Biogen Idec, Inc., Johnson & Johnson Pharmaceutical Research & Development LLC, or J&JPRD, and Merck & Co., Inc., or Merck, consisting principally of research funding and milestones paid by our collaborators, substantially offsetting our related research and development expenses. As of March 31, 2010, our

only remaining ongoing collaboration is with Biogen Idec. Our collaboration with Merck will terminate effective as of June 8, 2010 and our collaboration with J&JPRD terminated on January 13, 2010.

Biogen Idec

In August 2004, we entered into a collaboration agreement with Biogen Idec, Inc., or Biogen Idec, to discover, develop and commercialize small molecule inhibitors of Raf kinase and up to five additional targets that play a role in oncology and immunology indications or in the regulation of the human immune system. Concurrent with the signing of the agreement, Biogen Idec paid a $7.0 million upfront technology access fee and made a $14.0 million equity investment in the company through the purchase of our Series C-2 preferred stock, which converted into common stock upon our initial public offering in September 2005. Biogen Idec's equity ownership was 8.1% of our common shares outstanding as of December 31, 2009.

Pursuant to the terms of the collaboration agreement, we applied our proprietary fragment-based drug discovery technology, Tethering, to generate small molecule leads during the research term, for which we received research funding, which was paid in advance to support some of our scientific personnel. In connection with our 2008 Restructuring, the parties agreed to terminate the research term and related funding as of June 30, 2008. A total of $20.0 million of research funding was received through this date. We have received a total of $3.0 million in milestone payments for meeting certain preclinical milestones through December 31, 2009, including a $1.5 million milestone received in cash in July 2009 for Biogen Idec's selection of a Raf kinase inhibitor development candidate for the treatment of cancer, which was recorded as revenue in June 2009, and a $0.5 million milestone received in cash and recorded as revenue in June 2008.

We may in the future receive pre-commercialization milestone payments of up to $60.5 million per target, as well as royalty payments depending on product sales. Royalty payments may be increased if we exercise our option to co-develop and co-promote product candidates for up to two targets worldwide (excluding Japan) and may be reduced if Biogen Idec is required to in-license additional intellectual property related to certain technology jointly developed under the collaboration agreement in order to commercialize a collaboration product. However, we do not expect to generate any royalty revenue from this collaboration in the foreseeable future, if at all.

Manufacturing

We do not have internal manufacturing capabilities and outsource the manufacture of the voreloxin active pharmaceutical ingredient, or API, and the finished drug product incorporating the API, or FDP, to third-party contract manufacturers. The voreloxin API is currently manufactured by one of two suppliers with whom we have an established relationship, through a multi-step convergent synthesis in which two intermediates are manufactured in a parallel process and then combined and de-protected in the final two steps. The API is then formulated and vials are filled and finished by one of two FDP suppliers with whom we have an established relationship. The API is classified as a toxic substance, and the number of suppliers qualified to manufacture it or the FDP is limited.

To date, voreloxin has been manufactured in sufficient quantities for our preclinical studies and clinical trials. New lots of FDP will need to be manufactured and released as required to support our current and planned clinical activities. Prior to being approved for commercial sale, we may need to manufacture API and FDP in larger quantities. Scale-up of manufacturing will be accompanied by validation studies, which will be reviewed by the FDA prior to approval. If we are unable to successfully increase the manufacturing capacity for voreloxin, the regulatory approval or commercial launch may be delayed or there may be a shortage in commercial supply.

Competition

We face significant competition from many pharmaceutical, biopharmaceutical and biotechnology companies that are researching, developing and marketing products designed to address the treatment of cancer,

including AML and ovarian cancer. Many of our competitors have significantly greater financial, manufacturing, marketing and drug-development resources than we do. Large pharmaceutical companies in particular have extensive experience in the clinical testing of, obtaining regulatory approvals for, and marketing drugs.

Voreloxin is currently being clinically tested as a treatment for AML and platinum-resistant ovarian cancer. Some of the current key competitors to voreloxin in AML include Genzyme Corporation's clofarabine, Eisai Corporation's decitabine, Celgene Corporation's azacitidine and Vion Pharmaceuticals, Inc.'s laromustine, any of which could change the treatment paradigm for acute leukemia. Each of these compounds is further along in clinical development than voreloxin. Liposomal doxorubicin and topotecan are current standards of care in platinum-resistant ovarian cancer patients, and we are aware that several of our competitors have initiated Phase 3 clinical trials for this indication.

We believe that our ability to successfully compete in the marketplace with voreloxin and any future product candidates, if any, will depend on, among other things:

- our ability to develop novel compounds with attractive pharmaceutical properties and to secure, protect and maintain intellectual property rights based on our innovations;
- the efficacy, safety and reliability of our product candidates;
- the speed at which we develop our product candidates;
- our ability to design and successfully execute appropriate clinical trials;
- our ability to maintain a good relationship with regulatory authorities;
- our ability to obtain, and the timing and scope of, regulatory approvals;
- our ability to manufacture and sell commercial quantities of future products to the market; and
- acceptance of future products by physicians and other healthcare providers.

Intellectual Property

We believe that patent protection is crucial to our business and that our future success depends in part on our ability to obtain patents protecting voreloxin or future drug candidates, if any. We have an exclusive license to 44 issued composition-of-matter patents that cover the voreloxin drug substance. The U.S. composition-of-matter patent is due to expire in October 2015 and most of its foreign counterparts are due to expire in June 2015. As of December 31, 2009, approximately 64 U.S. and foreign applications pertaining to voreloxin life cycle development were pending. When appropriate, we intend to seek patent term restoration, orphan drug status and/or data exclusivity in the United States and their equivalents in other relevant jurisdictions, to the maximum extent that the respective laws will permit at such time. In November 2009, we announced that the FDA had granted voreloxin orphan drug designation for the treatment of AML.

Historically we have patented a wide range of technology, inventions and improvements related to our business, but which we are no longer actively developing. As of December 31, 2009, we owned, co-owned or licensed rights to approximately 40 issued U.S. and foreign patents and approximately 104 pending U.S. and foreign patent applications relating to such intellectual property.

Our ability to build and maintain our proprietary position for voreloxin and any future drug candidates, if any, will depend on our success in obtaining effective claims and enforcing those claims if granted. The patent positions of biopharmaceutical companies like ours are generally uncertain and involve complex legal and factual

questions for which some important legal principles remain unresolved. No consistent policy regarding the breadth of patent claims has emerged to date in the United States. The patent situation outside the United States is even more uncertain. We do not know whether any of our patent applications or those patent applications that we license will result in the issuance of any patents. Even if patents are issued, they may not be sufficient to protect voreloxin or future drug candidates, if any. The patents we own or license and those that may issue in the future may be challenged, invalidated or circumvented, and the rights granted under any issued patents may not provide us with proprietary protection or competitive advantages.

Patent applications filed before November 29, 2000 in the United States are maintained in secrecy until patents issue. Later filed U.S. applications and patent applications in most foreign countries generally are not published until at least 18 months after they are filed. Scientific and patent publication often occurs long after the date of the scientific discoveries disclosed in those publications. Accordingly, we cannot be certain that we were the first to invent the subject matter covered by any patent application or that we were the first to file a patent application for any inventions.

Our commercial success depends on our ability to operate without infringing patents and proprietary rights of third parties. We cannot determine with certainty whether patents or patent applications of other parties may materially affect our ability to conduct our business. The existence of third party patent applications and patents could significantly reduce the coverage of patents owned by or licensed to us and limit our ability to obtain meaningful patent protection. If patents containing competitive or conflicting claims are issued to third parties and these claims are ultimately determined to be valid, we may be enjoined from pursuing research, development or commercialization of voreloxin or future drug candidates, if any, or be required to obtain licenses to these patents or to develop or obtain alternative technology.

We may need to commence or defend litigation to enforce or to determine the scope and validity of any patents issued to us or to determine the scope and validity of third party proprietary rights. Litigation would result in substantial costs, even if the eventual outcome is favorable to us. An adverse outcome in litigation affecting proprietary rights we own or have licensed could present significant risk of competition for voreloxin or future drug candidates, if any, we market or seek to develop. Any adverse outcome in litigation affecting third party proprietary rights could subject us to significant liabilities to third parties and could require us to seek licenses of the disputed rights from third parties or to cease using the technology if such licenses are unavailable.

We also rely on trade secrets to protect our technology, especially where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to maintain and do not protect technology against independent developments made by third parties.

We seek to protect our proprietary information by requiring our employees, consultants, contractors and other advisers to execute nondisclosure and assignment of invention agreements upon commencement of their employment or engagement. Agreements with our employees also prevent them from bringing the proprietary rights of third parties to us. We also require confidentiality or material transfer agreements from third parties that receive our confidential data or materials. There can be no assurance that these agreements will provide meaningful protection, that these agreements will not be breached, that we will have an adequate remedy for any such breach, or that our trade secrets will not otherwise become known or independently developed by a third party.

We seek to protect our company name and the names of our products and technologies by obtaining trademark registrations, as well as common law rights in trademarks and service marks, in the United States and in other countries. There can be no assurance that the trademarks or service marks we use or register will protect our company name or any products or technologies that we develop and commercialize, that our trademarks, service marks, or trademark registrations will be enforceable against third parties, or that our trademarks and service marks will not interfere with or infringe trademark rights of third parties.

We may need to commence litigation to enforce our trademarks and service marks or to determine the scope and validity of our or a third party's trademark rights. Litigation would result in substantial costs, even if the eventual outcome is favorable to us. An adverse outcome in litigation could subject us to significant liabilities to third parties and require us to seek licenses of the disputed rights from third parties or to cease using the trademarks or service marks if such licenses are unavailable.

Government Regulation

The FDA and comparable regulatory agencies in state and local jurisdictions and in foreign countries impose substantial requirements upon the clinical development, manufacture, marketing and distribution of drugs. These agencies and other federal, state and local entities regulate research and development activities and the testing, manufacture, quality control, safety, efficacy, labeling, storage, recordkeeping, approval, advertising and promotion of voreloxin and any future drug candidates we may develop. The application of these regulatory frameworks to the development, approval and commercialization of voreloxin or our future drug candidates, if any, will take a number of years to accomplish, if at all, and involve the expenditure of substantial resources.

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, as amended, and implementing regulations. The process required by the FDA before voreloxin and any future drug candidates may be marketed in the United States generally involves the following:

- completion of extensive preclinical laboratory tests, *in vivo* preclinical studies and formulation studies;
- submission to the FDA of an Investigational New Drug, or IND, application which must become effective before clinical trials begin;
- performance of adequate and well-controlled clinical trials to establish the safety and efficacy of the product candidate for each proposed indication;
- submission of an NDA, to the FDA;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facilities at which the product candidate is produced to assess compliance with current Good Manufacturing Practice, or cGMP, regulations; and
- FDA review and approval of the NDA, including proposed labeling (package insert information) and promotional materials, prior to any commercial marketing, sale or shipment of the drug.

The testing and approval process requires substantial time, effort and financial resources, and we cannot be certain that any approvals for voreloxin or our future drug candidates, if any, will be granted on a timely basis, if at all.

Preclinical Testing and INDs

Preclinical tests include laboratory evaluation of product chemistry, formulation and stability, as well as studies to evaluate toxicity in animals. Laboratories that comply with the FDA Good Laboratory Practice regulations must conduct preclinical safety tests. The results of preclinical tests, together with manufacturing information and analytical data, are submitted as part of an IND application to the FDA. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, raises concerns or questions about the conduct of the clinical trial, including concerns that human research subjects will be exposed to unreasonable health risks. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. Our submission of an IND, or those of our collaboration

partners, may not result in FDA authorization to commence a clinical trial. A protocol amendment for an existing IND must be made for each successive clinical trial conducted during product development.

Clinical Trials

Clinical trials involve the administration of the investigational new drug to healthy volunteers or to patients under the supervision of a qualified principal investigator. Clinical trials are conducted in accordance with the FDA's Protection of Human Subjects regulations and Good Clinical Practices, or GCP, under protocols that detail the objectives of the study, the parameters to be used to monitor safety, and the efficacy criteria to be evaluated. Each protocol must be submitted to the FDA as part of the IND.

In addition, each clinical study must be conducted under the auspices of an independent institutional review board, or IRB, at each institution where the study will be conducted. Each IRB will consider, among other things, ethical factors, the safety of human subjects and the possible liability of the institution. The FDA, an IRB or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk. Clinical testing also must satisfy extensive GCP requirements and regulations for informed consent.

Clinical trials are typically conducted in the three sequential phases, which may overlap, sometimes followed by a fourth phase:

- *Phase 1 clinical trials* are initially conducted in a limited population to test the drug candidate for safety (adverse effects), dose tolerance, absorption, metabolism, distribution and excretion in healthy humans or, on occasion, in patients, such as cancer patients. In some cases, particularly in cancer trials, a sponsor may decide to conduct what is referred to as a "Phase 1b" evaluation, which is a second safety-focused Phase 1 clinical trial typically designed to evaluate the impact of the drug candidate in combination with currently approved drugs.

- *Phase 2 clinical trials* are generally conducted in a limited patient population to identify possible adverse effects and safety risks, to determine the efficacy of the drug candidate for specific targeted indications and to determine dose tolerance and optimal dosage. Multiple Phase 2 clinical trials may be conducted by the sponsor to obtain information prior to beginning larger and more expensive Phase 3 clinical trials. In some cases, a sponsor may decide to conduct what is referred to as a "Phase 2b" evaluation, which is a second, confirmatory Phase 2 clinical trial that could, if positive and accepted by the FDA, serve as a pivotal clinical trial in the approval of a drug candidate.

- *Phase 3 clinical trials* are commonly referred to as pivotal trials. When Phase 2 clinical trials demonstrate that a drug candidate has potential activity in a disease or condition and has an acceptable safety profile, Phase 3 clinical trials are undertaken to further evaluate clinical efficacy and to further test for safety in an expanded patient population at multiple, geographically dispersed clinical trial sites.

- *Phase 4 (post-marketing) clinical trials* may be required by the FDA in some cases. The FDA may condition approval of an NDA for a drug candidate on a sponsor's agreement to conduct additional clinical trials to further assess the drug's safety and efficacy after NDA approval. Such post-approval trials are typically referred to as Phase 4 clinical trials.

New Drug Applications

The testing and approval processes are likely to require substantial cost, time and effort, and there can be no assurance that any approval will be granted on a timely basis, if at all. The FDA may withdraw product

approvals if compliance with regulatory standards is not maintained or if problems occur following initial marketing.

The results of development, preclinical testing and clinical trials, together with extensive manufacturing information, are submitted to the FDA as part of an NDA for approval of the marketing and commercial distribution of the drug. For priority reviews, once the NDA submission has been accepted for filing, the FDA has the goal of reviewing and acting on such NDA filing within 180 days of its receipt. The review process is often significantly extended by FDA requests for additional information or clarification. The FDA may refer the NDA to an advisory committee for review, evaluation and recommendation as to whether the application should be approved. The FDA is not bound by the recommendation of an advisory committee, but it generally follows such recommendations. The FDA may deny approval of an NDA if the applicable regulatory criteria are not satisfied, or it may require additional clinical testing. Even if data from such testing are obtained and submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. Data from clinical trials are not always conclusive and the FDA may interpret data differently than we or our collaboration partners interpret data. If regulatory approval is granted, such approval may entail limitations on the indicated uses for which the product may be marketed.

Once issued, the FDA may withdraw drug approval if ongoing regulatory requirements are not met or if safety problems occur after the drug reaches the market. In addition, the FDA may require testing, including Phase 4 clinical trials, and surveillance programs to monitor the effect of approved products that have been commercialized, and the FDA has the power to prevent or limit further marketing of a drug based on the results of these post-marketing programs. Drugs may be marketed only for approved indications and in accordance with the provisions of the approved label. Further, if there are any modifications to the drug, including changes in indications, labeling, or manufacturing processes or facilities, we may be required to submit and obtain FDA approval of a new NDA or NDA supplement, which may require us to develop additional data or conduct additional preclinical studies and clinical trials.

Fast Track Designation

FDA's fast track program is intended to facilitate the development, and to expedite the review, of drugs that are intended for the treatment of a serious or life-threatening condition for which there is no effective treatment and demonstrate the potential to address unmet medical needs for the condition. Under the fast track program, the sponsor of a new drug candidate must request that the FDA designate the drug candidate for a specific indication as a fast track drug concurrent with or after the filing of the IND for the drug candidate. The FDA must within 60 days of receipt of the sponsor's request determine if the drug candidate qualifies for fast track designation.

If fast track designation is obtained, the FDA may initiate review of sections of an NDA before the application is complete. This rolling review is available if the applicant provides and the FDA approves a schedule for the submission of the remaining information and the applicant pays applicable user fees. However, the time period specified in the Prescription Drug User Fees Act, which governs the time period goals the FDA has committed to reviewing an application, does not begin until the complete application is submitted. Additionally, the fast track designation may be withdrawn by the FDA if the FDA believes that the designation is no longer supported by data emerging in the clinical trial process.

In some cases, a fast track designated drug candidate may also qualify for one or more of the following programs:

- *Priority Review.* Under FDA policies, a drug candidate is eligible for priority review, or review within six-months from the time a complete NDA is accepted for filing, if the drug candidate provides a significant improvement compared to marketed drugs in the treatment, diagnosis or prevention of a disease. A fast track designated drug candidate would ordinarily meet the FDA's criteria for priority review.

- *Accelerated Approval.* Under the FDA's accelerated approval regulations, the FDA is authorized to approve drug candidates that have been studied for their safety and efficacy in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit to patients over existing treatments based upon either a surrogate endpoint that is reasonably likely to predict clinical benefit or on the basis of an effect on a clinical endpoint other than patient survival. In clinical trials, surrogate endpoints are alternative measurements of the symptoms of a disease or condition that are substituted for measurements of observable clinical symptoms. A drug candidate approved on this basis is subject to rigorous post-marketing compliance requirements, including the completion of Phase 4 clinical trials to validate the surrogate endpoint or confirm the effect on the clinical endpoint. Failure to conduct required post-approval studies, or to validate a surrogate endpoint or confirm a clinical benefit during post-marketing studies, will allow the FDA to withdraw the drug from the market on an expedited basis. All promotional materials for drug candidates approved under accelerated regulations are subject to prior review by the FDA.

When appropriate, we or our collaboration partners may seek fast track designation, accelerated approval or priority review for voreloxin or our future drug candidates, if any. We do not know whether voreloxin or our future drug candidates, if any, will receive a priority review designation or, if a priority designation is received, whether that review or approval will be faster than conventional FDA procedures. We also cannot predict whether voreloxin or our future drug candidates, if any, will obtain a fast track or accelerated approval designation, or the ultimate impact, if any, of the fast track or the accelerated approval process on the timing or likelihood of FDA approval of voreloxin or our future drug candidates, if any.

Satisfaction of FDA regulations and approval requirements or similar requirements of foreign regulatory agencies typically takes several years, and the actual time required may vary substantially based upon the type, complexity and novelty of the product or disease. Typically, if a drug candidate is intended to treat a chronic disease, as is the case with voreloxin, safety and efficacy data must be gathered over an extended period of time. Government regulation may delay or prevent marketing of drug candidates for a considerable period of time and impose costly procedures upon our activities. The FDA or any other regulatory agency may not grant approvals for new indications for our drug candidates on a timely basis, or at all. Even if a drug candidate receives regulatory approval, the approval may be significantly limited to specific disease states, patient populations and dosages. Further, even after regulatory approval is obtained, later discovery of previously unknown problems with a drug may result in restrictions on the drug or even complete withdrawal of the drug from the market. Delays in obtaining, or failures to obtain, regulatory approvals for any of our drug candidates would harm our business. In addition, we cannot predict what adverse governmental regulations may arise from future United States or foreign governmental action.

Other Regulatory Requirements

Any drugs manufactured or distributed by us or our collaboration partners pursuant to FDA approvals are subject to continuing regulation by the FDA, including recordkeeping requirements and reporting of adverse experiences associated with the drug. Drug manufacturers and their subcontractors are required to register with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with ongoing regulatory requirements, including cGMPs, which impose certain procedural and documentation requirements upon us and our third-party manufacturers. Failure to comply with the statutory and regulatory requirements can subject a manufacturer to possible legal or regulatory action, such as warning letters, suspension of manufacturing, seizure of product, injunctive action or possible civil penalties.

The FDA closely regulates the post-approval marketing and promotion of drugs, including standards and regulations for direct-to-consumer advertising, off-label promotion, industry-sponsored scientific and educational activities and promotional activities involving the Internet. A company can make only those claims relating to safety and efficacy that are approved by the FDA. Failure to comply with these requirements can result in adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians

may prescribe legally available drugs for uses that are not described in the drug's labeling and that differ from those tested by us and approved by the FDA. Such off-label uses are common across medical specialties, including cancer therapy. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, impose stringent restrictions on manufacturers' communications regarding off-label use.

Foreign Regulation

In addition to regulations in the United States, we are subject to foreign regulations governing clinical trials and commercial sales and distribution of voreloxin or our future drug candidates, if any. We are currently conducting clinical trials in Canada and may in the future initiate clinical trials in countries in Europe, South America, or elsewhere. Whether or not we obtain FDA approval for a product, we must obtain approval of a product by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the product in those countries. The approval process varies from country to country, and the time may be longer or shorter than that required for FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country.

Under the Canadian regulatory system, Health Canada is the regulatory body that governs the sale of drugs for the purposes of use in clinical trials. Accordingly, any company that wishes to conduct a clinical trial in Canada must submit a clinical trial application to Health Canada. Health Canada reviews the application and notifies the company within 30 days if the application is found to be deficient. If the application is deemed acceptable, Health Canada will issue a no objection letter to the company within the 30-day review period which means the company may proceed with its clinical trial(s).

Under European Union regulatory systems, permission to conduct clinical research is granted by the Competent Authority of each European Member State, or MS, and the applicable Ethics Committees, or EC, through the submission of a Clinical Trial Application. An EC in the European Union serves the same function as an IRB in the United States. The review times vary by MS but may not exceed 60 days. The EC has a maximum of 60 days to give its opinion on the acceptability of the Clinical Trial Application to both the governing MS and the sponsor applicant. If the application is deemed acceptable, the MS informs the applicant (or does not within the 60-day window inform the applicant of non-acceptance) and the company may proceed with the clinical trial.

Under the European Union regulatory systems, marketing authorizations may be submitted either under a centralized or mutual recognition procedure. The centralized procedure provides for the grant of a single marketing authorization that is valid for all European Union member states. The mutual recognition procedure provides for mutual recognition of national approval decisions. Under this procedure, the holder of a national marketing authorization may submit an application to the remaining member states. Within 90 days of receiving the application and assessment report, each member state must decide whether to recognize approval.

In addition to regulations in the United States, Canada and the European Union, we will be subject to a variety of other foreign regulations governing clinical trials and commercial distribution of our current and possible future product candidates. Our ability to sell drugs will also depend on the availability of reimbursement from government and private practice insurance companies.

Research and Development Expenses

We incurred $13.2 million, $26.3 million and $36.1 million of research and development expenses in 2009, 2008 and 2007, respectively. As a result of our 2008 Restructuring and the resulting wind down of our research activities and focus on voreloxin development in the near term, we do not anticipate incurring any significant additional research expenses related to the discovery of additional product candidates, the development or application of our proprietary fragment-based drug discovery methods, the development of in-house research capabilities, or on the clinical development of product candidates other than voreloxin. In

addition, we are no longer conducting any research activities in connection with any of our collaborations. However, we have incurred and expect to continue to incur substantial research and development expenses to conduct further clinical and related development of voreloxin.

Environment

We have made, and will continue to make, expenditures for environmental compliance and protection. In 2008, we incurred approximately $0.3 million in expenses related to the closure of our laboratory space at 341 Oyster Point Boulevard in South San Francisco, California, in accordance with environmental laws and regulations. We do not expect that expenditures for compliance with environmental laws will have a material effect on our capital expenditures or results of operations in the future.

Employees

As of December 31, 2009, our workforce consisted of 28 full-time employees. Of our total workforce, 18 are engaged in research and development and 10 are engaged in general and administrative functions. We have no collective bargaining agreements with our employees, and we have not experienced any work stoppages.

Corporate Background

We were incorporated in Delaware in February 1998 as Mosaic Pharmaceuticals, Inc., and subsequently changed our name to Sunesis Pharmaceuticals, Inc. Our offices are headquartered at 395 Oyster Point Boulevard, Suite 400, South San Francisco, California 94080, and our telephone number is (650) 266-3500. Our website address is *www.sunesis.com*. Information contained in, or accessible through, our website is not incorporated by reference into and does not form a part of this report.

ITEM 1A. *RISK FACTORS*

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below and all information contained in this report in weighing a decision to purchase our common stock. If any of the possible adverse events described below actually occurs, we may be unable to conduct our business as currently planned and our financial condition and operating results could be adversely affected. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations. In addition, the trading price of our common stock could decline due to the occurrence of any of these risks, and you may lose all or part of your investment. Please see "Special Note Regarding Forward-Looking Statements."

Risks Related to Our Business

If we are unable to raise additional capital in the near term, we will not be able to continue to operate as a going concern.

We will need to raise substantial additional capital to continue the development and commercialization of voreloxin, and our business in general. We will need to raise substantial additional capital in the near term to:

- fund clinical trials and seek regulatory approvals;
- continue and expand our development activities;
- hire additional development personnel;
- maintain, defend and expand the scope of our intellectual property portfolio;
- implement additional internal systems and infrastructure; and
- build or access manufacturing and commercialization capabilities.

Our future funding requirements will depend on many factors, including but not limited to:

- the rate of progress and cost of our clinical trials, need for additional clinical trials, and other development activities;
- the economic and other terms and timing of any licensing or other partnering arrangement into which we may enter;
- the costs associated with building or accessing manufacturing and commercialization capabilities;
- the costs of acquiring or investing in businesses, product candidates and technologies, if any;
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- the costs and timing of seeking and obtaining FDA and other regulatory approvals; and
- the effect of competing technological and market developments.

On April 3, 2009, we closed the initial $10.0 million of the Private Placement of up to $43.5 million of our securities. On October 30, 2009, we completed the second closing of $5.0 million of the Private Placement. In the initial closing, $10.0 million of units were sold, resulting in net proceeds of $8.8 million, and in the second

closing, $5.0 million of units were sold, resulting in net proceeds of $4.7 million. The units consist of Series A convertible preferred stock and warrants to purchase common stock, and were sold to accredited investors, including certain members of management. An additional $28.5 million of common stock may be sold at $0.275 per share in a common equity closing upon the election of the holders of a majority of the Series A convertible preferred stock issued in the Private Placement prior to the earlier of June 30, 2010, or a date determined with reference to our cash and investments balance dropping below $2.5 million. The common equity closing may also be completed upon our election prior to the earlier of June 30, 2010 or a qualifying alternative common stock financing, subject to the approval of the purchasers holding a majority of the Series A convertible preferred stock issued in the Private Placement and subject to us selling at least $28.5 million of common stock in the common equity closing. The common equity closing is entirely at the discretion of the investors in the Private Placement, and it is possible that they will not elect to complete that closing for reasons related to our business or other factors.

We believe that currently available cash, cash equivalents and marketable securities, including the net proceeds of $14.2 million from sales of common stock through March 31, 2010 under the agreement with Cantor, are sufficient to fund our operations through at least September 30, 2010. We will need to raise substantial additional funding in the near term in order to sustain operations beyond that date and before undertaking any additional clinical trials of voreloxin. If we are unable to raise substantial additional funding, we will be forced to delay or reduce the scope of our voreloxin development program and/or limit or cease our operations.

Until we can generate a sufficient amount of collaboration or product revenue to finance our cash requirements, which we may never do, we expect to finance future cash needs primarily through equity issuances (including the possible common equity closing of the Private Placement and subject to the satisfaction of the conditions described above), debt arrangements and/or a possible partnership or license of development and/or commercialization rights to voreloxin. We do not know whether additional funding will be available on acceptable terms, or at all.

We are currently conducting clinical trials of voreloxin in acute myeloid leukemia, or AML, and ovarian cancer. If we are not able to secure additional funding when needed, we may have to delay, reduce the scope of or eliminate one or more of our clinical trials, scale back our development program, conduct additional workforce or other expense reductions, or cease operations. Any one of the foregoing would have a material adverse effect on our business, financial condition and results of operations.

Our independent registered public accounting firm has indicated that our recurring operating losses raise substantial doubt as to our ability to continue as a going concern.

Our audited financial statements for the fiscal year ended December 31, 2009 were prepared on a basis that our business would continue as a going concern in accordance with United States generally accepted accounting principles. This basis of presentation assumes that we will continue in operation for the foreseeable future and will be able to realize our assets and discharge our liabilities and commitments in the normal course of business. However, our independent registered public accounting firm has indicated in their audit report on our 2009 consolidated financial statements that our recurring operating losses raise substantial doubt as to our ability to continue as a going concern. We will be forced to delay or reduce the scope of our voreloxin development program and/or limit or cease our operations if we are unable to raise substantial additional funding to meet our working capital needs. However, we cannot guarantee that we will be able to obtain sufficient additional funding when needed or that such funding, if available, will be obtainable on terms satisfactory to us. In the event that these plans cannot be effectively realized, there can be no assurance that we will be able to continue as a going concern.

Economic conditions may make it more difficult and costly to raise additional capital.

Recently, there has been turmoil in the U.S. economy, which has led to reduced credit availability. Banks have tightened their lending standards and investors have been unwilling to buy certain corporate stock and

bonds. If economic conditions continue to affect the capital markets, our ability to raise capital may be adversely affected.

We have incurred losses since inception and anticipate that we will continue to incur losses for the foreseeable future. We may not ever achieve or sustain profitability.

We are not profitable and have incurred losses in each year since our inception in 1998. Our net losses for the years ended December 31, 2009, 2008 and 2007 were $40.2 million, $37.2 million and $38.8 million, respectively. As of December 31, 2009, we had an accumulated deficit of $356.4 million. We do not currently have any products that have been approved for marketing, and we continue to incur substantial development and general and administrative expenses related to our operations. We expect to continue to incur losses for the foreseeable future, and we expect these losses to increase significantly, especially upon commencing pivotal and Phase 3 clinical trials for voreloxin, as we conduct development of, and seek regulatory approvals for, voreloxin, and as we commercialize any approved drugs. Our losses, among other things, have caused and will continue to cause our stockholders' equity and working capital to decrease.

Our business model had been based in part upon entering into strategic collaborations for the discovery and/or the development of some of our product candidates. To date, we have derived substantially all of our revenue from research collaboration agreements with Biogen Idec, Inc. Merck & Co., and Johnson & Johnson Pharmaceutical Research & Development LLC. As of March 31, 2010, our only remaining ongoing collaboration is with Biogen Idec; however, the research phase for this collaboration is completed. We do not expect to enter into any new collaboration agreement that will result in research revenue for us. We also do not anticipate that we will generate revenue from the sale of products for the foreseeable future. In the absence of additional sources of capital, which may not be available to us on acceptable terms, or at all, the development of voreloxin or future product candidates, if any, may be reduced in scope, delayed or terminated. If our product candidates or those of our collaborators fail in clinical trials or do not gain regulatory approval, or if our future products do not achieve market acceptance, we may never become profitable. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods.

The development of voreloxin could be halted or significantly delayed for various reasons; our clinical trials for voreloxin may not demonstrate safety or efficacy or lead to regulatory approval.

Voreloxin is vulnerable to the risks of failure inherent in the drug development process. We need to conduct significant additional preclinical studies and clinical trials before we can attempt to demonstrate that voreloxin is safe and effective to the satisfaction of the FDA and other regulatory authorities. Failure can occur at any stage of the development process, and successful preclinical studies and early clinical trials do not ensure that later clinical trials will be successful. A number of companies in the pharmaceutical industry have suffered significant setbacks in advanced clinical trials, even after obtaining promising results in earlier trials.

For example, we terminated two Phase 2 trials of voreloxin in small cell and non-small cell lung cancer. We ceased development of SNS-032 and terminated our related license agreement with BMS after completion of a Phase 1 trial as no responses demonstrating efficacy were observed in that trial. In addition, in our Phase 1 trial of SNS-314, a maximum tolerated dose was not established and no responses were observed. As a result, we have suspended further development of SNS-314. If our clinical trials result in unacceptable toxicity or lack of efficacy, we may have to terminate them. If clinical trials are halted, or if they do not show that voreloxin is safe and effective in the indications for which we are seeking regulatory approval, our future growth will be limited and we may not have any other product candidates to develop.

We do not know whether our ongoing clinical trials or any other future clinical trials with voreloxin or any of our product candidates will be completed on schedule, or at all, or whether our ongoing or planned clinical trials will begin or progress on the time schedule we anticipate. The commencement of our planned clinical trials could be substantially delayed or prevented by several factors, including:

- delays or failures to raise additional funding;

- results of meetings with the FDA and/or other regulatory bodies;
- a limited number of, and competition for, suitable patients with particular types of cancer for enrollment in our clinical trials;
- delays or failures in obtaining regulatory approval to commence a clinical trial;
- delays or failures in obtaining sufficient clinical materials;
- delays or failures in obtaining approval from independent institutional review boards to conduct a clinical trial at prospective sites; or
- delays or failures in reaching acceptable clinical trial agreement terms or clinical trial protocols with prospective sites.

The completion of our clinical trials could also be substantially delayed or prevented by several factors, including:

- delays or failures to raise additional funding;
- slower than expected rates of patient recruitment and enrollment;
- failure of patients to complete the clinical trial;
- unforeseen safety issues;
- lack of efficacy during clinical trials;
- inability or unwillingness of patients or clinical investigators to follow our clinical trial protocols; and
- inability to monitor patients adequately during or after treatment.

Additionally, our clinical trials may be suspended or terminated at any time by the FDA, other regulatory authorities, ourselves or, in some cases, our collaboration partners. Any failure to complete or significant delay in completing clinical trials for our product candidates could harm our financial results and the commercial prospects for our product candidates.

In March 2008, we informed the FDA of a stability observation in our voreloxin finished drug product, or FDP. Specifically, visible particles were observed during stability studies of one of our voreloxin FDP lots. We have since identified a process impurity in the voreloxin active pharmaceutical ingredient, or API, that, when formulated into the packaged vial of the voreloxin FDP, can result in the formation of particles over time. As a response to these findings, we implemented a revised manufacturing process to attempt to control the impurity and thereby prevent particle formation. Two lots of voreloxin API manufactured using the revised manufacturing process have been formulated into FDP lots that have completed up to 12 months of stability testing at room temperature without formation of particles. These FDP lots are currently being used in our clinical trials. It will take time to evaluate whether or not this revised manufacturing process for voreloxin API will be successful in stopping the formation of particles in these FDP lots over the longer term, and to evaluate whether or not such control of particle formation would also be reliably and consistently achieved in subsequent lots over the shorter or longer term. We provided updates on the results from our process optimization activities to the FDA in December 2008, and again most recently in October 2009 within the briefing materials that were discussed at the January 2010 CMC-focused End-of-Phase 2 meeting with the FDA. If the change in manufacturing process does

not adequately control the formation of visible particles, we will need to discuss other possibilities with the FDA, which could include temporary clinical hold until the issue has been resolved to their satisfaction.

The failure to enroll patients for clinical trials may cause delays in developing voreloxin.

We may encounter delays if we are unable to enroll enough patients to complete clinical trials of voreloxin. Patient enrollment depends on many factors, including the size of the patient population, the nature of the protocol, the proximity of patients to clinical sites and the eligibility criteria for the trial. Moreover, when one product candidate is evaluated in multiple clinical trials simultaneously, patient enrollment in ongoing trials can be adversely effected by negative results from completed trials. Voreloxin is being tested in patients with AML and ovarian cancer, which can be difficult patient populations to recruit.

The results of preclinical studies and clinical trials may not satisfy the requirements of the FDA or other regulatory agencies.

Prior to receiving approval to commercialize voreloxin or future product candidates, if any, in the United States or abroad, we and our collaboration partners must demonstrate with substantial evidence from well-controlled clinical trials, to the satisfaction of the FDA and other regulatory authorities, that such product candidates are safe and effective for their intended uses. The results from preclinical studies and clinical trials can be interpreted in different ways. Even if we and our collaboration partners believe the preclinical or clinical data are promising, such data may not be sufficient to support approval by the FDA and other regulatory authorities.

We rely on third parties to manufacture our voreloxin drug product and its active pharmaceutical ingredient, and depend on one of two suppliers for production of the drug product and for production of the active pharmaceutical ingredient. There are a limited number of manufacturers that are capable of manufacturing voreloxin.

We do not currently own or operate manufacturing facilities and lack the capability to manufacture voreloxin on a clinical or commercial scale. As a result, we rely on third parties to manufacture both the voreloxin API and FDP. The API is classified as a toxic substance, limiting the available manufacturers. We believe that there are at least five contract manufacturers in North America with suitable capabilities for API manufacture, and at least four that can manufacture FDP. We currently have established relationships with only two manufacturers for API and two manufacturers for FDP. If either of our third-party API or FDP manufacturers is unable or unwilling to produce voreloxin, we may need to establish a contract with another supplier. However, establishing a relationship with an alternative supplier would likely delay our ability to produce API or FDP for six to nine months, during which time we would rely on current inventory to supply our drug product manufacturing activities. We expect to continue to depend on third-party contract manufacturers for all our API and FDP needs in the foreseeable future.

Voreloxin requires precise, high quality manufacturing. A contract manufacturer is subject to ongoing periodic unannounced inspection by the FDA and corresponding state agencies to ensure strict compliance with current Good Manufacturing Practice, or cGMP, and other applicable government regulations and corresponding foreign standards. Our contract manufacturer's failure to achieve and maintain high manufacturing standards in compliance with cGMP regulations could result in manufacturing errors resulting in patient injury or death, product recalls or withdrawals, delays or interruptions of production or failures in product testing or delivery, delay or prevention of filing or approval of marketing applications for voreloxin, cost overruns or other problems that could seriously harm our business.

To date, voreloxin has been manufactured in small quantities for preclinical studies and clinical trials. Prior to being approved for commercial sale, we will need to manufacture finished drug product in larger quantities. Significant scale-up of manufacturing will be accompanied by significant validation studies, which

will be reviewed by the FDA prior to approval. If we are unable to successfully increase the manufacturing capacity for voreloxin, the regulatory approval or commercial launch may be delayed or there may be a shortage in commercial supply.

Any performance failure on the part of a contract manufacturer could delay clinical development or regulatory approval of our product candidates or commercialization of our future products, depriving us of potential product revenue and resulting in additional losses. For example, because we rely on only two suppliers for voreloxin API and for FDP, the failure of such suppliers to have sufficient quantities of voreloxin or to supply it on a timely basis, or at all, would negatively affect us. In addition, our dependence on a third party for manufacturing may adversely affect our future profit margins. Our ability to replace an existing manufacturer may be difficult because the number of potential manufacturers is limited and the FDA must approve any replacement manufacturer before it can be an approved commercial supplier. Such approval would require new testing and compliance inspections. It may be difficult or impossible for us to identify and engage a replacement manufacturer on acceptable terms in a timely manner, or at all.

We expect to expand our clinical development capabilities, and any difficulties hiring or retaining key personnel or managing this growth could disrupt our operations.

We are highly dependent on the principal members of our development staff. We expect to expand our clinical development capabilities by increasing expenditures in these areas, hiring additional employees and expanding the scope of our current operations. Future growth will require us to continue to implement and improve our managerial, operational and financial systems and continue to retain, recruit and train additional qualified personnel, which may impose a strain on our administrative and operational infrastructure. The competition for qualified personnel in the biopharmaceutical field is intense. We are highly dependent on our continued ability to attract, retain and motivate highly qualified management and specialized personnel required for clinical development. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. If we are unable to retain key personnel or manage our growth effectively, we may not be able to implement our business plan.

If we are sued for infringing intellectual property rights of third parties, litigation will be costly and time consuming and could prevent us from developing or commercializing voreloxin.

Our commercial success depends on not infringing the patents and other proprietary rights of third parties and not breaching any collaboration or other agreements we have entered into with regard to our technologies and product candidates. If a third party asserts that we are using technology or compounds claimed in issued and unexpired patents owned or controlled by the third party, we may need to obtain a license, enter into litigation to challenge the validity of the patents or incur the risk of litigation in the event that a third party asserts that we infringe its patents.

If a third party asserts that we infringe its patents or other proprietary rights, we could face a number of challenges that could seriously harm our competitive position, including:

- infringement and other intellectual property claims, which would be costly and time consuming to litigate, whether or not the claims have merit, and which could delay the regulatory approval process and divert management's attention from our business;
- substantial damages for past infringement, which we may have to pay if a court determines that voreloxin or any future product candidates infringe a third party's patent or other proprietary rights;
- a court order prohibiting us from selling or licensing voreloxin or any future product candidates unless a third party licenses relevant patent or other proprietary rights to us, which it is not required to do; and

- if a license is available from a third party, we may have to pay substantial royalties or grant cross-licenses to our patents or other proprietary rights.

If our competitors develop and market products that are more effective, safer or less expensive than voreloxin, our commercial opportunities will be negatively impacted.

The life sciences industry is highly competitive, and we face significant competition from many pharmaceutical, biopharmaceutical and biotechnology companies that are researching, developing and marketing products designed to address the treatment of cancer, including AML and ovarian cancer. Voreloxin is a small molecule therapeutic that will compete with other drugs and therapies that currently exist or are being developed. Many of our competitors have significantly greater financial, manufacturing, marketing and drug development resources than we do. Large pharmaceutical companies in particular have extensive experience in clinical testing and in obtaining regulatory approvals for, and marketing, drugs.

We believe that our ability to successfully compete in the marketplace with voreloxin and any future product candidates, if any, will depend on, among other things:

- our ability to develop novel compounds with attractive pharmaceutical properties and to secure, protect and maintain intellectual property rights based on our innovations;
- the efficacy, safety and reliability of our product candidates;
- the speed at which we develop our product candidates;
- our ability to design and successfully execute appropriate clinical trials;
- our ability to maintain a good relationship with regulatory authorities;
- our ability to obtain, and the timing and scope of, regulatory approvals;
- our ability to manufacture and sell commercial quantities of future products to the market; and
- acceptance of future products by physicians and other healthcare providers.

Some of the current key competitors of voreloxin in AML include Genzyme Corporation's clofarabine, Eisai Corporation's decitabine, Celgene Corporation's azacitidine and Vion Pharmaceuticals, Inc.'s laromustine, any or all of which could change the treatment paradigm of acute leukemia. Each of these compounds is further along in clinical development than is voreloxin. Liposomal doxorubicin and topotecan are current standards of care in platinum-resistant ovarian cancer patients, and we are aware that several of our competitors have initiated Phase 3 clinical trials for this indication.

We expect competition for voreloxin to increase as additional products are developed and approved to treat AML and ovarian cancer in various patient populations. If our competitors market products that are more effective, safer or less expensive than voreloxin or our other future products, if any, or that reach the market sooner we may not achieve commercial success or substantial market penetration. In addition, the biopharmaceutical industry is characterized by rapid change. Products developed by our competitors may render voreloxin or any future product candidates obsolete.

We rely on third parties to conduct our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may be unable to obtain regulatory approval for or commercialize voreloxin.

We rely on third parties, such as contract research organizations, medical institutions, clinical investigators and contract laboratories, to conduct our planned and existing clinical trials for voreloxin. If the

third parties conducting our clinical trials do not perform their contractual duties or obligations, do not meet expected deadlines or need to be replaced, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical trial protocols or for any other reason, we may need to enter into new arrangements with alternative third parties and our clinical trials may be extended, delayed or terminated or may need to be repeated, and we may not be able to obtain regulatory approval for or commercialize the product candidate being tested in such trials.

Our proprietary rights may not adequately protect voreloxin or future product candidates, if any.

Our commercial success will depend on our ability to obtain patents and maintain adequate protection for voreloxin and any future product candidates in the United States and other countries. We own, co-own or have rights to a significant number of issued U.S. and foreign patents and pending U.S. and foreign patent applications. We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary technologies and future products are covered by valid and enforceable patents or are effectively maintained as trade secrets.

We apply for patents covering both our technologies and product candidates, as we deem appropriate. However, we may fail to apply for patents on important technologies or product candidates in a timely fashion, or at all. 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 and technologies. In addition, we generally do not exclusively control the patent prosecution of subject matter that we license to or from others. Accordingly, in such cases we are unable to exercise the same degree of control over this intellectual property as we would over our own. Moreover, the patent positions of biopharmaceutical companies are highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. As a result, the validity and enforceability of patents cannot be predicted with certainty. In addition, we do not know whether:

- we, our licensors or our collaboration partners were the first to make the inventions covered by each of our issued patents and pending patent applications;
- we, our licensors or our collaboration partners were the first to file patent applications for these inventions;
- others will independently develop similar or alternative technologies or duplicate any of our technologies;
- any of our or our licensors' pending patent applications will result in issued patents;
- any of our, our licensors' or our collaboration partners' patents will be valid or enforceable;
- any patents issued to us, our licensors or our collaboration partners will provide us with any competitive advantages, or will be challenged by third parties;
- we will develop additional proprietary technologies that are patentable; or
- the patents of others will have an adverse effect on our business.

We also rely on trade secrets to protect some of our technology, especially where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to maintain. While we use reasonable efforts to protect our trade secrets, our or our collaboration partners' employees, consultants, contractors or scientific and other advisors, or those of our licensors, may unintentionally or willfully disclose our proprietary information to competitors. Enforcement of claims that a third party has illegally obtained and is using trade secrets is expensive, time consuming and uncertain. In addition, foreign courts are sometimes less willing than

U.S. courts to protect trade secrets. If our competitors independently develop equivalent knowledge, methods and know-how, we would not be able to assert our trade secrets against them and our business could be harmed.

The composition of matter patents covering voreloxin are due to expire in 2015. Even if voreloxin is approved by the FDA, we may not be able to recover our development costs prior to the expiration of these patents.

The voreloxin API composition of matter is covered by U.S. patent 5,817,669 and its counterpart patents and patent applications in 43 foreign jurisdictions. U.S. patent 5,817,669 is due to expire in October 2015, and most of its foreign counterparts are due to expire in June 2015. We do not know whether patent term extensions and data exclusivity periods will be available in the future. Voreloxin must undergo extensive clinical trials before it can be approved by the FDA. We do not know when, if ever, voreloxin will be approved by the FDA. Even if voreloxin is approved by the FDA in the future, we may not have sufficient time to commercialize our voreloxin product to enable us to recover our development costs prior to the expiration of the U.S. and foreign patents covering voreloxin. Our obligation to pay royalties to Dainippon, the company from which we licensed voreloxin, may extend beyond the patent expiration, which would further erode the profitability of this product.

Any future workforce and expense reductions may have an adverse impact on our internal programs, our ability to hire and retain key personnel and may be distracting to management.

We have, in the past, implemented a number of workforce reductions. In light of our continued need for funding and expense control, we may be required to implement further workforce and expense reductions in the future. Further workforce and expense reductions could result in reduced progress on our internal programs. In addition, employees, whether or not directly affected by a reduction, may seek future employment with our business partners or competitors. Although our employees are required to sign a confidentiality agreement at the time of hire, the confidential nature of certain proprietary information may not be maintained in the course of any such future employment. Further, we believe that our future success will depend in large part upon our ability to attract and retain highly skilled personnel. We may have difficulty retaining and attracting such personnel as a result of a perceived risk of future workforce and expense reductions. In addition, the implementation of expense reduction programs may result in the diversion of efforts of our executive management team and other key employees, which could adversely affect our business.

We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of our employees' former employers.

Many of our employees were previously employed at biotechnology or pharmaceutical companies, including our competitors or potential competitors. We may be subject to claims that we or our employees have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. A loss of key personnel or the work product of current or former personnel could hamper or prevent our ability to commercialize voreloxin, which could severely harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

We currently have limited marketing staff and no sales or distribution organization. If we are unable to develop a sales and marketing and distribution capability on our own or through collaborations with marketing partners, we will not be successful in commercializing voreloxin.

We currently have no sales or distribution capabilities and limited marketing staff. We intend to establish our own sales and marketing organization with technical expertise and supporting distribution capabilities to commercialize voreloxin in North America, which will be expensive and time consuming. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely impact the

commercialization of these products. We plan to collaborate with third parties that have direct sales forces and established distribution systems to commercialize voreloxin. To the extent that we enter into co-promotion or other licensing arrangements, our product revenue is likely to be lower than if we marketed or sold voreloxin directly. In addition, any revenue we receive will depend upon the efforts of third parties, which may not be successful and are only partially within our control. If we are unable to enter into such arrangements on acceptable terms or at all, we may not be able to successfully commercialize voreloxin. If we are not successful in commercializing voreloxin or our future product candidates, if any, either on our own or through collaborations with one or more third parties, our future product revenue will suffer and we may incur significant additional losses.

We depend on various consultants and advisors for the success and continuation of development efforts.

We work extensively with various consultants and advisors, who provide advice and or services in various business and development functions, including clinical development, operations and strategy, regulatory matters, accounting and finance. The potential success of our drug development programs depends, in part, on continued collaborations with certain of these consultants and advisors. Our consultants and advisors are not our employees and may have commitments and obligations to other entities that may limit their availability to us. We do not know if we will be able to maintain such relationships or that such consultants and advisors will not enter into other arrangements with competitors, any of which could have a detrimental impact on our development objectives and our business.

If conflicts of interest arise between our collaboration partners and us, any of them may act in their self interest, which may be adverse to our interests.

If a conflict of interest arises between us and one or more of our collaboration partners, they may act in their own self interest or otherwise in a way that is not in the interest of our company or our stockholders. Our collaboration partners are conducting multiple product development efforts within the disease area that is the subject of collaboration with our company. In some of our collaborations, we have agreed not to conduct, independently or with any third party, any research that is competitive with the research conducted under our collaborations. Our collaboration partners, however, may develop, either alone or with others, products in related fields that are competitive with the product candidates that are the subject of these collaborations. Competing products, either developed by our collaboration partners or to which our collaboration partners have rights, may result in their withdrawal of support for a product candidate covered by the collaboration agreement.

If one or more of our collaboration partners were to breach or terminate their collaboration agreements with us or otherwise fail to perform their obligations thereunder in a timely manner, the preclinical or clinical development or commercialization of the affected product candidates could be delayed or terminated. We do not know whether our collaboration partners will pursue alternative technologies or develop alternative product candidates, either on their own or in collaboration with others, including our competitors, as a means for developing treatments for the diseases targeted by collaboration agreements with our company.

Our facilities are located near known earthquake fault zones, and the occurrence of an earthquake or other catastrophic disaster could cause damage to our facilities and equipment, which could require us to cease or curtail operations.

Our facilities are located in the San Francisco Bay Area near known earthquake fault zones and are vulnerable to significant damage from earthquakes. We are also vulnerable to damage from other types of disasters, including fires, floods, power loss, communications failures and similar events. If any disaster were to occur, our ability to operate our business at our facilities may be seriously or completely impaired and our data could be lost or destroyed.

Compliance with changing regulation of corporate governance and public disclosure may result in additional expenses.

Changing laws, regulations and standards relating to corporate governance and public disclosure may create uncertainty regarding compliance matters. New or changed laws, regulations and standards are subject to varying interpretations in many cases. As a result, their application in practice may evolve over time. We are committed to maintaining high standards of corporate governance and public disclosure. Complying with evolving interpretations of new or changed legal requirements may cause us to incur higher costs as we revise current practices, policies and procedures, and may divert management time and attention from potential revenue-generating activities to compliance matters. If our efforts to comply with new or changed laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to practice, our reputation may also be harmed. Further, our board members, chief executive officer and chief financial officer could face an increased risk of personal liability in connection with the performance of their duties. As a result, we may have difficulty attracting and retaining qualified board members and executive officers, which could harm our business.

Risks Related to Our Industry

The regulatory approval process is expensive, time consuming and uncertain and may prevent us from obtaining approval for the commercialization of voreloxin.

The research, testing, manufacturing, selling and marketing of product candidates are subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries, which regulations differ from country to country. Neither we nor our collaboration partners are permitted to market our product candidates in the United States until we receive approval of a new drug application or NDA, from the FDA, or in any other country without the equivalent marketing approval from such country. We have not received marketing approval for voreloxin. None of our collaboration partners have had a product resulting from our collaboration enter clinical trials. In addition, failure to comply with FDA and other applicable U.S. and foreign regulatory requirements may subject us to administrative or judicially imposed sanctions, including warning letters, civil and criminal penalties, injunctions, product seizure or detention, product recalls, total or partial suspension of production, and refusal to approve pending NDAs, supplements to approved NDAs or their foreign equivalents.

Regulatory approval of an NDA or NDA supplement or a foreign equivalent is not guaranteed, and the approval process is expensive and may take several years. Furthermore, the development process for oncology products may take longer than in other therapeutic areas. Regulatory authorities 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 cause us to abandon clinical trials or to repeat or perform additional preclinical studies and clinical trials. The number of preclinical studies and clinical trials that will be required for marketing approval 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. While we plan to commence a pivotal clinical trial of voreloxin for the treatment of AML in 2010, we may not be able to reach agreement with the FDA on a development plan that would support potential regulatory approval based on the results of the clinical trials that we anticipate.

The FDA or a foreign regulatory authority can delay, limit or deny approval of a drug candidate for many reasons, including:

- the drug candidate may not be deemed safe or effective;
- regulatory officials may not find the data from preclinical studies and clinical trials sufficient;
- the FDA or foreign regulatory authority might not approve our or our third-party manufacturer's processes or facilities; or
- the FDA or foreign regulatory authority may change its approval policies or adopt new regulations.

We may be subject to costly claims related to our clinical trials and may not be able to obtain adequate insurance.

Because we conduct clinical trials in humans, we face the risk that the use of voreloxin or future product candidates, if any, will result in adverse side effects. We cannot predict the possible harms or side effects that may result from our clinical trials. Although we have clinical trial liability insurance for up to $10.0 million in aggregate, our insurance may be insufficient to cover any such events. We do not know whether we will be able to continue to obtain clinical trial coverage on acceptable terms, or at all. We may not have sufficient resources to pay for any liabilities resulting from a claim excluded from, or beyond the limit of, our insurance coverage. There is also a risk that third parties that we have agreed to indemnify could incur liability. Any litigation arising from our clinical trials, even if we were ultimately successful, would consume substantial amounts of our financial and managerial resources and may create adverse publicity.

Even if we receive regulatory approval to sell voreloxin, the market may not be receptive to voreloxin.

Even if voreloxin obtains regulatory approval, it may not gain market acceptance among physicians, patients, healthcare payors and/or the medical community. We believe that the degree of market acceptance will depend on a number of factors, including:

- timing of market introduction of competitive products;
- efficacy of our product;
- prevalence and severity of any side effects;
- potential advantages or disadvantages over alternative treatments;
- strength of marketing and distribution support;
- price of voreloxin, both in absolute terms and relative to alternative treatments; and
- availability of reimbursement from health maintenance organizations and other third-party payors.

For example, the potential toxicity of single and repeated doses of voreloxin has been explored in a number of animal studies that suggest the dose-limiting toxicities in humans receiving voreloxin may be similar to some of those observed with approved cytotoxic agents, including reversible toxicity to bone marrow cells, the gastrointestinal system and other systems with rapidly dividing cells. In our Phase 1 and Phase 2 clinical trials of voreloxin, we have witnessed the following side effects, irrespective of causality, ranging from mild to more severe: lowered white blood cell count that may lead to a serious or possibly life-threatening infection, hair loss, mouth sores, fatigue, nausea with or without vomiting, lowered platelet count, which may lead to an increase in bruising or bleeding, lowered red blood cell count (anemia), weakness, tiredness, shortness of breath, diarrhea and intestinal blockage.

If voreloxin fails to achieve market acceptance, due to unacceptable side effects or any other reasons, we may not be able to generate significant revenue or to achieve or sustain profitability.

Even if we receive regulatory approval for voreloxin, we will be subject to ongoing FDA and other regulatory obligations and continued regulatory review, which may result in significant additional expense and limit our ability to commercialize voreloxin.

Any regulatory approvals that we or our collaboration partners receive for voreloxin or our future product candidates, if any, 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 studies. In addition, even if approved, the

labeling, packaging, adverse event reporting, storage, advertising, promotion and recordkeeping for any product will be subject to extensive and ongoing regulatory requirements. The subsequent discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, may result in restrictions on the marketing of the product, and could include withdrawal of the product from the market.

Regulatory policies may change and additional government regulations may be enacted that could prevent or delay regulatory approval of our product candidates. 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. If we are not able to maintain regulatory compliance, we might not be permitted to market voreloxin or our future products and we may not achieve or sustain profitability.

The coverage and reimbursement status of newly approved drugs is uncertain, and failure to obtain adequate coverage and reimbursement could limit our ability to market voreloxin and decrease our ability to generate revenue.

There is significant uncertainty related to the third party coverage and reimbursement of newly approved drugs both nationally and internationally. The commercial success of voreloxin and our future products, if any, in both domestic and international markets depends on whether third-party coverage and reimbursement is available for the ordering of our future products by the medical profession for use by their patients. Medicare, Medicaid, health maintenance organizations and other third-party payors are increasingly attempting to manage healthcare costs by limiting both coverage and the level of reimbursement of new drugs and, as a result, they may not cover or provide adequate payment for our future products. These payors may not view our future products as cost-effective, and reimbursement may not be available to consumers or may not be sufficient to allow our future products to be marketed on a competitive basis. Likewise, legislative or regulatory efforts to control or reduce healthcare costs or reform government healthcare programs could result in lower prices or rejection of our future products. Changes in coverage and reimbursement policies or healthcare cost containment initiatives that limit or restrict reimbursement for our future products may reduce any future product revenue.

Failure to obtain regulatory approval in foreign jurisdictions will prevent us from marketing voreloxin abroad.

We intend to market voreloxin in international markets. In order to market voreloxin in Canada, the European Union and many other foreign jurisdictions, we must obtain separate regulatory approvals. We have had limited interactions with foreign regulatory authorities, and the approval procedures vary among countries and can involve additional testing at significant cost. The time required to obtain approval may differ from that required to obtain FDA approval. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. The foreign regulatory approval processes may include all of the risks associated with obtaining FDA approval. We may not obtain foreign regulatory approvals on a timely basis, if at all. We may not be able to file for regulatory approvals and may not receive necessary approvals to commercialize voreloxin or any other future products in any market.

Foreign governments often impose strict price controls, which may adversely affect our future profitability.

We intend to seek approval to market voreloxin in both the United States and foreign jurisdictions. If we obtain approval in one or more foreign jurisdictions, we will be subject to rules and regulations in those jurisdictions relating to voreloxin. In some foreign countries, particularly in the European Union, prescription drug pricing is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a drug candidate. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of voreloxin to other available therapies. If reimbursement of voreloxin is

unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, we may be unable to achieve or sustain profitability.

We may incur significant costs complying with environmental laws and regulations, and failure to comply with these laws and regulations could expose us to significant liabilities.

We use hazardous chemicals and radioactive and biological materials in our business and are subject to a variety of federal, state, regional and local laws and regulations governing the use, generation, manufacture, storage, handling and disposal of these materials. Although we believe our safety procedures for handling and disposing of these materials and waste products comply with these laws and regulations, we cannot eliminate the risk of accidental injury or contamination from the use, storage, handling or disposal of hazardous materials. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could significantly exceed our insurance coverage, which is limited to $50,000 for pollution cleanup, and we are uninsured for third-party contamination injury.

Risks Related to Our Common Stock

If we fail to maintain compliance with the continued listing requirements of The NASDAQ Capital Market, our common stock may be delisted and the price of our common stock and our ability to access the capital markets could be negatively impacted.

On August 3, 2009, we transferred the listing of our common stock from The NASDAQ Global Market to The NASDAQ Capital Market. To maintain a listing on The NASDAQ Capital Market, we are required to meet certain requirements, including, but not limited to, a minimum closing bid price of $1.00 per share, or the Bid Price Requirement, a market value of publicly held shares (excluding shares held by our executive officers, directors and 10% or more stockholders) of at least $1.0 million, and either a market value of listed securities of at least $35.0 million, or the Market Value Standard, or stockholders' equity of at least $2.5 million, or the Equity Standard.

We announced on September 18, 2009 that we had received a letter, dated September 16, 2009, from the NASDAQ Listing Qualifications Staff, or the Staff, notifying us that, for the last 30 consecutive business days, the bid price for our common stock had closed below the Bid Price Requirement. In accordance with NASDAQ Listing Rules, we were given 180 calendar days, or until March 15, 2010, to regain compliance. To regain compliance, the bid price of our common stock needed to close at or above $1.00 for at least 10 consecutive business days at any time prior to March 15, 2010, which it did in the 10 consecutive business days ending on December 23, 2009. On December 24, 2009, we received notification from NASDAQ that we had regained compliance with the Bid Price Requirement. As of March 30, 2010, the bid price for our common stock had closed below the Bid Price Requirement for 30 consecutive business days. As a result, we expect to receive a letter shortly from the Staff, notifying us that we do not satisfy the Bid Price Requirement, and, in accordance with NASDAQ's Listing Rules, that we will be afforded 180 calendar days to regain compliance. There can be no assurance that we will be able to regain compliance.

As of December 31, 2009, we believe we complied with the Market Value Standard, which is an element of one of the alternative tests for continued listing on The NASDAQ Capital Market. However, there is no assurance that our market value of listed securities will remain above this level in the future. If it does not, and we fail to meet an alternative test for continued listing on The NASDAQ Capital Market (for example, the test for which the Equity Standard is an element), we expect to receive a further letter from NASDAQ notifying us that we do not comply with the requirements for continued listing. If we fail to meet the continued listing requirements of The NASDAQ Capital Market in the future, our common stock could be subject to delisting.

If we are delisted, we would expect our common stock to be traded in the over-the-counter market, which could adversely affect the liquidity of our common stock. Additionally, we could face significant material adverse consequences, including:

- a limited availability of market quotations for our common stock;
- a reduced amount of news and analyst coverage for us;
- a decreased ability to issue additional securities or obtain additional financing in the future;
- reduced liquidity for our stockholders;
- potential loss of confidence by collaboration partners and employees; and
- loss of institutional investor interest and fewer business development opportunities.

The closing of the Private Placement has resulted and could result in further substantial dilution to our stockholders. If we sell shares of our common stock in future financings or other arrangements, stockholders may experience additional dilution.

The closing of the Private Placement has resulted and could result in further substantial dilution to our stockholders. Immediately following the second closing for $5.0 million of units in the Private Placement, the holders of our common stock immediately prior to the initial closing of the Private Placement held approximately 44.2% of our outstanding common stock (assuming conversion of the Series A convertible preferred stock at the current conversion price), and would hold approximately 28.3% if the warrants issued at the initial and second closings are exercised in full. If the common equity closing had occurred on March 17, 2010, the holders of our common stock prior to the Private Placement would have held approximately 17.4% of our outstanding common stock (assuming conversion of the Series A convertible preferred stock at the current conversion price), and 14.7% if the remaining warrants outstanding that were issued at the initial and second closings had been exercised in full as of that date.

We need to raise substantial additional funding to continue our operations, fund additional clinical trials of voreloxin and potentially commercialize voreloxin. We plan to continue to finance our operations with a combination of equity issuances (including the possible common equity closing in the Private Placement and subject to the satisfaction of the conditions described above), debt arrangements and a possible partnership or license of development and/or commercialization rights to voreloxin. Any issuance of convertible debt securities, preferred stock or common stock may be at a discount from the then-current trading price of our common stock. If we issue additional common or preferred stock or securities convertible into common stock, our stockholders will experience additional dilution, which may be significant.

We may not have sufficient funding to distribute capital to our common stockholders or continue our business upon a change of control event.

If a change of control (as that term is defined in the certificate of designation related to the convertible Series A convertible preferred stock), which includes a sale or merger of Sunesis or a significant partnering transaction, occurs, the holders of the Series A convertible preferred stock would be entitled to receive, before any proceeds are distributed to common stockholders, three times the amount that the investors in the Private Placement paid for the units (i.e. three times the total of $15.0 million invested in the initial and second closings, or $45.0 million). We would not have any capital to distribute to our common stockholders if the consideration received in a transaction that triggers a change of control event under the certificate of designation is less than this liquidation preference amount. Further, if the investors elect to treat a partnering transaction as a change of

control, entitling the holders of the convertible preferred to the liquidation preference described above, the holders of the Series A convertible preferred stock would be entitled to the full amount of any payments made by a corporate partner by surrendering the Series A convertible preferred stock, up to the liquidation preference amount, which may leave us with insufficient resources to continue our business. This right of the holders of the Series A convertible preferred stock may also impair our ability to enter into a significant partnering transaction since a partner would be willing to enter into a partnering agreement with us only if we have or had access to sufficient capital to satisfy our obligations under the partnering agreement. Whether or not we would have sufficient resources would depend on the terms of the partnering agreement and other cash resources available to us at that time.

We cannot take fundamental actions related to Sunesis without the consent of a majority of the holders of the convertible preferred stock issued in the Private Placement.

For as long as our convertible Series A convertible preferred stock is outstanding, the holders of the Series A convertible preferred stock will have a number of rights, including the right to approve any sale of the company, any significant partnering transaction, any issuance of debt or convertible preferred, and any issuance of common stock other than the common equity closing contemplated by the Private Placement. It is possible that the interests of the holders of the Series A convertible preferred stock and the holders of common stock may be inconsistent, resulting in the inability to obtain the consent of the holders of Series A convertible preferred stock to matters that may be in the best interests of the common stockholders.

The price of our common stock may continue to be volatile, and the value of an investment in our common stock may decline.

In 2009, our common stock traded as low as $0.05 and as high as $2.43. Factors that could cause continued volatility in the market price of our common stock include, but are not limited to:

- failure to raise additional capital to carry through with our clinical development plans and current and future operations;
- results from, and any delays in or discontinuance of, ongoing and planned clinical trials for voreloxin;
- announcements of FDA non-approval of voreloxin, delays in filing regulatory documents with the FDA or other regulatory agencies, or delays in the review process by the FDA or other foreign regulatory agencies;
- announcements relating to our collaboration with Biogen Idec;
- announcements relating to restructuring and other operational changes;
- delays in the commercialization of voreloxin or our future products, if any;
- market conditions in the pharmaceutical, biopharmaceutical and biotechnology sectors;
- issuance of new or changed securities analysts' reports or recommendations;
- actual and anticipated fluctuations in our quarterly operating results;
- developments or disputes concerning our intellectual property or other proprietary rights;
- introduction of new products by our competitors;

- issues in manufacturing voreloxin drug substance or drug product, or future products, if any;
- market acceptance of voreloxin or our future products, if any;
- deviations in our operating results from the estimates of analysts;
- third-party healthcare reimbursement policies;
- FDA or other U.S. or foreign regulatory actions affecting us or our industry;
- litigation or public concern about the safety of voreloxin or future products, if any;
- failure to develop or sustain an active and liquid trading market for our common stock;
- sales of our common stock by our officers, directors or significant stockholders; and
- additions or departures of key personnel.

In addition, the stock markets in general, and the markets for pharmaceutical, biopharmaceutical and biotechnology stocks in particular, have experienced extreme volatility that has often been unrelated to the operating performance of the issuer. These broad market fluctuations may adversely affect the trading price or liquidity of our common stock. In the past, when the market price of a stock has been volatile, holders of that stock have sometimes instituted securities class action litigation against the issuer. If any of our stockholders were to bring such a lawsuit against us, we could incur substantial costs defending the lawsuit and the attention of our management would be diverted from the operation of our business.

Provisions of our charter documents or Delaware law could delay or prevent an acquisition of our company, even if the acquisition would be beneficial to our stockholders, and could make it more difficult to change management.

Provisions of our amended and restated certificate of incorporation and amended and restated bylaws may discourage, delay or prevent a merger, acquisition or other change in control that stockholders might otherwise consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. In addition, these provisions may frustrate or prevent any attempt by our stockholders to replace or remove our current management by making it more difficult to replace or remove our board of directors. These provisions include:

- a classified board of directors so that not all directors are elected at one time;
- a prohibition on stockholder action through written consent;
- limitations on our stockholders' ability to call special meetings of stockholders;
- an advance notice requirement for stockholder proposals and nominations; and
- the authority of our board of directors to issue preferred stock with such terms as our board of directors may determine.

In addition, Delaware law prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder, generally a person who, together with its affiliates, owns or within the last three years has owned 15% of our voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a

prescribed manner. Accordingly, Delaware law may discourage, delay or prevent a change in control of our company.

Provisions in our charter documents and provisions of Delaware law could limit the price that investors are willing to pay in the future for shares of our common stock.

The ownership of our capital stock is highly concentrated, and your interests may conflict with the interests of our existing stockholders.

Our executive officers and directors and their affiliates beneficially owned approximately 41.8% of our outstanding capital stock as of December 31, 2009, assuming the conversion of the Series A convertible preferred stock and the exercise in full of the warrants to purchase common stock held by these stockholders as of such date. Accordingly, these stockholders, acting as a group, could have significant influence over the outcome of corporate actions requiring stockholder approval, including the election of directors, any merger, consolidation or sale of all or substantially all of our assets or any other significant corporate transaction. The significant concentration of stock ownership may adversely affect the trading price of our common stock due to investors' perception that conflicts of interest may exist or arise.

We have never paid dividends on our capital stock and we do not anticipate paying any cash dividends in the foreseeable future.

We have never declared or paid cash dividends on our capital stock. We do not anticipate paying any cash dividends on our capital stock in the foreseeable future. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business. As a result, capital appreciation, if any, of our common stock will be our stockholders' sole source of gain for the foreseeable future.

We are at risk of securities class action litigation.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biotechnology companies have experienced greater than average stock price volatility in recent years. If we faced such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

ITEM 1B. *UNRESOLVED STAFF COMMENTS*

None.

ITEM 2. *PROPERTIES*

Prior to January 15, 2009, we leased approximately 54,000 square feet of office and laboratory space at 341 Oyster Point Boulevard in South San Francisco, California. As a result of the 2008 Restructuring, we vacated this building and consolidated our remaining employees to 395 Oyster Point Boulevard and 349 Allerton Avenue, as described below. In January 2009, we signed an agreement for the termination of the lease at 341 Oyster Point Boulevard and voluntarily surrendered the premises to our landlord.

In December 2006, we leased approximately 15,000 square feet of office space at 395 Oyster Point Boulevard in South San Francisco, California, which is currently our corporate headquarters. This lease expires in April 2013, subject to our option to extend the lease through February 2014. In October 2008, we leased approximately 5,500 square feet of laboratory space at 349 Allerton Avenue, South San Francisco, California. This lease expires in October 2010, with an option to extend the lease through October 2012. We believe that our current facilities will be sufficient to meet our needs through 2010.

ITEM 3. *LEGAL PROCEEDINGS*

From time to time, we may be involved in routine legal proceedings, as well as demands, claims and threatened litigation, which arise in the normal course of our business. The ultimate outcome of any litigation is uncertain and unfavorable outcomes could have a negative impact on our results of operations and financial condition. Regardless of outcome, litigation can have an adverse impact on us because of the defense costs, diversion of management resources and other factors.

We believe there is no litigation pending that could, individually or in the aggregate, have a material adverse effect on our results of operations or financial condition.

ITEM 4. *(REMOVED AND RESERVED)*

PART II

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

Our common stock is listed on the NASDAQ Capital Market under the symbol "SNSS". From our initial public offering on September 27, 2005 until August 3, 2009 our common stock was listed on the NASDAQ Global Market under the same symbol. The following table sets forth the range of the high and low sales prices by quarter, as reported by NASDAQ.

Year-Ended December 31, 2008	High	Low
First Quarter	$2.01	$1.01
Second Quarter	$2.10	$1.00
Third Quarter	$1.85	$0.86
Fourth Quarter	$1.31	$0.18

Year-Ended December 31, 2009	High	Low
First Quarter	$0.51	$0.16
Second Quarter	$0.90	$0.05
Third Quarter	$0.56	$0.26
Fourth Quarter	$2.43	$0.27

As of March 17, 2010, there were approximately 163 holders of record of our common stock. In addition, we believe that a significant number of beneficial owners of our common stock hold their shares in nominee or in "street name" accounts through brokers. On March 17, 2010, the last sale price reported on the NASDAQ Capital Market for our common stock was $0.79 per share.

Dividend Policy

We have never paid cash dividends on our common stock. Any payment of dividends must be approved by the holders of at least a majority of the outstanding Series A Preferred Stock. We do not anticipate paying any cash dividends on our capital stock in the foreseeable future. While subject to periodic review, the current policy of our Board of Directors is to retain cash and investments primarily to provide funds for our future growth.

Unregistered Sales of Equity Securities

On April 3, 2009, we sold $10.0 million of units consisting of shares of our Series A convertible preferred stock and warrants to purchase our common stock in an initial closing of the Private Placement. On October 30, 2009, we sold $5.0 million of units in the second closing. The sales were to accredited investors, including

certain members of management, and were exempt from the registration requirements of the Securities Act of 1933, as amended, pursuant to Rule 506 of Regulation D promulgated thereunder. We have used, and expect to use, the aggregate net proceeds of $13.4 million for working capital and other general corporate purposes.

In connection with the initial closing, we issued to the investors 2,898,544 shares of Series A convertible preferred stock, which are initially convertible into 28,985,440 shares of common stock, and warrants to purchase 28,985,440 shares of common stock. In connection with the second closing, we issued 1,449,268 shares of Series A convertible preferred stock, which are initially convertible into 14,492,680 shares of common stock, and warrants to purchase 14,492,680 shares of common stock. Each share of Series A convertible preferred stock is initially convertible into 10 shares of common stock, subject to adjustment for any stock dividends, combinations, stock splits, recapitalizations and the like. All outstanding shares of Series A convertible preferred stock are automatically converted into shares of common stock at the then-current conversion rate upon the earlier to occur of: (i) the affirmative election of the holders of at least a majority of the outstanding shares of the Series A convertible preferred stock; (ii) following the closing of a qualifying alternative common stock financing, on which the closing bid price has been equal to or at least $0.66 per share for a period of 30 trading days with an average trading volume during such period of at least 200,000 shares, or (iii) the common equity closing. Each holder of Series A convertible preferred stock also has the right to convert its Series A convertible preferred stock into common stock at the then-current conversion ratio at any time after the earlier of (i) the closing of a qualifying alternative common stock financing or (ii) January 24, 2011. In the event an investor fails to purchase its pro rata portion in the common equity closing, a pro rata portion (based on the extent of such investor's failure to participate) of the shares of Series A convertible preferred stock then held by such investor (or all shares of Series A convertible preferred stock then held by the investor if the investor fails to participate at all) would automatically convert into common stock at a 1-to-1 conversion rate.

The warrants to purchase common stock may be exercised at the election of the holder at any time during their term of seven years from the date of issuance.

ITEM 6. *SELECTED FINANCIAL DATA*

The following selected financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and notes to those statements included elsewhere in this report.

	Year Ended December 31,				
	2009	2008	2007	2006	2005
	(In thousands, except per share amounts)				
Consolidated Statement of Operations:					
Revenue:					
Collaboration revenue—related party	$ 1,500	$ 4,310	$ 7,587	$ 7,318	$ 9,018
Collaboration revenue—other	50	607	1,576	6,353	7,395
License and other revenue	2,212	500	500	38	109
Total revenues	3,762	5,417	9,663	13,709	16,522
Operating expenses:					
Research and development	13,247	26,285	36,060	35,615	36,166
General and administrative	7,748	11,524	13,570	12,255	8,283
Restructuring charges	1,916	5,783	1,563	—	—
Total operating expenses	22,911	43,592	51,193	47,870	44,449
Loss from operations	(19,149)	(38,175)	(41,530)	(34,161)	(27,927)
Interest income	22	929	2,972	3,395	1,092
Interest expense	(1)	(172)	(210)	(478)	(674)
Other income (expense), net(1)	(21,098)	232	7	7	10
Net loss	(40,226)	(37,186)	(38,761)	(31,237)	(27,499)
Deemed distribution to preferred stockholders(2)	(27,563)	—	—	—	(88,092)
Loss attributable to common stockholders	$ (67,789)	$ (37,186)	$ (38,761)	$ (31,237)	$ (115,591)
Basic and diluted loss attributable to common stockholders per common share	$ (1.97)	$ (1.08)	$ (1.20)	$ (1.13)	$ (17.41)
Shares used in computing basic and diluted loss attributable to common stockholders per common share	34,480,716	34,387,177	32,340,203	27,758,348	6,637,935

(1) During 2009, we recorded non-cash charges of $21.0 million related to the accounting for the fair values of securities issued as part of a private placement, which provided for the sale of up to $15.0 million of units consisting of Series A convertible preferred stock and warrants to purchase common stock, and up to $28.5 million of common stock, in three closings.

(2) During 2009, we recorded deemed distributions to preferred stockholders totaling $27.6 million, related to the accounting for the private placement of our securities. Of this amount, $26.4 million was due to the revaluation of certain securities upon an amendment of the private placement agreements in June 2009, and $1.2 million was due to the write-off of a discount for a beneficial conversion feature on the convertible preferred stock issued as part of the second closing of the private placement in October 2009.

	As of December 31,				
	2009	2008	2007	2006	2005
			(In thousands)		
Consolidated Balance Sheet Data:					
Cash, cash equivalents and marketable securities	$ 4,259	$ 10,619	$ 47,684	$ 63,105	$ 48,333
Working capital	1,807	5,371	39,707	55,279	40,156
Total assets	5,169	12,784	53,246	69,276	54,708
Long-term portion of equipment leases	—	—	1,353	956	1,306
Convertible preferred stock	60,005	—	—	—	—
Common stock and additional paid-in capital	298,473	322,675	320,583	298,077	249,692
Accumulated deficit	(356,418)	(316,192)	(279,006)	(240,245)	(209,008)
Total stockholders' equity	2,060	6,491	41,394	56,804	38,466

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

The following discussion and analysis of our financial condition as of December 31, 2009 and results of operations for the year ended December 31, 2009 should be read together with our consolidated financial statements and related notes included elsewhere in this report. This discussion and analysis contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, that involve risks, uncertainties and assumptions. All statements, other than statements of historical facts, are "forward-looking statements" for purposes of these provisions, including without limitation any statements relating to the completion of any financing transaction or the satisfaction of closing conditions relating to any financing, any projections of revenue, expenses or other financial items, any statement of the plans and objectives of management for future operations, any statements concerning proposed new clinical trials or licensing or collaborative arrangements, any statements regarding future economic conditions or performance, and any statement of assumptions underlying any of the foregoing. In some cases, forward-looking statements can be identified by the use of terminology such as "anticipates," "believe," "continue," "estimates," "expects," "intend," "look forward," "may," "could," "seeks," "plans," "potential," or "will" or the negative thereof or other comparable terminology. Although we believe that the expectations reflected in the forward-looking statements contained herein are reasonable, there can be no assurance that such expectations or any of the forward-looking statements will prove to be correct, and actual results could differ materially from those projected or assumed in the forward-looking statements. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of many factors, including but not limited to those set forth under "Risk Factors," and elsewhere in this report. We urge you not to place undue reliance on these forward-looking statements, which speak only as of the date of this report. All forward-looking statements included in this report are based on information available to us on the date of this report, and we assume no obligation to update any forward-looking statements contained in this report.

Overview

We are a biopharmaceutical company focused on the development and commercialization of new oncology therapeutics for the treatment of hematologic and solid tumor cancers. Our efforts are currently focused primarily on the development of voreloxin for the treatment of acute myeloid leukemia, or AML. We have built a highly experienced cancer drug development organization committed to advancing our lead product candidate, voreloxin, in multiple indications to improve the lives of people with cancer.

We own worldwide development and commercialization rights to voreloxin and are currently preparing for anticipated Phase 3 development of the compound. Voreloxin is a first-in-class anti-cancer quinolone derivative, or AQD—a class of compounds that has not been used previously for the treatment of cancer. Quinolone derivatives have been shown to mediate anti-tumor activity by targeting mammalian topoisomerase II, an enzyme critical for cell replication, and have demonstrated promising preclinical anti-tumor activity.

We are currently completing three clinical trials of voreloxin: (i) a Phase 2 clinical trial (known as the REVEAL-1 trial) in previously untreated elderly patients with AML, for which enrollment was completed in October 2009, with a total of 113 patients dosed in one of three dosing schedules, (ii) a Phase 1b/2 clinical trial of voreloxin in combination with cytarabine for the treatment of patients with relapsed/refractory AML, for which enrollment was completed in January 2010, with a total of 108 patients dosed, and (iii) a Phase 2 single agent clinical trial in platinum-resistant ovarian cancer patients, for which enrollment was completed in December 2008, with a total of 137 patients dosed across one of three dosing schedules. In November 2009, we announced that the U.S. Food and Drug Administration, or FDA, had granted voreloxin orphan drug designation for the treatment of AML. In February 2010, we announced that we received formal guidance from the FDA from End-of-Phase 2 meetings regarding further development of voreloxin for AML. Based on this guidance, we will look to conduct a randomized, double-blind, placebo-controlled, pivotal trial evaluating the effect on overall survival of voreloxin in combination with cytarabine, a widely used chemotherapy in AML, compared to placebo

with cytarabine, in patients with relapsed or refractory AML. We anticipate initiating this multi-national Phase 3 trial in the second half of 2010. Management is currently in the process of evaluating alternatives for funding the voreloxin development program.

The most recent data from our two Phase 2 trials of voreloxin in AML were presented at the 51st Annual Meeting of the American Society of Hematology (ASH) in December 2009. The most recent data from the Phase 2 trial of voreloxin in platinum-resistant ovarian cancer were presented at the American Society of Clinical Oncology (ASCO) 2009 Annual Meeting in June 2009. We believe the data from these three ongoing clinical trials demonstrate that voreloxin shows promising safety and efficacy in AML and in platinum-resistant ovarian cancer.

During the year, we have taken a number of important steps to focus our resources and efforts on the advancement of voreloxin:

- We discontinued development of our product candidate, SNS-032, a selective inhibitor of cyclin-dependent kinases, or CDKs, 2, 7 and 9, which we had in-licensed from Bristol-Myers Squibb Company, or BMS. In March 2009, the license agreement was terminated and SNS-032 was returned to BMS.

- In the first quarter of 2009, we completed a Phase 1 trial of SNS-314, a potent and selective pan-Aurora kinase inhibitor discovered internally at Sunesis, in patients with advanced solid tumors. As a maximum tolerated dose was not established in the trial and no responses were observed, further development of SNS-314 was suspended.

- In March 2009, we announced the sale of our interest in all of our lymphocyte function-associated antigen-1, or LFA-1, patents and related know-how to SARcode Corporation, or SARcode, for total cash consideration of $2.0 million, which was recorded as revenue in the second quarter. In connection with the sale, the license agreement was terminated. SARcode had been the exclusive licensee of those assets since March 2006.

- In February 2010, we granted Carmot Therapeutics, Inc. an exclusive license to our proprietary fragment-based lead discovery technology. We retain full rights to the technology for use in our future internal discovery efforts.

In July 2009, we received a milestone of $1.5 million pursuant to a collaboration entered into with Biogen Idec in 2002 for Biogen Idec's selection of a Raf kinase inhibitor development candidate for the treatment of cancer, which was earned and recorded as revenue in the second quarter. Biogen Idec is currently conducting IND-enabling preclinical work with the Raf kinase development candidate.

On March 31, 2009, we entered into a securities purchase agreement with accredited investors, including certain members of management, providing for a private placement of up to $43.5 million, or the Private Placement. We completed the initial closing of $10.0 million of the Private Placement on April 3, 2009, and the second closing of $5.0 million on October 30, 2009. In the initial closing, $10.0 million of units were sold, resulting in net proceeds of $8.8 million, and in the second closing, $5.0 million of units were sold, resulting in net proceeds of $4.7 million. The units consist of Series A convertible preferred stock and warrants to purchase common stock. The Private Placement also contemplates the sale of up to the remaining $28.5 million in common stock at $0.275 per share to the same group of investors, subject to terms and conditions described in 'Sources of Liquidity' below.

On January 20, 2010, we entered into a controlled equity offering sales agreement with Cantor Fitzgerald & Co., or Cantor, pursuant to which we could issue and sell shares of our common stock having an aggregate offering price of up to $15.0 million from time to time through Cantor acting as agent and/or principal. Sales of our common stock through Cantor, if any, would be made on the NASDAQ Capital Market by means of

ordinary brokers' transactions at market prices, in block transactions or as otherwise agreed by Cantor and us. Cantor agreed to use its best efforts to sell our common stock from time to time, based upon our instructions (including any price, time or size limits or other customary parameters or conditions we might impose). We agreed to pay Cantor a commission rate ranging between 3.0% and 5.0% of the gross sales price per share of any common stock sold through Cantor as agent under the sales agreement. We also agreed to reimburse Cantor for certain expenses incurred in connection with entering into the sales agreement and provided Cantor with customary indemnification rights. Under the terms of the sales agreement, we may also sell shares of our common stock to Cantor, as principal for its own account, at a price negotiated at the time of sale. If we sell shares to Cantor in this manner, we will enter into a separate agreement setting forth the terms of any such transactions. As of March 31, 2010, pursuant to the sales agreement with Cantor, we had sold an aggregate of 15,870,050 shares of common stock at an average price of approximately $0.95 per share for gross proceeds of the full $15.0 million available under the facility. Net proceeds were $14.2 million after deducting Cantor's commission and costs to set up the facility.

We have incurred significant losses in each year since our inception. As of December 31, 2009, we had an accumulated deficit of $356.4 million. We expect to continue to incur significant net losses for the foreseeable future, as we continue the development of, and seek regulatory approvals for voreloxin. We believe that currently available cash, cash equivalents and marketable securities, including the net proceeds of $14.2 million from sales of common stock through March 31, 2010 under the agreement with Cantor, are sufficient to fund our operations through at least September 30, 2010. We will need to raise substantial additional funding in the near term in order to sustain operations beyond that date and before undertaking any additional clinical trials of voreloxin. Our significant negative cash flows and lack of financial resources raise substantial doubt as to our ability to continue as a going concern. Management is currently in the process of evaluating alternative funding sources. If we are unable to raise additional funding to meet our working capital needs, we will be forced to delay or reduce the scope of our voreloxin development program and/or limit or cease our operations.

On August 3, 2009, upon NASDAQ's approval, the listing of our common stock was transferred from The NASDAQ Global Market to The NASDAQ Capital Market. To maintain a listing on The NASDAQ Capital Market, we are required to meet certain requirements, including a minimum closing bid price of $1.00 per share, a market value of publicly held shares of at least $1.0 million, and either a market value of listed securities of at least $35.0 million or stockholders' equity of at least $2.5 million.

On September 16, 2009, we received a letter from the NASDAQ Listing Qualifications Staff, or the Staff, notifying us that we do not comply with the minimum $1.00 per share requirement for a continued listing, or the Bid Price Requirement. In accordance with NASDAQ Listing Rules, we were given 180 calendar days, or until March 15, 2010, to regain compliance. To regain compliance, the bid price of our common stock needed to close at or above $1.00 for at least 10 consecutive business days at any time prior to March 15, 2010, which it did in the 10 consecutive business days ending on December 23, 2009. On December 24, 2009, we received notification from NASDAQ that we had regained compliance with the minimum $1.00 per share Bid Price Requirement. As of March 30, 2010, the bid price for our common stock had closed below the required $1.00 per share minimum for 30 consecutive business days. As a result, we expect to receive a letter shortly from the Staff, notifying us that we do not satisfy the minimum $1.00 per share Bid Price Requirement, and, in accordance with NASDAQ's Listing Rules, that we will be afforded 180 calendar days to regain compliance.

Critical Accounting Policies and the Use of Estimates

The accompanying discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements and the related disclosures, which have been prepared in accordance with U.S. generally accepted accounting principles, or GAAP. The preparation of these consolidated financial statements requires our management to make estimates, assumptions and judgments that affect the amounts reported in our financial statements and accompanying notes, including reported amounts of assets, liabilities and expenses and the disclosure of contingent assets and liabilities at the date of the consolidated financial

statements, as well as revenue and expenses during the reporting periods. We evaluate our estimates, assumptions and judgments on an ongoing basis. We base our estimates on historical experience and on various other assumptions we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Management has discussed the development, selection and disclosure of these estimates with the Audit Committee of our Board of Directors. Actual results could differ materially from these estimates under different assumptions or conditions.

Our significant accounting policies are more fully described in Note 1 to our consolidated financial statements included elsewhere in this report. We believe the following critical accounting policies reflect our more significant estimates and assumptions used in the preparation of our consolidated financial statements.

Revenue Recognition

Revenue arrangements with multiple deliverables are accounted for in accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Subtopic 605-25, *Multiple-Element Arrangements*, or ASC 605-25. Under ASC 605-25, revenue arrangements with multiple deliverables are divided into separate units of accounting based on whether certain criteria are met, including whether the delivered item has stand-alone value to the customer and whether there is objective and reliable evidence of the fair value of the undelivered items. Consideration is allocated among the separate units of accounting based on their respective fair value, and the applicable revenue recognition is applied to each of the separate units.

Non-refundable fees where we have no continuing performance obligations are recognized as revenues when collection is reasonably assured. In situations where continuing performance obligations exist, nonrefundable fees are deferred and recognized ratably over the projected performance period.

Research funding from collaborations is recognized as revenue as the related research services are performed. This funding is generally based on a specified amount per full-time equivalent employee per year.

Milestone payments which are substantive and at risk at the time of the execution of the collaboration agreement, are recognized upon completion of the applicable milestone event. Any future royalty revenue will be recognized based on reported product sales by third-party licensees.

Clinical Trial Accounting

We record accruals for estimated clinical trial costs, which include payments for work performed by contract research organizations, or CROs, and participating clinical trial sites. These costs are generally a significant component of research and development expenses. Non-refundable costs of setting up clinical trial sites for participation in trials are expensed immediately, with any refundable advances related to enrollment of the first patient recorded as prepayments and assessed for recoverability on a quarterly basis. Costs related to patient enrollment are accrued as patients progress through the clinical trial, including amortization of any first-patient prepayments. This amortization generally matches when the related services are rendered, however, these cost estimates may or may not match the actual costs incurred by the CROs or clinical trial sites, and if we have incomplete or inaccurate information, our clinical trial accruals may not be accurate. The difference between accrued expenses based on our estimates and actual expenses have not been material to date.

Stock-Based Compensation

We grant options to purchase common stock to our employees, directors and consultants under our stock option plans. Under our Employee Stock Purchase Plan, eligible employees can also purchase shares of common stock at 85% of the lower of the fair market value of our common stock at the beginning of a 12-month offering period or at the end of one of the two related 6-month purchase periods.

We value these share-based awards using the Black-Scholes model. The determination of fair value of share-based payment awards on the date of grant using the Black-Scholes model is affected by our stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to, the expected stock price volatility over the term of the awards and actual and projected employee stock option exercise behaviors. Changes in these input variables would affect stock-based compensation expense.

Private Placement Accounting

The accounting for the initial and second closing of the sale of $10.0 million and $5.0 million of units, respectively, under our Private Placement, and subsequent revaluations of the related financial instruments, required fair values to be established at different dates, either individually or in aggregate, for the four primary components of the Private Placement: (a) the Series A convertible preferred stock, (b) the warrants to purchase common stock, (c) the option for the investors to participate in the second closing, or the Second Closing Option, and (d) the option for the investors to participate in the common equity closing, or the Common Equity Closing Option. The Option-Pricing Method, which utilizes the Black-Scholes model, was selected to determine these fair values, which were calculated as a series of call options on the potential enterprise value of the company at different valuation points at which the claims of the different stakeholder groups on the enterprise value would change. The results of the Black-Scholes model are affected by the company's stock price, as well as assumptions regarding a number of highly subjective variables. These variables include the expected term of the financial instruments and our expected stock price volatility, risk-free interest rate and dividend rate over the expected term.

Alternative models could have been selected to calculate these fair values, which may have produced significantly different results. If we adopt a different valuation model in the future, this may result in a lack of consistency between periods and materially affect our fair value estimates. It may also result in a lack of comparability with other companies that use different models, methods and assumptions. Additionally, because the estimated fair values are affected by our stock price, fluctuations in our stock price, which has historically been volatile, may significantly affect our financial results.

Recent Accounting Pronouncements

The impact of recent accounting pronouncements that we have adopted is detailed in Note 1 to our consolidated financial statements.

Overview of Revenues

We have not generated any revenue from sales of commercial products and do not expect to generate any product revenue in the foreseeable future.

Collaboration Revenue

Over the past three years, we generated revenue primarily through payments received in connection with our collaborations with Biogen Idec, Inc., Johnson & Johnson Pharmaceutical Research & Development LLC, or J&JPRD, and Merck & Co., Inc., or Merck, consisting principally of revenue recognized from the amortization of upfront fees, and research funding and milestones paid by our collaborators, which substantially offset our related research and development expenses. From January 1, 2007 to December 31, 2009, we recorded an aggregate of $15.6 million in revenues from our collaboration partners. In 2007, 2008 and 2009, we received $7.6 million, $4.3 million and $1.5 million, respectively, from Biogen Idec, which represented 79%, 80% and 40% of our total revenue for these periods. Likewise, during this same three-year period, we received $1.6 million, $0.1 million and $50,000, respectively, from Merck, which represented 16%, 2% and 1% of our total revenues for these periods.

As of March 31, 2010, our only remaining ongoing collaboration is with Biogen Idec. Our collaboration with Merck will terminate effective as of June 8, 2010 and our collaboration with J&JPRD terminated on January 13, 2010.

We are entitled to receive milestone payments under our collaboration with Biogen Idec upon the achievement of certain milestones by them. Additionally, we are entitled to receive royalty payments based on future sales of products, if any, resulting from this collaboration, although we do not expect to generate any royalty revenue from this collaboration in the foreseeable future, if at all. We expect to have substantially lower collaboration revenue in 2010 and in future years from our existing collaboration with Biogen Idec unless any products that may result from it advance to a level where significant milestones will be payable to us.

License and other revenue

In March 2009, SARcode acquired our interest in all of its LFA-1 patents and related know-how for a total cash consideration of $2.0 million, which was recorded as revenue in April 2009. In connection with the sale, the license agreement was terminated and we will not receive any future license fees, milestones or royalties under that license. We still hold three secured convertible promissory notes issued under the original license agreement, with a total principal value of $1.0 million, which are due in 2012 and are convertible into the preferred stock of SARcode at our option. We have yet to record the amount represented by these notes as revenue, due to uncertainty of their collectibility.

Overview of Operating Expenses

Research and Development Expense. Most of our operating expenses to date have been related to research and development activities, and include costs incurred:

- in the discovery and development of novel small molecule therapeutics and the advancement of product candidates towards clinical trials;
- in the execution of clinical trials, including those for voreloxin;
- in the development of novel fragment-based drug discovery methods;
- in the development of in-house research, preclinical study and development capabilities;
- in connection with in-licensing activities; and
- in the conduct of activities we are required to perform in connection with our strategic collaborations.

We expense all research and development costs as they are incurred.

The table below sets forth our research and development expense by program for each period presented:

	Year Ended December 31,		
	2009	2008	2007
		(In thousands)	
Voreloxin	$12,802	$16,544	$13,699
SNS-032	236	3,480	3,723
SNS-314	209	2,004	4,563
Discovery programs and new technologies	—	2,233	4,128
Other kinase inhibitors	—	2,024	9,947
Total	$13,247	$26,285	$36,060

As a result of the corporate realignment and reduction in force completed in June 2008, or the 2008 Restructuring, and the resulting wind-down of our research activities, we do not anticipate incurring any significant additional research expenses related to the discovery of additional product candidates, the development or application of our proprietary fragment-based drug discovery methods, or the development of in-house research capabilities. In addition, we are no longer conducting any research activities in connection with our collaborations.

As of December 31, 2009, we had incurred $63.7 million of expenses in the development of voreloxin since it was licensed from Dainippon Sumitomo Pharma Co., Ltd. in October 2003, and we expect to continue to incur significant expenses related to the development of voreloxin in 2010 and future years, including for the completion of the current Phase 2 clinical trials and in preparation for and conduct of anticipated pivotal trials. As a result, we expect research and development expense to increase significantly in 2010 as compared to 2009. However, due to the risks inherent in the clinical trial process, we are unable to estimate the additional substantial costs we will incur in the voreloxin development program.

We are currently focused on clinical trials of voreloxin in targeted indications and patient populations. Based on results of translational research, clinical results, regulatory and competitive concerns and our overall financial resources, we anticipate that we will make determinations as to which indications to pursue and patient populations to treat and how much funding to direct to each indication on an ongoing basis. This will affect our research and development expense going forward.

We are currently anticipating that development of voreloxin will be our highest priority. If we engage a development or commercialization partner for our voreloxin program, or if, in the future, we acquire additional product candidates, our research and development expenses could be significantly affected. We cannot predict whether future collaborative or licensing arrangements will be secured, if at all, and to what degree such arrangements would affect our development plans and capital requirements.

Under our Biogen Idec agreement, we have the right to participate in the co-development and co-promotion of product candidates for up to two targets including, at our option, the Raf kinase target, on a worldwide basis (excluding Japan). If we were to exercise our option on one or more product candidates, our research and development expense would increase significantly.

General and Administrative Expense. Our general and administrative expense consists primarily of salaries and other related costs for personnel in finance, legal, marketing, information technology, administration and general management, as well as non-cash stock-based compensation. Other significant costs include those related to facilities and fees paid to outside legal advisors and our independent registered public accounting firm. In 2010, we expect general and administrative expense to be generally comparable to 2009.

Results of Operations

Years Ended December 31, 2009 and 2008

Revenue. Total revenue decreased to $3.8 million in 2009 from $5.4 million in 2008. Collaboration revenue decreased to $1.6 million in 2009 from $4.9 million in 2008, primarily due to the completion of research funding and technology access fee amortization under the Biogen Idec collaboration in June 2008, partially offset by an increase in milestone revenue in 2009 as a result of a $1.5 million milestone earned from Biogen Idec's selection of a Raf kinase inhibitor development candidate for the treatment of cancer. License and other revenue increased to $2.2 million in 2009 from $0.5 million in 2008, primarily due to the sale to SARcode in March 2009 of our interest in all patents and related know-how that had previously been the subject of a license agreement with them. The cash consideration of $2.0 million was recorded as revenue in April 2009, once all related materials had been transferred.

Research and development expense. Research and development expense decreased to $13.2 million in 2009 from $26.3 million in 2008. The decrease was primarily due to the 2008 Restructuring, which resulted in decreases in headcount-related expenses of $4.2 million, allocated facility costs of $3.3 million, clinical expenses of $2.6 million and professional service costs of $1.8 million.

General and administrative expense. General and administrative expense decreased to $7.7 million in 2009 from $11.5 million in 2008. The decrease was primarily due to the 2008 Restructuring and a restructuring plan implemented in April 2009, or the 2009 Restructuring, which together resulted in decreases in headcount-related expenses of $2.1 million and facility costs of $0.9 million and also a reduction in professional service costs of $0.5 million.

Restructuring charges. Restructuring charges were $1.9 million in 2009 as compared to $5.8 million in 2008. The charges for 2009 included $1.3 million for lease termination activities related to the 2008 Restructuring and $0.6 million for employee severance and related benefit costs related to the 2009 Restructuring. The net charge for lease termination activities included $2.2 million for early lease termination fees paid to the landlord and $0.4 million for third party commission, partially offset by the reversal of $1.4 million in non-cash deferred rent on the facility. The 2008 charges were primarily comprised of $5.9 million related to the 2008 Restructuring.

Interest Income. Interest income decreased to $22,000 in 2009 from $0.9 million in 2008, primarily due to lower average balances of cash, cash equivalents and marketable securities and lower average interest rates during 2009.

Interest Expense. Interest expense decreased to $1,000 in 2009 from $0.2 million in 2008, due to full payment of the outstanding balance under our equipment financing agreement with General Electric Capital Corporation in November 2008.

Other Income (Expense), Net. Other expense, net was $21.1 million in 2009 as compared to other income, net of $0.2 million in 2008. The expense in 2009 was primarily due to non-cash charges of $21.0 million related to the accounting for the Private Placement, which consisted of $7.5 million recorded upon the initial closing in April 2009 and $13.5 million upon the revaluation in June 2009 of the options to participate in the second closing and common equity closing.

Years Ended December 31, 2008 and 2007

Revenue. Total revenue decreased to $5.4 million in 2008 from $9.7 million in 2007. Collaboration revenue decreased to $4.9 million in 2008 from $9.2 million in 2007, primarily due to a $3.3 million decrease in revenue from Biogen Idec resulting from the June 2008 termination of the research phase of our collaboration and a $1.5 million decrease in research revenue from our BACE program with Merck. Partially offsetting these decreases was a milestone payment from J&JPRD for the selection of a compound targeting the Cathepsin S enzyme.

Research and development expense. Research and development expense decreased to $26.3 million in 2008 from $36.1 million in 2007. The decrease was primarily due the 2008 Restructuring, which resulted in a $7.9 million decrease in expenses under our kinase inhibitors programs, a $2.8 million decrease in clinical trial activity related to SNS-314 and SNS-032, and a $1.9 million decrease in expenses for discovery and new technology programs. These decreases were partially offset by a $2.8 million increase in voreloxin expenses due to increased clinical development activities.

General and administrative expense. General and administrative expense decreased to $11.5 million in 2008 from $13.6 million in 2007. The decrease was primarily due the 2008 Restructuring, which resulted in decreases of

$2.1 million in employee-related expenses, $0.3 million in office-related expenses and $0.1 million in professional services. These decreases were partially offset by a $0.4 million increase in facilities and related expenses.

Restructuring charges. Restructuring charges were $5.8 million in 2008 as compared to $1.6 million in 2007. The 2008 charges were primarily comprised of $5.9 million related to the 2008 Restructuring. Charges for the 2008 Restructuring consisted of $3.6 million for employee severance and related benefit costs, including non-cash stock-based compensation of $0.4 million, and $2.3 million related to asset impairment and facility exit costs. The 2007 charges were primarily comprised of severance costs and charges relating to leased facilities.

Interest income. Interest income decreased to $0.9 million in 2008 from $3.0 million in 2007, primarily due to lower average balances of cash, cash equivalents and marketable securities and lower average interest rates during 2008.

Interest expense. Interest expense was comparable for both 2008 and 2007, due to higher interest rates on lower outstanding debt obligation in 2008, compared to lower interest rates on higher outstanding debt obligations in 2007.

Income Taxes

Deferred tax assets or liabilities may arise from differences between the tax basis of assets or liabilities and their basis for financial reporting. Deferred tax assets or liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which temporary differences are expected to be recovered or settled. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized. Our policy is to recognize interest charges and penalties as other expense.

Since inception, we have incurred operating losses and, accordingly, have not recorded a provision for income taxes for any of the periods presented. As of December 31, 2009, we had net operating loss carry-forwards for federal and state income tax purposes of $233.2 million and $133.8 million, respectively. We also had federal and state research and development tax credit carry-forwards of $5.3 million and $5.2 million, respectively. If not utilized, the federal net operating loss and tax credit carry-forwards will expire at various dates beginning in 2018, and the state net operating loss will expire beginning in 2012. The state research and development tax credit carry-forwards do not expire. Utilization of these net operating loss and tax credits carry-forwards may be subject to a substantial annual limitation due to ownership change rules under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code. The limitations are applicable if an "ownership change," as defined in the Code, is deemed to have occurred or occurs in the future. The annual limitation may result in the expiration of net operating loss and credit carry-forwards before they can be utilized.

Liquidity and Capital Resources

Sources of Liquidity

Since our inception, we have funded our operations primarily through the issuance of common and preferred stock, research funding, technology access fees and milestone payments from our collaboration partners, research grants, loans from Biogen Idec and other debt financings.

Our cash, cash equivalents and marketable securities totaled $4.3 million as of December 31, 2009, as compared to $10.6 million as of December 31, 2008. The decrease of $6.3 million was primarily due to $20.2 million of net cash used in operating activities, partially offset by net proceeds of $13.4 million received from the first and second closings of the Private Placement, as described below. No debt was outstanding at either balance sheet date.

On April 3, 2009, we completed the initial closing of $10.0 million of the Private Placement, and on October 30, 2009, we completed the second closing of $5.0 million. In the initial closing, $10.0 million of units

were sold, resulting in net proceeds of $8.8 million, and in the second closing, $5.0 million of units were sold, resulting in net proceeds of $4.7 million. The units consist of Series A convertible preferred stock and warrants to purchase common stock, and were sold to accredited investors, including certain members of management.

Under the Private Placement, an additional $28.5 million of common stock may be sold at $0.275 per share in a common equity closing upon the election of the holders of a majority of the Series A convertible preferred stock issued in the Private Placement prior to the earlier of June 30, 2010, or a date determined with reference to our cash and investments balance dropping below $2.5 million. The common equity closing may also be completed upon our election prior to the earlier of June 30, 2010 and a qualifying alternative common stock financing, subject to the approval of the purchasers holding a majority of the Series A convertible preferred stock issued in the Private Placement and subject to us selling at least $28.5 million of common stock in the common equity closing.

On January 20, 2010, we entered into a controlled equity offering sales agreement with Cantor Fitzgerald & Co., or Cantor, pursuant to which we could issue and sell shares of our common stock having an aggregate offering price of up to $15.0 million from time to time through Cantor acting as agent and/or principal. We agreed to pay Cantor fees of between 3% and 5% of the gross proceeds from each sale. As of March 31, 2010, the full $15.0 million available under the facility had been sold for net proceeds of $14.2 million after commissions and expenses.

Cash Flows

Net cash used in operating activities was $20.2 million in 2009, compared to $35.5 million used in 2008 and $34.5 million used in 2007. Net cash used in 2009 resulted primarily from the net loss of $40.2 million, and changes in operating assets and liabilities of $1.3 million, partially offset by net adjustments for non-cash items of $21.4 million (including $21.0 million of charges related to the Private Placement and $1.3 million of stock-based compensation, partially offset by a $1.4 million credit for deferred rent related to the 2008 Restructuring). Net cash used in 2008 resulted primarily from the net loss of $37.2 million, and changes in operating assets and liabilities of $3.0 million (including decreases of $1.2 million in deferred revenue and $1.7 million in accrued compensation, partially offset by adjustments for non-cash items of $4.8 million (including $1.9 million of restructuring charges, $1.9 million of stock-based compensation and $1.1 million of depreciation and amortization). Net cash used in 2007 resulted primarily from the net loss of $38.8 million and changes in operating assets and liabilities of $1.0 million, partially offset by an adjustment for non-cash items of $5.3 million (including $3.2 million of stock-based compensation, $1.7 million of depreciation and amortization and $0.4 million of restructuring charges).

Net cash provided by investing activities was $4.7 million in 2009, compared to $32.3 million in 2008 and $19.7 million in 2007. Net cash provided in 2009 consisted of net proceeds from marketable securities transactions of $4.3 million and proceeds from the sale of property and equipment of $0.4 million. Net cash provided in 2008 consisted of net proceeds from marketable securities transactions of $31.6 million and $0.9 million from the sale of assets previously held-for sale, partially offset by capital expenditures of $0.2 million. Net cash provided in 2007 resulted primarily from net proceeds from marketable securities transactions of $21.2 million, partially offset by capital expenditures of $1.5 million.

Net cash provided by financing activities was $13.4 million in 2009, compared to net cash used of $2.2 million in 2008 and net cash provided of $20.5 million in 2007. Net cash provided in 2009 consisted primarily of net proceeds from the initial and second closings of the Private Placement. Net cash used in 2008 consisted primarily of equipment loan repayments of $2.3 million. Net cash provided in 2007 resulted primarily from net proceeds of $19.5 million from a common stock offering and $0.5 million from equipment loans.

Operating Cash Requirements

We expect to continue to incur substantial operating losses in the future. We will not receive any product revenue until a product candidate has been approved by the FDA or similar regulatory agencies in other

countries, and has been successfully commercialized. We need to raise substantial additional funding to complete the development and commercialization of voreloxin. Additionally, we may evaluate in-licensing and acquisition opportunities to gain access to new drugs or drug targets that would fit with our strategy. Any such transaction would likely increase our funding needs in the future.

Our future funding requirements will depend on many factors, including but not limited to:

- the rate of progress and cost of our clinical trials, need for additional clinical trials, and other development activities;
- the economic and other terms and timing of any licensing or partnering arrangement into which we may enter;
- the costs associated with building or accessing manufacturing and commercialization capabilities;
- the costs of acquiring or investing in businesses, product candidates and technologies, if any;
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- the costs and timing of seeking and obtaining FDA and other regulatory approvals; and
- the effect of competing technological and market developments.

We believe that currently available cash, cash equivalents and marketable securities, including the net proceeds of $14.2 million from sales of common stock through March 31, 2010 under the agreement with Cantor, are sufficient to fund our operations through at least September 30, 2010. We will need to raise substantial additional funding in the near term in order to sustain operations beyond that date and before undertaking any additional clinical trials of voreloxin. Our significant negative cash flows and lack of financial resources raise substantial doubt as to our ability to continue as a going concern. Management is in the process of evaluating alternative funding sources, which may include raising proceeds from the third closing of the Private Placement, debt arrangements, a potential transaction related to rights associated with voreloxin, or otherwise.

Until we can generate a sufficient amount of collaboration or product revenue to finance our cash requirements, which we may never do, we expect to finance future cash needs primarily through equity issuances (including the possible third closing of the Private Placement and subject to the satisfaction of the conditions described above), debt arrangements and/or a possible partnership or license of development and/or commercialization rights to voreloxin. We do not know whether additional funding will be available on acceptable terms, or at all.

Our failure to raise significant additional capital in the near term would require us to delay or reduce the scope of our voreloxin development program and limit our ability to continue operations. Any one of the foregoing would have a material adverse effect on our business, financial condition and results of operations.

Contractual Obligations

Our operating lease obligations as of December 31, 2009 relate to the leases for two facilities in South San Francisco, California. In December 2006, we leased approximately 15,000 square feet of office space in a building at 395 Oyster Point Boulevard. This lease expires in April 2013, subject to our option to extend the lease through February 2014. In October 2008, we leased approximately 5,500 square feet of laboratory space at 349 Allerton Avenue. This lease expires in October 2010 with our option to extend the lease through October 2012.

The lease for the facility located at 341 Oyster Point Boulevard, which formerly served as our headquarters and research and development facility, was terminated in the first quarter of 2009.

We also have agreements with clinical sites and contract research organizations for the conduct of our clinical trials. We generally make payments to these sites and organizations based upon the procedures to be performed in the particular clinical trial, the number of patients enrolled and the period of follow-up required for patients in the trial.

Off-Balance Sheet Arrangements

Since our inception, we have not had any off-balance sheet arrangements or relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or variable interest entities, which are typically established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

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

This item is not applicable to us as a smaller reporting company.

ITEM 8: *FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA*

Index to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of Sunesis Pharmaceuticals, Inc.

We have audited the accompanying consolidated balance sheets of Sunesis Pharmaceuticals, Inc. as of December 31, 2009 and 2008, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2009. These financial statements are the responsibility of Sunesis Pharmaceuticals, Inc.'s management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Sunesis Pharmaceuticals, Inc. at December 31, 2009 and 2008, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2009, in conformity with U.S. generally accepted accounting principles.

As discussed in Note 1 to the financial statements, the Company's recurring losses from operations and its cash and cash equivalents balance at December 31, 2009 raise substantial doubt about its ability to continue as a going concern. Management's plans as to these matters are described in Note 1. The 2009 financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ ERNST & YOUNG, LLP

Palo Alto, California
March 31, 2010

SUNESIS PHARMACEUTICALS, INC.

CONSOLIDATED BALANCE SHEETS

	December 31, 2009	December 31, 2008
ASSETS		
Current assets:		
Cash and cash equivalents	$ 4,258,715	$ 6,296,942
Marketable securities	—	4,321,844
Prepaids and other current assets	583,030	934,429
Total current assets	4,841,745	11,553,215
Property and equipment, net	263,111	612,241
Assets held-for-sale	—	470,547
Deposits and other assets	64,425	147,826
Total assets	$ 5,169,281	$ 12,783,829
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 360,300	$ 790,546
Accrued clinical expense	1,129,226	1,865,773
Accrued compensation	728,744	537,215
Accrued restructuring charges	11,982	191,170
Other accrued liabilities	749,494	1,360,434
Current portion of deferred rent	27,943	1,409,513
Deferred revenue	27,083	27,083
Total current liabilities	3,034,772	6,181,734
Non-current portion of deferred rent	74,105	110,919
Commitments (Note 9)		
Stockholders' equity:		
Convertible preferred stock, $0.0001 par value; (i) 10,000,000 and 5,000,000 shares authorized, (ii) 4,347,812 and 0 shares issued and outstanding, and (iii) aggregate liquidation preference of $44,999,854 and $0, as of December 31, 2009 and 2008, respectively	60,004,986	—
Common stock, $0.0001 par value; 400,000,000 and 100,000,000 shares authorized as of December 31, 2009 and 2008, respectively; 35,902,603 and 34,409,768 shares issued and outstanding as of December 31, 2009 and 2008, respectively	3,590	3,441
Additional paid-in capital	298,469,584	322,671,604
Accumulated other comprehensive income	—	7,841
Accumulated deficit	(356,417,756)	(316,191,710)
Total stockholders' equity	2,060,404	6,491,176
Total liabilities and stockholders' equity	$ 5,169,281	$ 12,783,829

See accompanying notes to consolidated financial statements.

SUNESIS PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
	2009	2008	2007
Revenue:			
Collaboration revenue—related party	$ 1,500,000	$ 4,310,551	$ 7,586,903
Collaboration revenue—other	50,000	606,789	1,576,610
License and other revenue	2,211,547	500,000	500,000
Total revenues	3,761,547	5,417,340	9,663,513
Operating expenses:			
Research and development	13,246,859	26,285,294	36,060,470
General and administrative	7,748,243	11,524,198	13,569,578
Restructuring charges	1,915,316	5,782,903	1,563,274
Total operating expenses	22,910,418	43,592,395	51,193,322
Loss from operations	(19,148,871)	(38,175,055)	(41,529,809)
Interest income	21,630	929,114	2,971,666
Interest expense	(1,188)	(171,308)	(209,885)
Other income (expense), net	(21,097,617)	231,622	7,108
Net loss	(40,226,046)	(37,185,627)	(38,760,920)
Deemed distribution to preferred stockholders	(27,563,400)	—	—
Loss attributable to common stockholders	$(67,789,446)	$(37,185,627)	$(38,760,920)
Basic and diluted loss attributable to common stockholders per common share	$ (1.97)	$ (1.08)	$ (1.20)
Shares used in computing basic and diluted loss attributable to common stockholders per common share	34,480,716	34,387,177	32,340,203

See accompanying notes to consolidated financial statements.

SUNESIS PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Deferred Stock Compensation	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount					
Balance as of December 31, 2006	—	$ —	29,443,079	$2,944	$298,073,896	$(1,006,604)	$ (21,376)	$(240,245,163)	$ 56,803,697
Issuance of common stock pursuant to stock option exercises	—	—	68,913	8	161,008	—	—	—	161,016
Reversal of deferred stock-based compensation	—	—	—	—	(76,980)	76,980	—	—	—
Amortization deferred stock-based compensation	—	—	—	—	—	633,023	—	—	633,023
Stock-based compensation expense—non-employees	—	—	—	—	2,394	—	—	—	2,394
Stock-based compensation expense—employees	—	—	—	—	2,468,898	—	—	—	2,468,898
Stock-based compensation expense—restructuring	—	—	—	—	126,456	45,000	—	—	171,456
Issuance of common stock under employee stock purchase plan	—	—	102,904	10	301,055	—	—		301,065
Issuance of common stock pursuant to public offering, net of issuance costs of $1,519,513	—	—	4,750,000	475	19,522,513	—	—	—	19,522,988
Components of comprehensive loss:									
Net loss	—	—	—	—	—	—		(38,760,920)	(38,760,920)
Unrealized gain on available-for-sale securities	—	—	—	—	—	—	90,638	—	90,638
Comprehensive loss									(38,670,282)
Balance as of December 31, 2007	—	—	34,364,896	3,437	320,579,240	(251,601)	69,262	(279,006,083)	41,394,255
Issuance of stock to employees	—	—	70	—	—	—	—	—	—
Reversal of deferred stock-based compensation	—	—	—	—	(28,500)	28,500	—	—	—
Amortization deferred stock-based compensation	—	—	—	—	—	223,101	—	—	223,101
Stock-based compensation expense—non-employees	—	—	—	—	828	—	—	—	828
Stock-based compensation expense—employees	—	—	—	—	1,686,827	—	—	—	1,686,827
Stock-based compensation expense— restructuring	—	—	—	—	366,637	—	—	—	366,637
Issuance of common stock under employee stock purchase plan	—	—	44,802	4	66,572	—	—	—	66,576
Components of comprehensive loss:									
Net loss	—	—	—	—	—	—	—	(37,185,627)	(37,185,627)
Unrealized loss on available-for-sale securities	—	—	—	—	—	—	(61,421)	—	(61,421)
Comprehensive loss									(37,247,048)
Balance as of December 31, 2008	—	—	34,409,768	3,441	322,671,604	—	7,841	(316,191,710)	6,491,176
Issuance of common stock pursuant to stock option exercises	—	—	4,557	—	6,562	—	—	—	6,562
Issuance of stock to employees	—	—	12	—	—	—	—	—	—
Issuance of $10,000,000 of units consisting of preferred stock and warrants in initial closing of Private Placement, recorded in liabilities	2,898,544	—	—	—	—	—	—	—	—
Reclassification of preferred stock from liabilities to equity	—	—	—	—	20,126,000	—	—	—	20,126,000
Reclassification of second closing option of Private Placement from liabilities to equity and issuance of amended preferred stock instrument, net of issuance costs of $1,245,757	—	56,146,243	—	—	(46,501,000)	—	—	—	9,645,243
Issuance of $5,000,000 of units consisting of preferred stock and warrants in second closing of Private Placement, net of issuance costs of $321,185	1,449,268	2,670,343	—	—	2,008,472	—	—	—	4,678,815
Write-off of discount for beneficial conversion feature on second closing of Private Placement	—	1,188,400	—	—	(1,188,400)	—	—	—	—
Issuance of common stock pursuant to warrant exercises	—	—	1,469,450	147	(147)	—	—	—	—
Stock-based compensation expenses—non-employees	—	—	—	—	29,408	—	—	—	29,408
Stock-based compensation expenses—employees	—	—	—	—	1,310,945	—	—	—	1,310,945
Issuance of common stock under employee stock purchase plan	—	—	18,816	2	6,140	—	—	—	6,142
Components of comprehensive loss:									
Net loss	—	—	—	—	—	—	—	(40,226,046)	(40,226,046)
Unrealized loss on available-for-sale securities	—	—	—	—	—	—	(7,841)	—	(7,841)
Comprehensive loss									(40,233,887)
Balance as of December 31, 2009	4,347,812	$60,004,986	35,902,603	$3,590	$298,469,584	$ —	$ —	$(356,417,756)	$ 2,060,404

See accompanying notes to consolidated financial statements.

SUNESIS PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2009	2008	2007
Cash flows from operating activities			
Net loss	$(40,226,046)	$(37,185,627)	$ (38,760,920)
Adjustments to reconcile loss to net cash used in operating activities:			
Stock-based compensation expense	1,340,353	1,910,755	3,189,048
Depreciation and amortization	341,576	1,103,848	1,728,714
Non-cash expense related to private placement	21,016,997	—	—
Non-cash restructuring charges (reversals), net	(1,372,634)	1,937,821	359,865
Loss (gain) on sale or disposal of property and equipment	56,188	(189,111)	(5,949)
Changes in operating assets and liabilities:			
Prepaids and other current assets	351,399	11,154	138,064
Deposits and other assets	83,401	229,972	(17,824)
Accounts payable	(430,246)	(672,171)	(1,014,939)
Accrued clinical expense	(736,547)	840,448	419,944
Accrued compensation	191,529	(1,688,653)	(97,874)
Accrued restructuring charges	(179,188)	(125,063)	316,233
Other accrued liabilities	(610,940)	(378,082)	1,354,766
Deferred rent	(8,871)	(56,302)	111,832
Deferred revenue	—	(1,199,948)	(2,176,606)
Net cash used in operating activities	(20,183,029)	(35,460,959)	(34,455,646)
Cash flows from investing activities			
Purchases of property and equipment, net	(6,140)	(179,148)	(1,511,425)
Proceeds from sale of property and equipment	391,174	876,303	5,119
Purchases of marketable securities	(503,107)	(25,902,749)	(92,679,521)
Proceeds from maturities of marketable securities	4,817,110	57,477,417	113,841,425
Net cash provided by investing activities	4,699,037	32,271,823	19,655,598
Cash flows from financing activities			
Proceeds from borrowings under equipment financing	—	—	1,481,611
Payments on borrowing under equipment financing	—	(2,306,624)	(1,015,955)
Proceeds from issuance of convertible preferred stock and warrants under private placement, net of issuance costs	13,433,061	—	—
Proceeds from issuance of common stock and exercise of stock options	12,704	66,576	19,985,069
Net cash provided by (used in) financing activities	13,445,765	(2,240,048)	20,450,725
Net increase (decrease) in cash and cash equivalents	(2,038,227)	(5,429,184)	5,650,677
Cash and cash equivalents at beginning of period	6,296,942	11,726,126	6,075,449
Cash and cash equivalents at end of period	$ 4,258,715	$ 6,296,942	$ 11,726,126
Supplemental disclosure of cash flow information			
Interest paid	$ 1,187	$ 187,946	$ 193,247
Supplemental disclosure of non-cash activities			
Deemed distributions to preferred stockholders	$ 27,563,400	$ —	$ —
Beneficial conversion feature on preferred stock	$ 1,188,400	$ —	$ —
Cashless exercise of warrants	$ 439,780	$ —	$ —
Deferred stock-based compensation expense (reversal)	$ —	$ (28,500)	$ (76,980)

See accompanying notes to consolidated financial statements.

SUNESIS PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Summary of Significant Accounting Policies

Overview

Sunesis Pharmaceuticals, Inc. (the "Company" or "Sunesis") was incorporated in the state of Delaware on February 10, 1998, and its facilities are located in South San Francisco, California. Sunesis is a biopharmaceutical company focused on the development and commercialization of new oncology therapeutics for the treatment of hematologic and solid tumor cancers. The Company's primary activities since incorporation have been conducting research and development internally and through corporate collaborators, in-licensing and out-licensing pharmaceutical compounds and technology, conducting clinical trials and raising capital.

On March 31, 2009, the Company entered into agreements with accredited investors, including certain members of management, providing for the private placement of up to $15.0 million of units consisting of Series A convertible preferred stock and warrants to purchase common stock, and up to $28.5 million in common stock, in three closings, collectively referred to as the Private Placement. On April 3, 2009, the Company completed the initial closing of $10.0 million of units, and on October 30, 2009, completed the second closing of $5.0 million of units.

Significant Risks and Uncertainties

The Company has incurred significant losses and negative cash flows from operations since its inception, and as of December 31, 2009, had cash and cash equivalents totaling $4.3 million and an accumulated deficit of $356.4 million.

The Company believes that currently available cash and cash equivalents, including the net proceeds of $14.2 million from sales of common stock through March 31, 2010 under the sales agreement with Cantor Fitzgerald & Co., or Cantor (see Note 14), are sufficient to fund its operations through at least September 30, 2010. The Company will need to raise substantial additional funding in the near term in order to sustain operations beyond that date and before undertaking any additional clinical trials of voreloxin. The significant negative cash flows and lack of financial resources of the Company raise substantial doubt as to the Company's ability to continue as a going concern. Management is in the process of evaluating alternative funding sources, which may include raising proceeds from the third closing of the Private Placement, debt arrangements, a potential transaction related to rights associated with voreloxin, or otherwise.

If the Company is unable to raise additional funding to meet its working capital needs, it will be forced to delay or reduce the scope of its voreloxin development program and/or limit or cease its operations. The accompanying consolidated financial statements do not reflect any adjustments relating to the recoverability and reclassification of assets and liabilities as that might be necessary if the Company is unable to continue as a going concern.

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles, or GAAP, and assume that the Company will continue as a going concern. The financial statements include a wholly owned subsidiary, Sunesis Europe Limited, a United Kingdom corporation. Management has determined that the Company operates as a single reportable segment. The financial statements include all adjustments (consisting only of normal recurring adjustments) that management believes are necessary for a fair presentation of the periods presented. Prior period revenues in the

statements of operations and certain liabilities in the balance sheets and statements of cash flows have been reclassified to conform to the current year presentation.

Significant Estimates and Judgments

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the Company's consolidated financial statements and accompanying notes. Actual results could differ materially from these estimates. Significant estimates, assumptions and judgments made by management include those related to revenue recognition, clinical trial accounting, stock-based compensation and the valuation of equity instruments.

Cash Equivalents and Marketable Securities

The Company considers all highly liquid securities with original maturities of three months or less from the date of purchase to be cash equivalents, which have generally consisted of money market funds and corporate debt securities. Marketable securities consist of securities with original maturities of greater than three months, which generally consist of U.S. government obligations and corporate debt securities.

Management determines the appropriate classification of securities at the time of purchase. The Company generally classifies its entire investment portfolio as available-for-sale. The Company views its available-for-sale portfolio as available for use in current operations. Accordingly, the Company classifies all investments as short-term, even though the stated maturity may be more than one year from the current balance sheet date. Available-for-sale securities are carried at fair value, with unrealized gains and losses reported in accumulated other comprehensive income (loss), which is a separate component of stockholders' equity. Estimated fair values are determined by the Company using available market information.

The amortized cost of securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization is included in interest income. Realized gains and losses and declines in value judged to be other-than-temporary on available-for-sale securities, if any, are recorded in other income (expense), net. The cost of securities sold is based on the specific-identification method.

Concentrations of Credit Risk and Financial Instruments

The Company invests cash that is not currently being used for operational purposes in accordance with its investment policy. The policy allows for the purchase of low risk debt securities issued by U.S. government agencies and very highly rated banks and corporations, subject to certain concentration limits. The policy limits maturities of securities purchased to no longer than 18 months. Management believes these guidelines ensure both the safety and liquidity of any investment portfolio the Company may hold.

Financial instruments that potentially subject the Company to concentrations of credit risk generally consist of cash, cash equivalents and marketable securities. The carrying amounts of cash equivalents and marketable securities generally approximate fair value due to their short-term nature. The Company is exposed to credit risk in the event of default by the institutions holding its cash, cash equivalents and any marketable securities to the extent of the amounts recorded in the balance sheets.

Property and Equipment

Property and equipment are stated at cost, less accumulated depreciation and amortization. Depreciation is determined using the straight-line method over the estimated useful lives of the respective assets, generally three to five years. Leasehold improvements are amortized on a straight-line basis over the shorter of their estimated useful lives or the term of the lease.

Long-Lived Assets

The Company periodically assesses long-lived assets for potential impairment. An impairment review is performed whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable, such as a significant industry or economic downturn, significant changes in the manner of use of the acquired assets, or changes in the Company's business strategy.

If indicators of impairment exist, recoverability is assessed by comparing the estimated undiscounted cash flows resulting from the use and eventual disposition of the asset to its carrying value. If aggregate undiscounted cash flows are less than the carrying value, an impairment charge is recorded based on the excess of the carrying value of the asset over its fair value, with fair value determined based on estimated discounted future cash flows, or another appropriate measure.

Private Placement Accounting

The accounting for the initial and second closing of the sale of $10.0 million and $5.0 million of units, respectively, under the Private Placement, and subsequent revaluations of the related financial instruments, required fair values to be established at different dates, either individually or in aggregate, for the four primary components of the Private Placement: (a) the Series A convertible preferred stock, (b) the warrants to purchase common stock, (c) the option for the investors to participate in the second closing, or the Second Closing Option, and (d) the option for the investors to participate in the common equity closing, or the Common Equity Closing Option. The Option-Pricing Method, which utilizes the Black-Scholes model, was selected to determine these fair values, which were calculated as a series of call options on the potential enterprise value of the Company at different valuation points at which the claims of the different stakeholder groups on the enterprise value would change. The results of the Black-Scholes model are affected by the Company's stock price, as well as assumptions regarding a number of highly subjective variables. These variables include the expected term of the financial instruments and the Company's expected stock price volatility, risk-free interest rate and dividend rate over the expected term.

Revenue Recognition

Revenue arrangements with multiple deliverables are accounted for in accordance with the Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Subtopic 605-25, *Multiple-Element Arrangements*, or ASC 605-25. Under ASC 605-25, revenue arrangements with multiple deliverables are divided into separate units of accounting based on whether certain criteria are met, including whether the delivered item has stand-alone value to the customer and whether there is objective and reliable evidence of the fair value of the undelivered items. Consideration is allocated among the separate units of accounting based on their respective fair value, and the applicable revenue recognition is applied to each of the separate units.

Non-refundable fees where the Company has no continuing performance obligations are recognized as revenues when collection is reasonably assured. In situations where continuing performance obligations exist, nonrefundable fees are deferred and recognized ratably over the projected performance period.

Research funding from collaborations is recognized as revenue as the related research services are performed. This funding is generally based on a specified amount per full-time equivalent employee per year.

Milestone payments which are substantive and at risk at the time of the execution of the collaboration agreement are recognized upon completion of the applicable milestone event. Any future royalty revenue will be recognized based on reported product sales by third-party licensees.

Research and Development

All research and development costs, including those funded by third parties, are expensed as incurred. Research and development expenses consist primarily of costs related to employee salaries and benefits, clinical

trials (including amounts paid to contract research organizations, or CROs, and participating clinical trial sites), consultants, other outside services, labs and other facilities.

Clinical Trial Accounting

The Company records accruals for estimated clinical trial costs, which include payments for work performed by contract research organizations, or CROs, and participating clinical trial sites. These costs are generally a significant component of research and development expenses. Non-refundable costs of setting up clinical trial sites for participation in trials are expensed immediately, with any refundable advances related to enrollment of the first patient recorded as prepayments and assessed for recoverability on a quarterly basis. Costs related to patient enrollment are accrued as patients progress through the clinical trial, including amortization of any first-patient prepayments. This amortization generally matches when the related services are rendered, however, these cost estimates may or may not match the actual costs incurred by the CROs or clinical trial sites, and if the Company has incomplete or inaccurate information, the clinical trial accruals may not be accurate. The difference between accrued expenses based on the Company's estimates and actual expenses have not been material to date.

Stock-Based Compensation

The Company grants options to purchase common stock to its employees, directors and consultants under its stock option plans. Under the Company's Employee Stock Purchase Plan, eligible employees can also purchase shares of common stock at 85% of the lower of the fair market value of the Company's common stock at the beginning of a 12-month offering period or at the end of one of the two related six-month purchase periods.

The Company values these share-based awards using the Black-Scholes model. The determination of fair value of share-based payment awards on the date of grant using the Black-Scholes model is affected by the Company's stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to, the expected stock price volatility over the term of the awards and actual and projected employee stock option exercise behaviors.

Income Taxes

The Company accounts for income taxes under the liability method. Under this method, deferred tax assets and liabilities are determined based on the differences between the tax basis of assets and liabilities and their basis for financial reporting. Deferred tax assets or liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which temporary differences are expected to be recovered or settled. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized. The Company's policy is to recognize interest charges and penalties as other expense.

Comprehensive Loss

The Company displays comprehensive loss and its components within the statements of stockholders' equity, net of related tax effects. Comprehensive loss is comprised of net loss and unrealized gains or losses on available-for-sale securities.

Recent Accounting Pronouncements

In June 2009, the FASB established the FASB Accounting Standards Codification, or FASB ASC, as the source of authoritative accounting principles recognized by the FASB. The FASB will issue new standards in the form of Accounting Standards Updates, or FASB ASUs. The Company adopted the FASB ASC in the third quarter of 2009. The issuance of the FASB ASC does not change GAAP and therefore its adoption only affects the specific references to GAAP literature in these notes to the Company's consolidated financial statements.

In August 2009, the Company adopted the provisions of ASU 2009-04, which amends ASC Topic 480, *Distinguishing Liabilities from Equity*, or ASC 480. ASU 2009-04 clarifies the guidance under ASC 480, which was originally based on the pre-ASC guidance of Emerging Issues Task Force, or EITF, Topic D-98. The adoption of the amended provisions had no material effect on the Company's financial condition or results of operations.

In October 2009, the FASB issued ASU 2009-13, Revenue Recognition (Topic 605): *Multiple Deliverable Revenue Arrangements—A Consensus of the FASB Emerging Issues Task Force.* This update provides application guidance on whether multiple deliverables exist, how the deliverables should be separated and how the consideration should be allocated to one or more units of accounting. This update establishes a selling price hierarchy for determining the selling price of a deliverable. The selling price used for each deliverable will be based on vendor-specific objective evidence, if available, third-party evidence if vendor-specific objective evidence is not available, or estimated selling price if neither vendor-specific or third-party evidence is available. The Company expects to adopt this guidance prospectively from January 1, 2011. The Company is assessing the impact of this guidance on its financial condition and results of operations.

2. Loss per Common Share

Basic loss attributable to common stockholders per common share is calculated by dividing loss attributable to common stockholders by the weighted-average number of common shares outstanding for the period. Diluted loss attributable to common stockholders per common share is computed by dividing loss attributable to common stockholders by the weighted-average number of common shares outstanding for the period plus dilutive potential common shares as determined using the as-if converted method for convertible preferred stock and the treasury stock method for options and warrants to purchase common stock. Convertible preferred stock, options and warrants to purchase common stock have been excluded from the calculation of diluted loss attributable to common stockholders per common share as their effect is anti-dilutive.

The following tables set forth the computation of basic and diluted loss attributable to common stockholders per common share and the excluded potential common shares for outstanding securities as of the related period end dates:

	Year Ended December 31,		
	2009	2008	2007
Historical numerator:			
Net loss	$(40,226,046)	$(37,185,627)	$(38,760,920)
Deemed distribution to preferred stockholders	(27,563,400)	—	—
Loss attributable to common stockholders	$(67,789,446)	$(37,185,627)	$(38,760,920)
Denominator:			
Weighted-average common shares outstanding	34,480,716	34,387,177	32,340,203
Basic and diluted loss attributable to common stockholders per common share	$ (1.97)	$ (1.08)	$ (1.20)

	As of December 31,		
	2009	2008	2007
Outstanding securities not included in calculations:			
Convertible preferred stock, as-if converted	43,478,120	—	—
Warrants to purchase common stock	44,119,165	2,660,845	2,693,237
Options to purchase common stock	6,407,309	4,650,955	5,099,847
	94,004,594	7,311,800	7,793,084

3. License Agreements

SARcode Corporation

In March 2006, the Company entered into a license agreement with SARcode Corporation, or SARcode, a privately held biopharmaceutical company, granting SARcode an exclusive, worldwide license to all of the Company's lymphocyte function-associated antigen-1, or LFA-1, patents and related know-how. Pursuant to the license agreement, the Company received a total of $1.0 million in license fees—$0.5 million in 2007 and $0.5 million in September 2008—which were recorded as revenue upon receipt. In addition, the Company received three secured convertible promissory notes, with a total principal amount of $1.0 million, which are due in 2012 and are convertible into the preferred stock of SARcode at the Company's option. The Company has yet to record any amounts represented by these notes receivable as revenue, due to the uncertainty of their collectibility.

In March 2009, SARcode acquired the Company's interest in all of its LFA-1 patents and related know-how for a total cash consideration of $2.0 million, which was recorded as revenue in April 2009, once all related materials had been transferred. This represented 53% of total revenue for the year ended December 31, 2009. In connection with the sale, the license agreement was terminated, but the promissory notes remain outstanding.

4. Strategic Collaborations

The table below summarizes collaboration revenues for the periods presented:

	Year Ended December 31,		
	2009	2008	2007
Biogen Idec	$1,500,000	$4,310,551	$7,586,903
Other	50,000	606,789	1,576,610
Total collaboration revenue	$1,550,000	$4,917,340	$9,163,513

In August 2004, the Company entered into a collaboration agreement with Biogen Idec, Inc., or Biogen Idec, to discover, develop and commercialize small molecule inhibitors of Raf kinase and up to five additional targets that play a role in oncology and immunology indications or in the regulation of the human immune system. Concurrent with the signing of the agreement, Biogen Idec paid a $7.0 million upfront technology access fee and made a $14.0 million equity investment in the Company through the purchase of the Company's Series C-2 preferred stock, which converted into common stock upon the Company's initial public offering in September 2005. Biogen Idec's equity ownership was 8.1% of the Company's common shares outstanding as of December 31, 2009.

Pursuant to the terms of the collaboration agreement, the Company applied its proprietary Tethering technology to generate small molecule leads during the research term, for which it received research funding, which was paid in advance to support some of the Company's scientific personnel. In connection with the Company's June 2008 restructuring, the parties agreed to terminate the research term and related funding as of June 30, 2008. A total of $20.0 million of research funding was received through this date. The Company had received a total of $3.0 million in milestone payments for meeting certain preclinical milestones through December 31, 2009, including a $1.5 million milestone for Biogen Idec's selection of a Raf kinase inhibitor development candidate for the treatment of cancer, which was earned and recorded as revenue in June 2009, and the cash received in July 2009. Additionally, as part of this $3.0 million total, a $0.5 million milestone was received and recognized in June 2008.

The Company may in the future receive pre-commercialization milestone payments of up to $60.5 million per target, as well as royalty payments depending on product sales. Potential total royalty payments may be

increased if the Company exercises its option to co-develop and co-promote product candidates for up to two targets worldwide (excluding Japan) and may be reduced if Biogen Idec is required to in-license additional intellectual property related to certain technology jointly developed under the collaboration agreement in order to commercialize a collaboration product.

Revenue from Biogen Idec represented 40%, 80% and 79% of total revenue for the years ended December 31, 2009, 2008 and 2007, respectively. Revenue from Merck & Co., Inc. was $1.6 million, or 16% of total revenue, for the year ended December 31, 2007. On March 10, 2010, Merck provided written notice that it was terminating the collaborations related to BACE inhibitors and small compounds derived from the Company's Tethering technology, which it entered into with the Company in February 2003 and July 2004, respectively. In accordance with the terms of the collaboration agreements, the terminations will be effective on June 8, 2010. As a result, the Company does not expect to receive any additional funding from Merck relating to these agreements.

5. Financial Instruments

In accordance with applicable GAAP, the fair value of the Company's financial instruments reflect the amounts that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (i.e. the exit price). A fair value hierarchy is also utilized to prioritize valuation inputs, as follows:

Level 1 - quoted prices in active markets for identical assets and liabilities

Level 2 - significant observable inputs other than Level 1 inputs, such as quoted prices in active markets for similar assets or liabilities; quoted prices for identical or similar assets or liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the asset or liability

Level 3 - unobservable inputs

The Company's Level 2 valuations are generally based upon quoted prices in active markets for similar securities, with prices adjusted for yield and number of days to maturity.

As of December 31, 2009, the Company held no financial assets that were measured on a recurring basis other than money market funds. The following table summarizes the fair value of the Company's financial assets measured on a recurring basis as of December 31, 2008, which is comprised solely of available-for-sale securities:

December 31, 2008	Input Level	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Money market funds	Level 1	$ 5,417,903	$ —	$ —	$ 5,417,903
U.S. treasury obligations	Level 1	768,039	—	(76)	767,963
U.S. government agency obligations	Level 2	3,068,968	2,906	—	3,071,874
Corporate debt obligations	Level 2	996,102	3,898	—	1,000,000
Commercial paper	Level 2	248,857	1,113	—	249,970
Total available-for-sale securities		10,499,869	7,917	(76)	10,507,710
Less: amounts classified as cash equivalents		6,185,942	—	(76)	6,185,866
Amounts classified as marketable securities		$ 4,313,927	$7,917	$ —	$ 4,321,844

There were no realized gains or losses on the sale of available-for-sale securities in the years ended December 31, 2009, 2008 and 2007.

6. Property and Equipment

Property and equipment is recorded at cost and consisted of the following as of December 31 of the periods presented:

	2009	2008
Computer equipment and software	$ 1,054,449	$ 1,353,231
Furniture and office equipment	437,912	981,989
Laboratory equipment	855,678	901,694
Leasehold improvements	376,388	5,789,944
	2,724,427	9,026,858
Less accumulated depreciation and amortization	(2,461,316)	(8,414,617)
Net property and equipment	$ 263,111	$ 612,241

7. Restructuring

2009 Restructuring

On March 30, 2009, the Compensation Committee of the Company's board of directors, in conjunction with the anticipated closing of the initial closing of the Private Placement (see Note 10), committed to a restructuring plan, or the 2009 Restructuring, for an immediate reduction in force affecting six employees, including two executives. Employees were notified on March 31, 2009. All terminated employees were awarded severance payments and continuation of benefits based on length of service at the Company.

As a result of the 2009 Restructuring, the Company recorded a restructuring charge of $0.6 million in the first quarter of 2009 for employee severance and related benefit costs, which is included under "Restructuring charges" in the Company's statement of operations. The severance payments were made in the second quarter of 2009, and other personnel-related expenses such as employee benefits were substantially paid over the remainder of 2009. No further charges are expected related to this restructuring.

The following table summarizes the changes in the 2009 Restructuring liabilities, for which balances are included under "Accrued restructuring charges" in the Company's balance sheets:

	Employee Severance and Related Benefits
Balance as of December 31, 2008	$ —
Charges in period	602,102
Cash payments in period	(571,668)
Adjustments in period	(18,452)
Balance as of December 31, 2009	$ 11,982

2008 Restructuring

In June 2008, the Company implemented a corporate realignment to focus on the development of voreloxin. In conjunction with this restructuring, or the 2008 Restructuring, the Company expanded its late-stage development leadership team, ceased its internal discovery research activities and reduced its workforce by

approximately 60%. All terminated employees were awarded severance payments, continuation of benefits based on length of service at the Company and career transition assistance. The Company also consolidated its remaining employees into the leased office premises at 395 Oyster Point Boulevard and a small leased laboratory facility at 349 Allerton Avenue, both in South San Francisco.

In January 2009, the Company entered into an Agreement for Termination of Lease and Voluntary Surrender of Premises with ARE-Technology Center, SSF, LLC, or Alexandria, with respect to a leased facility located at 341 Oyster Point Boulevard, South San Francisco, which formerly served as the Company's headquarters and research and development facility. Pursuant to the terms of the Termination Agreement, the Company was required to vacate the premises by February 28, 2009, and agreed to pay an aggregate fee of $2.2 million in consideration of early termination of the Lease Agreement. Under the original Lease Agreement, the Company was required to pay Alexandria base rents and operating expenses of $15.7 million between 2009 and 2013. The $2.2 million termination fee was paid in January 2009. In addition, the Company paid a commission of $0.4 million to a third party in January 2009 for negotiation of the lease termination.

In the first quarter of 2009, the Company recorded net restructuring charges of $1.3 million for these lease termination activities related to the 2008 Restructuring, which are included under "Restructuring charges" in the Company's statement of operations. The net charge included the $2.2 million early termination fee and $0.4 million third-party commission, partially offset by the reversal of $1.4 million in non-cash deferred rent on this facility, which is recorded as a non-cash restructuring credit in the Company's statement of cash flows.

The following table summarizes the changes in 2008 Restructuring liabilities, for which balances are included under "Accrued restructuring charges" in the Company's balance sheets:

	Employee Severance and Related Benefits	Facilities Related and Other Costs	Total
Balance as of December 31, 2008	$ 62,420	$ 128,750	$ 191,170
Charges in period	—	2,654,360	2,654,360
Cash payments in period	(62,420)	(2,783,110)	(2,845,530)
Balance as of December 31, 2009	$ —	$ —	$ —

As of December 31, 2009, a total of $3.5 million of expenses had been incurred for the employee severance and related benefit costs, consisting of $3.2 million of severance and other benefit costs and $0.3 million of stock-based compensation. A total of $3.7 million had been incurred through December 31, 2009 related to facility exit costs, consisting of $2.2 million of lease termination fees, $1.6 million of asset impairments, $0.4 million of third-party commission and $0.9 million of other facility closure expenses, partially offset by the reversal of $1.4 million of deferred rent. No further charges are expected related to the 2008 Restructuring.

As part of the 2008 Restructuring, the Company implemented a corporate realignment to focus on the development of voreloxin. Due to the resulting termination of research activities, it was determined that laboratory equipment with a net book value of $1.2 million would be sold, and, accordingly, this equipment was recorded as held-for-sale. Held-for-sale equipment with a net book value of $0.5 million was sold in the year ended December 31, 2009, for net proceeds of $0.4 million. The loss on sale has been included in "Other income (expense), net" in the Company's statement of operations.

2007 Restructuring

In August 2007, the Company implemented a restructuring, or the 2007 Restructuring, which included a 25% reduction in the Company's workforce. As a result, the Company recorded total restructuring charges of

$1.6 million in 2007 for employee severance and related benefit costs, including a non-cash portion related to stock-based compensation of $0.1 million, and $0.6 million of facilities exit costs, of which $0.3 million was related to the impairment of leasehold improvements and $0.3 million was related to the lease obligation on the property at 395 Oyster Point Boulevard which had been vacated in the 2007 consolidation.

8. Other Accrued Liabilities

Other accrued liabilities as of December 31 were as follows:

	2009	2008
Accrued outside services	$390,418	$1,021,685
Accrued professional services	359,076	322,945
Sales taxes payable	—	15,804
Total other accrued liabilities	$749,494	$1,360,434

9. Commitments and Contingencies

Commitments

The Company's operating lease obligations as of December 31, 2009 relate to the leases for two facilities in South San Francisco, California. In December 2006, the Company leased approximately 15,000 square feet of office space at 395 Oyster Point Boulevard, which is currently the Company's headquarters. This lease expires in April 2013, subject to the Company's option to extend the lease through February 2014. In October 2008, the Company leased approximately 5,500 square feet of laboratory space at 349 Allerton Avenue. This lease expires in October 2010 with the Company's option to extend the lease through October 2012.

Aggregate non-cancelable future minimum rental payments under operating leases for each period presented are as follows:

Year ended December 31,	Payments
2010	$ 570,439
2011	395,215
2012	404,441
2013	135,326
2014 and thereafter	—
	$1,505,421

The operating lease agreements provide for increasing monthly rent payment over the lease term. The Company recognizes rent expense on a straight-line basis. The Company recorded rent expense of $0.8 million, $3.0 million and $3.1 million for the years ended December 31, 2009, 2008 and 2007, respectively. The deferred rent balances of $0.1 million and $1.5 million as of December 31, 2009 and 2008, respectively, represent the difference between actual rent payments and the straight-line rent expense.

Contingencies

From time to time, the Company may be involved in legal proceedings, as well as demands, claims and threatened litigation, which arise in the normal course of its business or otherwise. The ultimate outcome of any litigation is uncertain and unfavorable outcomes could have a negative impact on the Company's results of operations and financial condition. Regardless of outcome, litigation can have an adverse impact on the Company

because of the defense costs, diversion of management resources and other factors. The Company is not currently involved in any material legal proceedings.

10. Stockholders' Equity

Preferred Stock

The Company has 10,000,000 shares of authorized preferred stock issuable in one or more series. Upon issuance, the Company can determine the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. There were 4,347,812 and 0 shares of preferred stock outstanding as of December 31, 2009 and 2008, respectively.

Common Stock

Holders of common stock are entitled to one vote per share on all matters to be voted upon by the stockholders of the Company. Subject to the preferences that may be applicable to any outstanding shares of preferred stock, the holders of common stock are entitled to receive ratably such dividends, if any, as may be declared by the Board of Directors. In accordance with the Private Placement agreements, any payment of dividends must be approved by the holders of at least a majority of the outstanding Series A Preferred Stock. No dividends have been declared to date.

Private Placement

Initial and Second Closings

The initial closing of $10.0 million of units of the Private Placement was completed on April 3, 2009, and the second closing of $5.0 million of units was completed on October 30, 2009. The per unit purchase price, which included a share of Series A convertible preferred stock and a warrant to purchase 10 shares of common stock, was $3.45 for both closings. The warrants have an exercise price of $0.22 per share and a term of seven years from the date of issuance. The net proceeds from the initial closing were $8.8 million, and net proceeds from the second closing were $4.7 million.

In the initial closing, the Company issued approximately 2.9 million shares of Series A convertible preferred stock, which are initially convertible into approximately 29.0 million shares of common stock and warrants to purchase an aggregate of approximately 29.0 million shares of common stock. In the second closing, the Company issued approximately 1.45 million shares of Series A preferred stock, which are initially convertible into 14.5 million shares of common stock, and warrants to purchase 14.5 million shares of common stock.

Common Equity Closing

Pursuant to the Private Placement, an additional $28.5 million of common stock may be sold in a common equity closing, (i) upon the election of the holders of a majority of the Series A convertible preferred stock issued in the Private Placement prior to a date determined with reference to the Company's cash and investment balance dropping below $2.5 million, or (ii) at the Company's election, subject to the approval of a majority of Series A convertible preferred stockholders and subject to a condition that the Company sells at least $28.5 million of common stock in the common equity closing. In the common equity closing, if completed, the Company would issue approximately 103.6 million shares of common stock at a purchase price of $0.275 per share. If a Series A convertible preferred stock investor declines to participate in the common equity closing, their shares of preferred stock will automatically be converted into shares of the Company's common stock on a basis of one common share for each preferred share outstanding on the date of conversion.

Other Investor Rights

In conjunction with the initial closing of the Private Placement, the investors received a number of additional rights as a result of their convertible preferred stock ownership, including the right to approve any sale of the Company, any issuance of debt or preferred stock and, unless certain conditions are met, any issuance of common stock, other than the second closing and the common equity closing described above. Upon any liquidation, dissolution or winding up of the Company, whether voluntary or involuntary, the holders of the Series A convertible preferred stock have a right to receive proceeds equal to $10.35 (i.e. three times the purchase price of each unit) for each share of Series A convertible preferred stock held, plus all declared and unpaid dividends, in preference to the holders of common stock. A change in control, as defined in the securities purchase agreement, shall be deemed a liquidation, and includes a consolidation or merger with or into any other corporation, or the sale, exclusive license or exclusive partnering of the majority of the Company's assets.

On June 29, 2009, the Private Placement agreements were amended to: (a) clarify that in the event that an investor wishes to sell or transfer their shares of Series A convertible preferred stock, they must transfer all associated rights and obligations with such shares, including the option to participate in the second closing, or the Second Closing Option, and the option to participate in the common equity closing, or the Common Equity Closing Option, and (b) require approval by the Company's board of directors of any transaction that constitutes a "change of control" event that does not already require approval of the board of directors by statute.

As of the initial closing, certain of the investors had the right to designate three of eight members of the Company's board of directors. On October 27, 2009, the Private Placement agreements were amended such that the investors' right to designate five of nine members of the Company's board of directors, which would have otherwise been effective upon the second closing, was deferred until at least January 1, 2010. On March 29, 2010, the Private Placement agreements were amended once more, such that the investors' right to designate additional members of the Company's board of directors was deferred until at least May 1, 2010 (see Note 14). As a result, on May 1, 2010, the Series A convertible preferred stock will become potentially redeemable upon certain events that are outside of the control of the Company, and all Series A convertible preferred stock issued in the Private Placement that is outstanding at that time will be reclassified to mezzanine equity.

Accounting Treatment

On April 3, 2009, the fair values of the four primary components of the Private Placement: (a) the Series A convertible preferred stock, (b) the warrants to purchase common stock, (c) the Second Closing Option, and (d) the Common Equity Closing Option, were computed using the Black-Scholes model. The values were calculated as a series of call options on the potential enterprise value of the Company at different valuation points at which the claims of the different stakeholder groups on the enterprise value would change. On April 3, 2009, the Company determined that the Second Closing Option and Common Equity Closing Option were freestanding instruments, and as a result, their fair values of $7.3 million and $10.2 million were initially recorded as liabilities in the Company's balance sheet. As the total fair value of these two components exceeded the gross proceeds of the initial closing of the Private Placement of $10.0 million, no value was attributed to the Series A convertible preferred stock or warrant components as of this date, and the $7.5 million excess of the fair value of the two closing options over the gross proceeds was recorded as a loss within other income (expense) in the Company's statement of operations.

On June 18, 2009, the Company's stockholders approved an increase in the authorized number of shares of common stock from 100 million to 400 million, subject to an administrative filing with the State of Delaware, which occurred on July 2, 2009. As a result, the Common Equity Closing Option liability was revalued to its fair value of $20.1 million as of June 18, 2009, resulting in a charge for the increase in fair value of $9.9 million, which was recorded within other income (expense) in the Company's statement of operations. The Common Equity Closing Option was then reclassified from a liability to additional paid-in-capital in the Company's balance sheet.

On June 29, 2009, as a result of amendments to the Private Placement agreements, the convertible preferred stock, the Second Closing Option, and the Common Equity Closing Option were extinguished by the issuance of the amended convertible preferred stock instrument. The Second Closing Option liability was revalued upon extinguishment to its fair value of $10.9 million, resulting in a charge to other income (expense) for the increase in fair value of $3.6 million. The convertible preferred stock and Common Equity Closing Option were also revalued upon extinguishment to their fair values of $22.9 million and $23.6 million, respectively, resulting in an aggregate deemed distribution to preferred stockholders of $26.4 million. On June 29, 2009, the amended convertible preferred stock instrument was recorded as convertible preferred stock within stockholders equity, at its fair value of $57.4 million, less transaction costs of $1.2 million.

On October 30, 2009, the $5.0 million of gross proceeds from the second closing was allocated between the convertible preferred stock and warrants issued in the closing on a relative fair value basis, using the Black-Scholes model. The $4.2 million of gross proceeds allocated to the convertible preferred stock was discounted by $1.2 million to account for a beneficial conversion feature, which arose as the effective conversion price of the preferred stock was less than the fair value of the common stock on the date of closing, or commitment date. The discount was written off immediately and recorded as a deemed dividend, which increased the loss applicable to common stockholders in the calculation of basic and diluted net loss per share. The $0.8 million of gross proceeds allocated to the warrants was recorded to additional paid-in capital.

Stock Option Plans

The Company grants options primarily to: (i) new employees, 25% of which becomes exercisable on the first anniversary of the vesting commencement date, and 1/48th becomes exercisable each month over the remainder of the four-year vesting period, (ii) existing employees, 1/48th of which becomes exercisable each month following the date of grant over a period of four years, (iii) new non-employee members of the board of directors, 50% of which becomes exercisable on each of the first and second anniversary of the vesting commencement date, and (iv) continuing non-employee members of the board of directors, 1/12th of which becomes exercisable each month following the date of grant over a period of one year.

2005 Equity Incentive Award Plan

In February 2005, the Board of Directors adopted and, in September 2005, the stockholders approved, the 2005 Equity Incentive Award Plan, or the 2005 Plan. The 2005 Plan is intended to serve as the successor equity incentive program to the 1998 Stock Plan and 2001 Stock Plan. The Company initially reserved a total of 1,779,396 shares of common stock for issuance under the 2005 Plan plus shares underlying any options granted under the Company's 1998 Stock Plan or 2001 Stock Plan that expire unexercised or are repurchased by the Company pursuant to the terms of such options.

The number of shares of common stock reserved under the 2005 Plan automatically increases on the first trading day of each year by an amount equal to the lesser of: (i) 4% of the Company's outstanding shares of common stock on such date, (ii) 1,082,352 shares, or (iii) an amount determined by the Board of Directors. The maximum aggregate number of shares which may be issued or transferred over the term of the 2005 Plan is 11,294,112 shares. In addition, no participant in the 2005 Plan may be issued or transferred more than 235,294 shares of common stock per calendar year.

On January 1, 2009, the number of shares of common stock reserved for future issuance under the 2005 Plan was increased by 1,082,352 shares pursuant to the evergreen provision detailed above. Options to purchase 4,105,000 shares of the Company's common stock were granted under the 2005 Plan during the year ended December 31, 2009. As of December 31, 2009, options and awards for an aggregate of 8,586,748 shares of the Company's common stock had been granted and 1,143,531 shares were available for future grants under the 2005 Plan.

2006 Employment Commencement Incentive Plan

In November 2005, the Board of Directors adopted the 2006 Employment Commencement Incentive Plan, or the 2006 Plan, which became effective on January 1, 2006. Awards granted pursuant to the 2006 Plan are intended to be inducement awards pursuant to Nasdaq Marketplace Rule 4350(i)(1)(A)(iv). The 2006 Plan was not subject to the approval of the Company's stockholders. Eligibility to participate in the 2006 Plan is limited to employees who have not previously been employees or directors of the Company, or following a bona fide period of non-employment by the Company. Additionally, grants awarded to such employees under the 2006 Plan must be made in connection with commencement of employment and must be an inducement material to the person entering into employment with the Company.

Effective January 1, 2009, the Board of Directors approved an amendment to increase the number of shares of common stock reserved for issuance under the 2006 Plan by 100,000 shares. No options were granted under the 2006 Plan during the year ended December 31, 2009. As of December 31, 2009, options to purchase an aggregate of 553,000 shares of the Company's common stock had been granted and 467,000 shares were available for future grants under the 2006 Plan.

Employee Stock Purchase Plan

In February 2005, the Board of Directors adopted and, in September 2005, the stockholders approved the Company's Employee Stock Purchase Plan, or ESPP. The ESPP permits eligible employees to purchase common stock at a discount through payroll deductions during defined offering periods. Eligible employees can purchase shares of the Company's common stock at 85% of the lower of the fair market value of the common stock at the beginning of a 12-month offering period or at the end of one of the two related 6-month purchase periods. The Company initially reserved a total of 202,941 shares of common stock for issuance under the ESPP.

The number of shares of common stock reserved under the ESPP automatically increases on the first trading day each year, by an amount equal to the lesser of: (i) 0.5% of the Company's outstanding shares of common stock on such date, (ii) 135,294 shares, or (iii) a lesser amount determined by the Board of Directors. The maximum aggregate number of shares which may be issued over the term of the ESPP is 1,352,941 shares. In addition, no participant in the ESPP may be issued or transferred shares of common stock valued at more than $25,000 per calendar year and no participant may purchase more than 1,176 shares during any purchase period.

A total of 18,816 shares were issued under the ESPP during the year ended December 31, 2009. As of December 31, 2009, 312,154 shares of the Company's common stock had been issued and 233,637 shares were available for future issuance under the ESPP.

Warrants

The Company has the following warrants to purchase common stock outstanding as of December 31, 2009:

	Shares	Exercise Price	Expiration
	41,176	$17.00	May 2010
	256,740	$ 9.10	July 2010
	1,046	$ 9.10	September 2015
	164,830	$ 9.10	August 2015
	1,582	$ 9.10	June 2013
	757	$ 9.10	June 2014
	2,173,914	$ 6.21	March 2013
	26,986,440	$ 0.22	April 2016
	14,492,680	$ 0.22	October 2016
Total warrants outstanding	44,119,165		

Reserved Shares

As of December 31, 2009, the Company's shares of common stock reserved for future issuance were as follows:

	Shares Available for Future Grant	Outstanding Securities	Total Shares Reserved
Convertible preferred stock, as-if converted	—	43,478,120	43,478,120
Warrants	—	44,119,165	44,119,165
Stock option plans	1,610,531	6,407,309	8,017,840
Employee stock purchase plan	233,637	—	233,637
Total reserved shares of common stock	1,844,168	94,004,594	95,848,762

11. Stock-Based Compensation

Overview

Employee stock-based compensation expense is calculated based on the grant-date fair value of awards ultimately expected to vest, reduced for estimated forfeitures, and is recorded on a straight-line basis over the vesting period of the awards. Forfeitures are estimated at the time of grant, based on historical option cancellation information, and revised in subsequent periods if actual forfeitures differ from those estimates. Employee stock-based compensation expense related to the Company's stock-based awards was as follows for the periods presented:

	Year ended December 31,		
	2009	2008	2007
Research and development	$ 226,568	$ 644,549	$1,322,656
General and administrative	1,084,377	1,265,379	1,863,999
Restructuring charges	—	366,637	126,456
Total employee stock-based compensation expense	$1,310,945	$2,276,565	$3,313,111

Fair Value of Awards

The Company determines the fair value of stock-based awards on the grant date using the Black-Scholes model, which is impacted by the Company's stock price, as well as assumptions regarding a number of highly subjective variables. The following table summarizes the weighted-average assumptions used as inputs to the Black-Scholes model, and resulting weighted-average and total estimated grant date fair values of employee stock options granted during the periods presented:

	Year Ended December 31,		
Stock Option Plans	**2009**	**2008**	**2007**
Assumptions:			
Expected term (years)	4.5	5.0	5.0
Expected volatility	86.7%	72.4%	68.5%
Risk-free interest rate	1.9%	3.3%	4.3%
Dividend yield	0.0%	0.0%	0.0%
Fair value:			
Weighted-average grant date fair value per share	$ 0.31	$ 0.89	$ 1.76
Options granted to employees	4,050,000	849,225	1,571,000
Total estimated grant date fair value	$1.3 million	$0.8 million	$2.8 million

The estimated fair value of stock options that vested in the years ended December 31, 2009, 2008 and 2007, was $1.2 million, $2.2 million and $2.5 million, respectively.

Purchase rights for 18,816, 44,802 and 102,904 shares were granted under the ESPP during the years ended December 31, 2009, 2008 and 2007, respectively. The weighted-average estimated fair value of purchase rights granted under the ESPP for the years ended December 31, 2009, 2008 and 2007 was $0.32, $1.09 and $1.65 per share, respectively, using the Black-Scholes model with the following weighted-average assumptions:

	Year Ended December 31,		
Employee Stock Purchase Plan	**2009**	**2008**	**2007**
Expected term (years)	0.5 – 1.0	0.5 – 1.0	0.5 – 1.0
Expected volatility	157.0%	93.4%	68.5%
Risk-free interest rate	1.1%	0.4% – 5.1%	3.2% – 5.1%
Dividend yield	0.0%	0.0%	0.0%

For employee stock options, the Company based its assumptions for the expected term on historical cancellation and exercise data, and the contractual term and vesting terms of the awards. Expected volatility is based on historical volatility of the Company's common stock, as well as that for a mature peer group of companies in the same industry. For employee purchase rights under the ESPP, the expected term is equal to the purchase period. The risk-free interest rate assumptions are based upon observed interest rates appropriate for the expected life of the Company's employee stock options and employee purchase rights. The Company does not anticipate paying any cash dividends in the foreseeable future, and therefore uses an expected dividend yield of zero.

Option Plan Activity

The following table summarizes stock option activity for the Company's stock option plans in the periods presented:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2006	3,942,435	$4.30		
Options granted	1,636,750	$3.04		
Options exercised	(68,813)	$2.34		
Options canceled/forfeited/expired	(410,525)	$4.78		
Outstanding as of December 31, 2007	5,099,847	$3.83		
Options granted	874,225	$1.75		
Options canceled/forfeited/expired	(1,323,117)	$3.64		
Outstanding as of December 31, 2008	4,650,955	$3.44		
Options granted	4,105,000	$0.47		
Options exercised	(4,557)	$1.44		
Options canceled/forfeited/expired	(2,344,089)	$3.18		
Outstanding as of December 31, 2009	6,407,309	$1.64	8.23	$2,358,200
Vested and expected to vest as of December 31, 2009	5,895,963	$1.73	8.11	$2,077,443
Exercisable as of December 31, 2009	2,454,203	$3.12	6.28	$ 315,483

The aggregate intrinsic value in the table above represents the total pre-tax intrinsic value (i.e., the difference between the Company's closing stock price on the last trading day of the period and the exercise price, multiplied by the number of in-the-money options) that would have been received by option holders if they had exercised all their options on December 31, 2009.

The intrinsic value of options exercised during the years ended December 31, 2009, 2008 and 2007 was $1,000, $0 and $0.1 million, respectively. As the Company believes it is more likely than not that no stock option related tax benefits will be realized, the Company does not record any net tax benefits related to exercised options.

Total estimated unrecognized stock-based compensation cost related to unvested stock options was $3.0 million as of December 31, 2009, which is expected to be recognized over the respective vesting terms of each award. The weighted average term of the unrecognized stock-based compensation expense is 2.9 years.

12. Income Taxes

No provision for U.S. income taxes exists in the periods presented due to tax losses incurred in each period. The income tax provision differs from the amount computed by applying the statutory income tax rate of 34% to pre-tax loss as follows:

	Year Ended December 31,		
	2009	2008	2007
Tax at statutory rate	$(13,676,582)	$(12,642,344)	$(13,178,440)
Current year net operating losses and temporary differences for which no tax benefit is recognized	6,340,457	12,223,875	12,415,146
Non-cash expense related to Private Placement	7,145,779	—	—
Other permanent differences	190,346	418,469	763,294
Provision for income taxes	$ —	$ —	$ —

Deferred income taxes reflect the net tax effects of loss and credit carry-forwards and 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 for federal and state income taxes are as follows:

	December 31,	
	2009	2008
Deferred tax assets:		
Net operating loss carry-forwards	$ 87,303,000	$ 74,711,000
Federal and state research credit carry-forwards	8,852,000	8,328,000
Capitalized research costs	5,181,000	8,649,000
Property and equipment	181,000	1,966,000
Accrued liabilities	1,857,000	2,026,000
Gross deferred tax assets	103,374,000	95,680,000
Valuation allowance	(103,374,000)	(95,680,000)
Net deferred tax assets	$ —	$ —

Realization of the deferred tax assets is dependent upon future taxable income, if any, the amount and timing of which are uncertain. Accordingly, the net deferred tax assets have been fully offset by a valuation allowance. The net valuation allowance increased by approximately $7.7 million, $15.0 million and $16.2 million during the years ended December 31, 2009, 2008 and 2007, respectively.

As of December 31, 2009, the Company had federal net operating loss carry-forwards of $233.2 million and federal research and development tax credit carry-forwards of $5.3 million. If not utilized, the federal net operating loss and tax credit carry-forwards will expire at various dates beginning in 2018. As of December 31, 2009, the Company had state net operating loss carry-forwards of $133.8 million, which expire beginning in 2012, and state research and development tax credit carry-forwards of $5.2 million, which do not expire.

Utilization of these net operating loss and tax credits carry-forwards may be subject to a substantial annual limitation due to the ownership change rules under Section 382 of the Internal Revenue Code of 1986, as amended, or The Code. The limitations are applicable if an "ownership change," as defined in The Code, is deemed to have occurred or occurs in the future. The annual limitation may result in the expiration of net operating loss and credit carry-forwards before they can be utilized.

The Company adopted the provisions of ASC Topic 740, previously referred to as FASB Interpretation No. 48, *Accounting for Uncertainty in Income Taxes—an interpretation of FASB Statement No. 109*, on January 1, 2007. ASC Topic 740 provides guidance on the recognition, measurement, classification and interest and penalties related to uncertain tax positions. In accordance with ASC Topic 740, the Company determines whether it is "more likely than not" that a tax position will be sustained upon examination by the appropriate taxing authorities before any tax benefit is recognized in the financial statements. As of December 31, 2009 and 2008, the Company had no unrecognized tax benefits.

The Company files U.S. federal and California tax returns. The Company's wholly owned subsidiary files tax returns in the United Kingdom. To date, neither the Company nor its wholly owned subsidiary has been audited by the Internal Revenue Service, any state income tax authority or tax authority in the United Kingdom. Due to net operating loss carry-forwards, substantially all of the Company's tax years remain open to federal tax examination. The tax return for California is subject to a four year statute of limitations.

13. Guarantees and Indemnification

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 officer and director 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. In addition, in the ordinary course of business the Company enters into agreements, such as licensing agreements, clinical trial agreements and certain services agreements, containing standard indemnifications provisions. The Company believes that the likelihood of an adverse judgment related to such indemnification provisions is remote. Accordingly, the Company has not recorded any liabilities for any of these agreements as of December 31, 2009.

14. Subsequent Events

On January 20, 2010, the Company entered into a controlled equity offering sales agreement with Cantor Fitzgerald & Co., or Cantor, pursuant to which the Company could issue and sell shares of its common stock having an aggregate offering price of up to $15.0 million from time to time through Cantor acting as agent and/or principal. The Company agreed to pay Cantor a commission of between 3% and 5% of the gross proceeds from each sale. As of March 31, 2010, the Company had sold an aggregate of 15,870,050 shares of common stock at an average price of approximately $0.95 per share for gross proceeds of the full 15.0 million available under the facility. Net proceeds were $14.2 million after deducting Cantor's commission and costs to set up the facility.

On January 1, 2010, due to amendments to the Private Placement agreements effected on October 27, 2009, the investors in the Private Placement received the right to designate five of nine members of the Company's board of directors. As a result, on January 1, 2010, the Series A convertible preferred stock became potentially redeemable upon certain events that are outside of the control of the Company, and all Series A convertible preferred stock issued in the Private Placement that was outstanding at that time was reclassified to mezzanine equity, outside of stockholders' equity. On March 29, 2010, the Private Placement agreements were amended once more, such that the investors' right to designate additional members of the Company's board of directors was deferred until at least May 1, 2010. As a result, on March 29, 2010, the Series A convertible preferred stock was reclassified back into stockholders' equity.

15. Selected Quarterly Financial Data (unaudited)

	Three Months Ended							
	Mar. 31, 2009	June 30, 2009	Sep. 30, 2009	Dec. 31, 2009	Mar. 31, 2008	June 30, 2008	Sep. 30, 2008	Dec. 31, 2008
Revenue	$ 224,047	$ 3,512,500	$ 12,500	$ 12,500	$ 2,303,183	$ 2,591,240	$ 510,417	$ 12,500
Net loss	$ (8,363,436)	$(22,878,464)	$ (4,949,074)	$ (4,035,072)	$ (9,624,905)	$(13,568,418)	$ (7,065,172)	$ (6,927,132)
Deemed distribution to preferred stockholders	$ —	$(26,375,000)	$ —	$ (1,188,400)	$ —	$ —	$ —	$ —
Loss attributable to common stockholders	$ (8,363,436)	$(49,253,464)	$ (4,949,074)	$ (5,223,472)	$ (9,624,905)	$(13,568,418)	$ (7,065,172)	$ (6,927,132)
Basic and diluted loss attributable to common stockholders per common share	$ (0.24)	$ (1.43)	$ (0.14)	$ (0.15)	$ (0.28)	$ (0.39)	$ (0.21)	$ (0.20)
Shares used in computing basic and diluted loss attributable to common stockholders per common share	34,409,768	34,412,870	34,419,185	34,678,757	34,364,896	34,377,367	34,401,519	34,404,578

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

Not applicable.

ITEM 9A(T). *CONTROLS AND PROCEDURES*

Disclosure Controls and Procedures

Based on their evaluation as of December 31, 2008, our Chief Executive Officer and Chief Financial Officer, with the participation of management, have concluded that, subject to the limitations described below, our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act) were effective at the reasonable assurance level.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act. 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 in the United States.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2009. Management based its assessment on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control—Integrated Framework*. Based on this evaluation, our management concluded that as of December 31, 2009, our internal control over financial reporting was effective.

The Company's internal control over financial reporting was not subject to attestation by the Company's registered public accounting firm pursuant to temporary rules of the Securities and Exchange Commission that permit the Company to provide only management's report in this annual report.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2009 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls

Our disclosure controls and procedures provide our Chief Executive Officer and Chief Financial Officer with only reasonable assurances that our disclosure controls and procedures will achieve their objectives. However, our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting can or will prevent all human error. A control system, no matter how well designed and implemented, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Furthermore, the design of a control system must reflect the fact that there are internal resource constraints, and the benefit of controls must be weighed relative to their corresponding costs. Because of the limitations in all control systems, no evaluation of controls can provide complete assurance that all control issues and instances of error, if any, within our company are detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and

that breakdowns can occur due to human error or mistake. Additionally, controls, no matter how well designed, could be circumvented by the individual acts of specific persons within the organization. The design of any system of controls is also based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated objectives under all potential future conditions.

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

None.

PART III

Certain information required by Part III is omitted from this report because we will file with the SEC a definitive proxy statement pursuant to Regulation 14A (the "Proxy Statement") not later than 120 days after the year ended December 31, 2009, and certain information included therein is incorporated herein by reference.

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

Identification of Directors

Information responsive to this item is incorporated herein by reference to our definitive Proxy Statement.

Identification of Executive Officers

Information responsive to this item is incorporated herein by reference to our definitive Proxy Statement.

Identification of Audit Committee and Financial Expert

Information responsive to this item is incorporated herein by reference to our definitive Proxy Statement.

Material Changes to Procedures for Recommending Directors

Information responsive to this item is incorporated herein by reference to our definitive Proxy Statement.

Compliance with Section 16(a) of the Exchange Act

Information responsive to this item is incorporated herein by reference to our definitive Proxy Statement.

Code of Business Conduct & Ethics

We have adopted a Code of Business Conduct & Ethics which applies to all of our directors, officers and employees. A copy of our Code of Business Conduct & Ethics can be found on our website, www.sunesis.com, in the section titled *"Investors and Media"* under the subsection titled *"Corporate Governance."* Information found on our website is not incorporated by reference into this report. In addition, we intend to promptly disclose (1) the nature of any amendment to our Code of Business Conduct & Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or persons performing similar functions and (2) the nature of any waiver, including an implicit waiver, from a provision of our Code of Business Conduct & Ethics that is granted to one of these specified officers, the name of such person who is granted the waiver and the date of the waiver on our website in the future.

All additional information required by this Item 10 will be set forth in our definitive Proxy Statement and is incorporated in this report by reference.

ITEM 11. *EXECUTIVE COMPENSATION*

Information responsive to this item is incorporated herein by reference to our definitive Proxy Statement.

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

Ownership of Sunesis Securities

Information responsive to this item is incorporated herein by reference to our definitive Proxy Statement.

Equity Compensation Plan Information

The following table provides certain information with respect to our equity compensation plans in effect as of December 31, 2009:

Plan Category	(A) Number of Securities to be Issued upon Exercise of Outstanding Options	(B) Weighted Average Exercise Price of Outstanding Options	(C) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column A)
Equity Compensation Plans Approved by Stockholders(1)	6,249,309(2)	$1.64	1,377,168(3)
Equity Compensation Plans Not Approved by Stockholders(4)	158,000	$1.54	467,000
Total	6,407,309	$1.64	1,844,168

(1) Includes securities issuable under our 2005 Equity Incentive Award Plan, or 2005 Plan, and Employee Stock Purchase Plan, or ESPP.

(2) Excludes purchase rights currently accruing under the ESPP. Offering periods under the ESPP are 12-month periods, which are comprised of two six-month purchase periods. Eligible employees may purchase shares of common stock at a price equal to 85% of the lower of the fair market value of the common stock at the beginning of each offering period or the end of each semi-annual purchase period. Participation is limited to 20% of an employee's eligible compensation, subject to limitations under the Internal Revenue Code.

(3) Includes (i) 1,143,531 shares of common stock available for issuance under our 2005 Plan and (ii) 233,637 shares of common stock available for issuance under our ESPP. Beginning in 2006, the number of shares of common stock reserved under the 2005 Plan automatically increases on the first trading day each year by an amount equal to the lesser of: (i) 4% of the Company's outstanding shares of common stock outstanding on such date, (ii) 1,082,352 shares, or (iii) an amount determined by the Board of Directors. The number of shares of common stock reserved under our ESPP automatically increases on the first trading day each year by an amount equal to the least of: (i) 0.5% of our outstanding shares of common stock outstanding on such date, (ii) 135,294 shares or (iii) a lesser amount determined by our Board of Directors.

(4) Represents our 2006 Employment Commencement Incentive Plan, or 2006 Plan.

The additional information required by this Item 12 concerning our non-stockholder approved equity compensation plans is discussed in the notes to our consolidated financial statements contained in Part II, Item 8 of this report and is incorporated herein by reference. Any other information required by this Item 12 will be set forth in our definitive Proxy Statement and is incorporated in this report by reference.

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

Information responsive to this item is incorporated herein by reference to our definitive Proxy Statement.

ITEM 14. *PRINCIPAL ACCOUNTANT FEES AND SERVICES*

Information responsive to this item is incorporated herein by reference to our definitive Proxy Statement.

PART IV

ITEM 15. *EXHIBITS AND FINANCIAL STATEMENT SCHEDULES*

Exhibits and Financial Statement Schedules:

(a)(1) *Financial Statements*

(a)(2) *Financial Statement Schedules*

All financial statement schedules are omitted because they are not applicable, or the information is included in the financial statements or notes thereto.

(a)(3) *Exhibits*

A list of exhibits filed with this report or incorporated herein by reference is found in the Exhibit Index immediately following the signature page of this report.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, Sunesis Pharmaceuticals, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on March 31, 2010.

SUNESIS PHARMACEUTICALS, INC.

By: /s/ ERIC H. BJERKHOLT
Eric H. Bjerkholt
Senior Vice President, Corporate Development and Finance, Chief Financial Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Daniel N. Swisher, Jr. and Eric H. Bjerkholt, and each of them, as his true and lawful attorneys-in-fact and agents, with full power of substitution for him, and in his name in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, and any of them or his substitute or substitutes, 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 on the dates indicated.

Signature	Title	Date
/s/ JAMES W. YOUNG, PH.D. James W. Young, Ph.D.	Chairman of the Board	March 31, 2010
/s/ DANIEL N. SWISHER, JR. Daniel N. Swisher, Jr.	President, Chief Executive Officer and Director *(Principal Executive Officer)*	March 31, 2010
/s/ ERIC H. BJERKHOLT Eric H. Bjerkholt	Senior Vice President, Corporate Development and Finance, Chief Financial Officer *(Principal Financial Officer and Principal Accounting Officer)*	March 31, 2010
/s/ MATTHEW K. FUST Matthew K. Fust	Director	March 31, 2010
/s/ EDWARD HURWITZ Edward Hurwitz	Director	March 31, 2010
/s/ HELEN S. KIM Helen S. Kim	Director	March 31, 2010
/s/ DAYTON MISFELDT Dayton Misfeldt	Director	March 31, 2010
/s/ HOMER L. PEARCE PH.D. Homer L. Pearce Ph.D.	Director	March 31, 2010
/s/ DAVID C. STUMP, M.D. David C. Stump, M.D.	Director	March 31, 2010

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated By Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
3.1	Amended and Restated Certificate of Incorporation of the Registrant	10-K/A	000-51531	3.1	5/23/07	
3.2	Amended and Restated Bylaws of the Registrant	8-K	000-51531	3.2	12/11/07	
3.3	Certificate of Designation of the Series A Preferred Stock of the Registrant	8-K	000-51531	3.3	4/3/09	
3.4	Certificate of Amendment to the Certificate of Designation of the Series A Preferred Stock of the Registrant	8-K	000-51531	3.4	11/2/09	
3.5	Certificate of Amendment to the Certificate of Designation of the Series A Preferred stock of the Registrant	8-K	000-51531	3.5	1/21/10	
4.1	Specimen Common Stock certificate of the Registrant	S-1	333-121646	4.1	12/23/04	
4.2	Investor Rights Agreement, dated April 3, 2009, by and among the Registrant and the purchasers identified on the signature pages thereto	8-K	000-51531	4.1	4/3/09	
10.1*	1998 Stock Plan and Form of Stock Option Agreement	S-1/A	333-121646	10.1	1/27/05	
10.2*	2001 Stock Plan and Form of Stock Option Agreement	S-1	333-121646	10.2	12/23/04	
10.3*	2005 Equity Incentive Award Plan, as amended, and Form of Stock Option Agreement	10-K/A	000-51531	10.3	4/30/09	
10.4*	Employee Stock Purchase Plan and Enrollment Form	10-Q	000-51531	10.4	11/9/06	
10.5*	Form of Indemnification Agreement for directors and executive officers	S-1	333-121646	10.5	12/23/04	
10.6	Reserved					
10.7*	Warrant, dated April 9, 1998, issued to James A. Wells	S-1	333-121646	10.18	12/23/04	
10.8	Warrant, dated December 1, 1999, issued to Three Crowns Capital (Bermuda) Limited	S-1	333-121646	10.19	12/23/04	
10.9	Warrant, dated July 7, 2000, issued to Broadview Ltd. Limited and Amendment No. 1 thereto	S-1	333-121646	10.20	12/23/04	
10.10	Warrant, dated June 11, 2003, issued to General Electric Capital Corporation	S-1	333-121646	10.21	12/23/04	
10.11	Warrant, dated June 21, 2004, issued to General Electric Capital Corporation and Amendment No. 1 thereto, dated December 16, 2004	S-1/A	333-121646	10.22	4/29/05	
10.12	Agreement for Termination of Lease and Voluntary Surrender of Premises, dated as of January 15, 2009, by and between the Registrant and ARE-Technology Center, SSF, LLC	10-K	000-51531	10.13	4/3/09	
10.13†	Collaboration Agreement, dated December 18, 2002, by and between the Registrant and Biogen Idec MA Inc. (successor to Biogen Inc.)	S-1/A	333-121646	10.26	1/27/05	

Exhibit Number	Exhibit Description	Incorporated By Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
10.14†	Amendment No. 1 to Collaboration Agreement, dated June 17, 2003, between the Registrant and Biogen Idec MA Inc.	S-1/A	333-121646	10.27	1/27/05	
10.15†	Amendment No. 2 to Collaboration Agreement, dated September 17, 2003, between the Registrant and Biogen Idec MA Inc.	S-1/A	333-121646	10.28	1/27/05	
10.16†	Collaboration Agreement, dated August 25, 2004, between the Registrant and Biogen Idec, Inc.	S-1/A	333-121646	10.29	4/29/05	
10.17†	License Agreement, dated October 14, 2003, by and between the Registrant and Dainippon Sumitomo Pharma Co., Ltd. (formerly known as Dainippon Pharmaceutical Co., Ltd.)	S-1/A	333-121646	10.36	4/29/05	
10.18	Warrant, dated August 25, 2005, issued to Horizon Technology Funding Company II LLC	S-1/A	333-121646	10.40	9/1/05	
10.19	Warrant, dated August 25, 2005, issued to Horizon Technology Funding Company III LLC	S-1/A	333-121646	10.41	9/1/05	
10.20	Warrant, dated August 25, 2005, issued to Oxford Finance Corporation	S-1/A	333-121646	10.42	9/1/05	
10.21*	Amended and Restated 2006 Employment Commencement Incentive Plan	10-K/A	000-51531	10.32	4/30/09	
10.22	Common Stock and Warrant Purchase Agreement, dated as of March 17, 2006, among the Registrant and the investors listed on the signature pages thereto	8-K	000-51531	10.44	3/22/06	
10.23	Registration Rights Agreement, dated as of March 17, 2006, among the Registrant and the investors listed on the signature pages thereto	8-K	000-51531	10.45	3/22/06	
10.24	Form of Warrant	8-K	000-51531	10.46	3/22/06	
10.25†	Sublease, dated December 22, 2006, by and between the Registrant and Oncology Therapeutics Network Joint Venture, L.P., for office space located at 395 Oyster Point Boulevard, South San Francisco, California	10-K	000-51531	10.47	3/17/08	
10.26*	Consulting Agreement, dated August 17, 2006, by and between the Registrant and Homer L. Pearce, Ph. D.	10-Q	000-51531	10.49	5/9/07	
10.27*	Consulting Agreement, dated September 2, 2006, by and between the Registrant and David C. Stump, M. D.	10-Q	000-51531	10.50	5/9/07	
10.28*	Forms of Stock Option Grant Notice and Stock Option Agreement under the 2005 Equity Incentive Award Plan	8-K	000-51531	10.52	9/19/07	
10.29*	Amended and Restated Executive Severance Benefits Agreement, dated December 23, 2008, by and between the Registrant and Steven B. Ketchum, Ph.D.	10-K	000-51531	10.43	4/3/09	

Exhibit Number	Exhibit Description	Incorporated By Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
10.30*	Second Amended and Restated Executive Severance Benefits Agreement, dated December 24, 2008, by and between Registrant and Daniel N. Swisher, Jr.	10-K	000-51531	10.44	4/3/09	
10.31*	Second Amended and Restated Executive Severance Benefits Agreement, dated December 24, 2008, by and between Registrant and Eric H. Bjerkholt	10-K	000-51531	10.45	4/3/09	
10.32*	Second Amended and Restated Executive Severance Benefits Agreement, dated December 23, 2008, by and between Registrant and James W. Young, Ph.D.	10-K	000-51531	10.46	4/3/09	
10.33*	Second Amended and Restated Executive Severance Benefits Agreement, dated December 24, 2008, by and between Registrant and Valerie L. Pierce	10-K	000-51531	10.47	4/3/09	
10.34*	Forms of Stock Option Grant Notice and Stock Option Agreement for Automatic Grants to Outside Directors under the 2005 Equity Incentive Award Plan	10-Q	000-51531	10.69	11/7/08	
10.35	Reserved					
10.36	Forms of Stock Option Grant Notice and Stock Option Agreement under the Amended and Restated 2006 Employment Commencement Incentive Plan	8-K	000-51531	10.71	12/23/08	
10.37	Intellectual Property Assignment and License Termination Agreement by and between the Registrant and SARcode Corporation, dated March 6, 2009	8-K	000-51531	10.72	3/10/09	
10.38	Form of Amended and Restated Convertible Secured Promissory Notes issued by SARcode Corporation to the Registrant, dated March 6, 2009	8-K	000-51531	10.73	3/10/09	
10.39	Summary of Non-Employee Director Cash Compensation Arrangements	10-K	000-51531	10.59	4/3/09	
10.40	Intellectual Property Assignment and License Agreement, dated March 6, 2009, by and between the Company and SARcode Corporation, and related Exhibit 3.2	8-K	000-51531	10.72, 10.73	3/10/09	
10.41	Securities Purchase Agreement, dated March 31, 2009, by and among the Registrant and the purchasers identified on the signature pages thereto	8-K	000-51531	10.1	4/3/09	
10.42	Form of Warrant to purchase shares of Common Stock	8-K	000-51531	10.2	4/3/09	
10.43*	Sunesis Pharmaceuticals, Inc. Change of Control Payment Plan	10-Q	000-51531	10.62	7/28/09	
10.44*	Sunesis Pharmaceuticals, Inc. 2009 Bonus Program	10-Q	000-51531	10.63	7/28/09	

Exhibit Number	Exhibit Description	Incorporated By Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
10.45	Agreement Regarding Private Placement of Securities of Sunesis Pharmaceuticals, Inc., dated as of June 29, 2009, by and among the Registrant and the investors identified on the signature pages thereto	8-K	000-51531	10.1	7/2/09	
10.46*	Medical benefits arrangement with James W. Young, Ph.D.	10-Q	000-51531	10.65	7/28/09	
10.47	Second Agreement Regarding Private Placement of Securities of Sunesis Pharmaceuticals, Inc., dated as of October 27, 2009, by and among the Registrant and the investors identified on the signature pages thereto	8-K	000-51531	10.66	11/2/09	
10.48	Third Agreement Regarding Private Placement of Securities of Sunesis Pharmaceuticals, Inc., dated as of January 19, 2010, by and among the Registrant and the investors identified on the signature pages thereto	8-K	000-57531	10.67	1/21/10	
21.1	Subsidiaries of the Registrant	10-K	000-51531	21.1	3/17/08	
23.1	Consent of Independent Registered Public Accounting Firm					X
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act					X
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act					X
32.1#	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 13a-14(b) or 15d-14(b) of the Exchange Act					X

* Management contract, compensatory plan or arrangement.

† Portions of the exhibit have been omitted pursuant to a request for confidential treatment. The omitted information has been filed separately with the Securities and Exchange Commission.

In accordance with Item 601(b)(32)(ii) of Regulation S-K and SEC Release Nos. 33-8238 and 34-47986, Final Rule; Management's Reports on Internal Control over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, the Certification furnished in Exhibit 32.1 hereto is deemed to accompany this Form 10-K and will not be filed for purposes of Section 18 of the Exchange Act. Such certification will not be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the registrant specifically incorporates it by reference.

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