

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

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the Securities
Exchange Act of 1934 (Amendment No. __)

Filed by the Registrant
Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to §240.14a-12

ADVENTRX PHARMACEUTICALS, INC.
(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

- Fee paid previously with preliminary materials.
- Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

ADVENTRX PHARMACEUTICALS, INC.
6725 Mesa Ridge Road, Suite 100
San Diego, CA 92121
NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
To Be Held June 3, 2009

The Annual Meeting of Stockholders of ADVENTRX Pharmaceuticals, Inc. (the "Company") will be held on June 3, 2009 at 9:00 a.m. local time at the Company's offices, 6725 Mesa Ridge Road, Suite 100, San Diego, California, USA 92121. The meeting is being held for the following purposes, as more fully described in the accompanying Proxy Statement:

1. To elect six directors to hold office until the next Annual Meeting of Stockholders and until their successors are elected and qualified.
2. To ratify the appointment of J.H. Cohn LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009.
3. To transact such other business as may properly come before the meeting or any adjournments or postponements thereof.

Only stockholders of record at the close of business on April 20, 2009 will be entitled to notice of, and to vote at, the meeting or any adjournments or postponements thereof. A list of stockholders entitled to vote at the meeting will be available for inspection by any stockholder for any purpose relating to the meeting during ordinary business hours at the Company's corporate offices located at 6725 Mesa Ridge Road, Suite 100, San Diego, California, USA 92121 for ten days prior to the meeting, and will also be available for inspection at the meeting.

BY ORDER OF THE BOARD OF DIRECTORS



Brian M. Culley
Chief Business Officer and Senior Vice President

San Diego, CA
April 30, 2009

**IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDERS
MEETING TO BE HELD ON JUNE 3, 2009**

Our proxy statement is enclosed. Financial and other information concerning ADVENTRX Pharmaceuticals, Inc. is contained in the enclosed annual report on Form 10-K for the fiscal year ended December 31, 2008. This notice of annual meeting of stockholders, the accompanying proxy statement, and our annual report for the fiscal year ended December 31, 2008 may also be viewed at <https://www.proxydocs.com/anx>.

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YOUR VOTE IS IMPORTANT!

You are cordially invited to attend the 2009 Annual Meeting of Stockholders. However, to ensure that your shares are represented at the meeting, please submit your proxy or voting instructions by mail, using the return envelope provided. Please see the instructions on the proxy and voting instruction card. Submitting a proxy or voting instructions will not prevent you from attending the meeting and voting in person, if you so desire, but will help the Company secure a quorum and reduce the expense of additional proxy solicitation.

ADVENTRX Pharmaceuticals, Inc.
6725 Mesa Ridge Road, Suite 100
San Diego, CA 92121
(858) 552-0866

PROXY STATEMENT

2009 ANNUAL MEETING OF STOCKHOLDERS

ADVENTRX Pharmaceuticals, Inc. (the "Company") is furnishing this Proxy Statement and the enclosed proxy card in connection with the solicitation of proxies by the Board of Directors of the Company (the "Board") for use at the Annual Meeting of Stockholders to be held on June 3, 2009, at 9:00 a.m. local time, at the Company's offices, 6725 Mesa Ridge Road, Suite 100, San Diego, California, USA 92121, and at any adjournments or postponements thereof (the "Annual Meeting"). These materials are being mailed to stockholders on or about April 30, 2009.

Only holders of record of the Company's common stock as of the close of business on April 20, 2009 (the "Record Date") are entitled to vote at the Annual Meeting. Stockholders who hold shares of the Company in "street name" may vote at the Annual Meeting only if they hold a valid proxy from their broker. As of the Record Date, there were 90,252,572 shares of common stock outstanding.

A majority of the outstanding shares of common stock entitled to vote at the Annual Meeting must be present in person or by proxy in order for there to be a quorum at the Annual Meeting. Stockholders of record who are present at the Annual Meeting in person or by proxy and who abstain from voting, including brokers holding customers' shares of record who cause abstentions to be recorded at the Annual Meeting, will be included in the number of stockholders present at the Annual Meeting for purposes of determining whether a quorum is present.

Each stockholder of record is entitled to one vote at the Annual Meeting for each share of common stock held by such stockholder on the Record Date. Stockholders do not have cumulative voting rights. Stockholders may vote their shares by using the proxy card enclosed with this Proxy Statement. All proxy cards received by the Company that are properly signed and have not been revoked will be voted in accordance with the instructions contained in the proxy cards. If a signed proxy card is received which does not specify a vote or an abstention, the shares represented by that proxy card will be voted for the nominees to the Board listed on the proxy card and in this Proxy Statement and for the ratification of the appointment of J.H. Cohn LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009. The Company is not aware, as of the date hereof, of any matters to be voted upon at the Annual Meeting other than those stated in this Proxy Statement and the accompanying Notice of Annual Meeting of Stockholders. If any other matters are properly brought before the Annual Meeting, the enclosed proxy card gives discretionary authority to the persons named as proxies to vote the shares represented by the proxy card in their discretion.

Under the Company's bylaws, if a quorum exists at the Annual Meeting, the affirmative vote of a majority of the votes cast at the Annual Meeting with respect to each director nominee is required for the election of each director nominee. A properly executed proxy marked "withhold authority to vote" with respect to the election of one or more directors will not be voted with respect to the director or directors indicated, although it will be counted for purposes of determining whether there is a quorum. The affirmative vote of the holders of a majority of the shares represented in person or by proxy and entitled to vote at the Annual Meeting is required to approve the ratification of the appointment of J.H. Cohn LLP. A properly executed proxy marked "Abstain" with respect to such matter will not be voted, although it will be counted for purposes of determining whether there is a quorum. Accordingly, a withhold of authority or an abstention will have the effect of a negative vote.

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For shares held in “street name” through a broker or other nominee, the broker or nominee may not be permitted to exercise voting discretion with respect to some of the matters to be acted upon. Thus, if stockholders do not give their broker or other nominee specific instructions, their shares may not be voted on those matters for which specific instructions are required and their shares will not be counted in determining the number of shares necessary for approval. Shares represented by such “broker non-votes” will, however, be counted in determining whether there is a quorum.

A stockholder of record may revoke a proxy at any time before it is voted at the Annual Meeting by (a) delivering a proxy revocation or another duly executed proxy bearing a later date to ADVENTRX Pharmaceuticals, Attn: Secretary, 6725 Mesa Ridge Road, Suite 100, San Diego, CA 92121 or (b) attending the Annual Meeting and voting in person. Attendance at the Annual Meeting will not revoke a proxy unless the stockholder actually votes in person at the Annual Meeting.

The proxy card accompanying this Proxy Statement is solicited by the Board. The Company will pay all of the costs of soliciting proxies. In addition to solicitation by mail, officers, directors and employees of the Company may solicit proxies personally, or by telephone, without receiving additional compensation. Although the Company has not yet done so, it may retain a firm to assist in the solicitation of proxies in connection with the Annual Meeting. The Company would pay such firm, if any, customary fees, expected to be no more than \$15,000, plus expenses. The Company, if requested, will also reimburse brokers, banks and other fiduciaries who hold shares for beneficial owners for their reasonable out-of-pocket expenses incurred in connection with forwarding these materials to the beneficial owners.

BOARD OF DIRECTORS

The name, age and year in which the term expires of each member of the Board is set forth below:

Name	Age	Position(s)	Term Expires on the Annual Meeting Held in the Year
Mark N.K. Bagnall	52	Director	2009
Alexander J. Denner	39	Compensation Committee	2009
Michael M. Goldberg	50	Audit Committee and Compensation Committee (chair)	2009
Jack Lief	63	Chair of the Board, Audit Committee (chair) and Compensation Committee	2009
Mark J. Pykett	45	Audit Committee and Nominating & Governance Committee (chair)	2009
Eric K. Rowinsky	52	Nominating & Governance Committee and Research & Development Committee (chair)	2009

At the Annual Meeting, the stockholders will vote on the election of six directors to serve until the annual meeting of stockholders in 2010 and until their successors are elected and qualified. The Company’s bylaws allow the authorized number of directors to be not less than three or more than nine; currently, the size of the Board is set at six. Proxies may not be voted for a greater number of persons than the number of nominees named.

NOMINEES FOR ELECTION TO THE BOARD

The following individuals have been nominated for re-election to the Board:

Mark N.K. Bagnall, C.P.A. Mr. Bagnall has served as a director since February 2004. Mr. Bagnall currently serves as chief financial officer of ProGenTech Limited, a life science and molecular diagnostics company committed to developing next generation instrumentation for nucleic acid and protein purification and molecular diagnostic testing, a position he has held since March 2009. Mr. Bagnall has held senior management positions in the biotechnology industry for over 20 years. During his time in the industry, he has held positions in both finance and business development and has managed equity and debt financings, corporate partnering and licensing deals and mergers and acquisitions transactions. From April 2008 to December 2008, Mr. Bagnall served as the Company's chief financial officer, executive vice president and treasurer, and from November 2008 to December 2008, he served as interim principal executive officer. Since December 2008, he has served as a consultant to the Company, and since February 2009, he has served as the Company's interim principal financial and accounting officer. From June 2000 to June 2007, Mr. Bagnall served as senior vice president and chief finance and operations officer of Metabolex, Inc., a biotechnology company dedicated to the discovery and development of novel therapeutics for diabetes and related metabolic disorders. Prior to joining Metabolex, Mr. Bagnall held the top financial position at four life science companies: Metrika, Inc., a privately held diagnostics company, and three publicly held biotechnology companies, Progenitor, Inc., Somatix Therapy Corporation, and Hana Biologics, Inc. Mr. Bagnall is a director of VIA Pharmaceuticals, Inc., a publicly held biotechnology company focused on the development of compounds for the treatment of cardiovascular disease. In addition, he is a co-founder and director of the Association of Bioscience Financial Officers, an international organization of life science finance professionals. Mr. Bagnall received his B.S. in Business Administration from the University of California at Berkeley, Haas School of Business and is a Certified Public Accountant.

Alexander J. Denner, Ph.D. Dr. Denner has served as a director since October 2006. Dr. Denner currently serves as managing director of entities affiliated with Carl C. Icahn, including Icahn Partners, Icahn Master, Icahn Master II and Icahn Master III. Icahn Partners, Icahn Master, Icahn Master II and Icahn Master III are private investment funds. Dr. Denner has served in this position since August 2006. From April 2005 to May 2006, Dr. Denner served as a portfolio manager specializing in healthcare investments for Viking Global Investors. Previously, he served in a variety of roles at Morgan Stanley, beginning in 1996, including as portfolio manager of healthcare and biotechnology mutual funds. Dr. Denner was the chairman of the executive committee of ImClone Systems Incorporated, a publicly held biopharmaceutical company, and a director from April 2006 until the company was purchased in November 2008. Dr. Denner received his S.B. degree from the Massachusetts Institute of Technology and his M.S., M.Phil. and Ph.D. degrees from Yale University. Dr. Denner was nominated by, among others, entities affiliated with Carl C. Icahn. Information regarding the arrangement by which Dr. Denner was selected as a director is located below under "Director Nominations."

Michael M. Goldberg, M.D. Dr. Goldberg has served as a director since January 2004. Dr. Goldberg currently is a managing partner of Montaur Capital Partners, an investment firm, a position he has held since January 2007. From August 1990 to January 2007, Dr. Goldberg was chairman and chief executive officer of Emisphere Technologies, Inc., a biopharmaceutical company. Prior to this, Dr. Goldberg was a vice president for The First Boston Corporation, where he was a founding member of the Healthcare Banking Group. He received a B.S. from Rensselaer Polytechnic Institute, an M.D. from Albany Medical College of Union University and an M.B.A. from Columbia University Graduate School of Business.

Jack Lief. Mr. Lief has served as a director since September 2006 and as chair of the Board since May 2007. Mr. Lief is a co-founder and since April 1997 has served as president, chief executive officer and a director of Arena Pharmaceuticals, Inc., a publicly held clinical-stage biopharmaceutical company focused on the discovery, development and commercialization of small molecule drugs targeting G protein-coupled receptors. From 1995 to April 1997, Mr. Lief served as an advisor and consultant to numerous biopharmaceutical organizations. From 1989 to 1994, Mr. Lief served as senior vice president, corporate development and secretary of Cephalon, Inc., a biopharmaceutical company. From 1983 to 1989, Mr. Lief served as director of business development and strategic planning for Alpha Therapeutic Corporation, a manufacturer of biological products. Mr. Lief joined Abbott Laboratories, a pharmaceutical company, in 1972, where he served until 1983, most recently as the head of international marketing research. Mr. Lief is a director of Accumetrics, Inc., a developer and marketer of diagnostic tests, ReqMed Company, Ltd., a provider of partnering opportunities, R&D strategies and bio-venture funding, and TaiGen Biotechnology Co., Ltd., a biotechnology company. Mr. Lief is also an executive board member of BIOCOM, a life science industry association representing more than 450 member companies in San Diego and Southern California, and he was the chairman of BIOCOM from March 2005 to March 2006. Mr. Lief holds a B.A. from Rutgers University and an M.S. in Psychology (Experimental and Neurobiology) from Lehigh University.

Mark J. Pykett, Ph.D., M.B.A., V.M.D. Dr. Pykett has served as a director since February 2004. Dr. Pykett currently is president and chief operating officer of Alseres Pharmaceuticals, Inc. (formerly Boston Life Sciences, Inc.), positions he has held since November 2004. From May 1996 until April 2003, Dr. Pykett served as president and chief executive officer and a director of Cytomatrix, LLC, a privately held biotechnology company focused on the research, development and commercialization of novel cell-based therapies that Dr. Pykett co-founded. Cytomatrix was acquired by Cordlife, Pte. Ltd., a subsidiary of CyGenics Ltd., a publicly held biotechnology company listed on the Australian Stock Exchange. From April 2003 to February 2004, Dr. Pykett served as president of Cordlife and then as president and director of CyGenics from February 2004 until November 2004. In addition, Dr. Pykett served as a director of Cordlife from April 2003 through November 2005 and a director of Oramax, LLC, a development stage dental implant company developing biomaterials for dental prostheses, from 2000 through 2006. Dr. Pykett graduated Phi Beta Kappa, Summa Cum Laude from Amherst College, holds a veterinary degree, Phi Zeta, Summa Cum Laude, a doctorate in molecular biology from the University of Pennsylvania, and received an M.B.A., Beta Gamma Sigma, from Northeastern University. He completed post-doctoral fellowships at the University of Pennsylvania and Harvard University. Dr. Pykett held an adjunct faculty position at the Harvard School of Public Health from 1997 to 2004.

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Eric K. Rowinsky, M.D. Dr. Rowinsky has served as a director since February 2008. Dr. Rowinsky currently is chief medical officer, a position he has held since February 2005, and executive vice president, a position he has held since December 2007, of ImClone Systems Incorporated, a wholly-owned subsidiary of Eli Lilly and Company. Dr. Rowinsky held the position of director of the Institute of Drug Development (“IDD”) at the Cancer Therapy and Research Center from 2002 to 2004 and was the director of clinical research at the IDD from 1996 to 2002. In addition, he held the SBC Endowed Chair for Early Drug Development at the IDD. From 1996 to 2006, Dr. Rowinsky was also a clinical professor of medicine (division of medical oncology) at the University of Texas Health Science Center, San Antonio, Texas. Dr. Rowinsky also served as an associate professor of oncology at Johns Hopkins University from 1988 until 1996. He served on the Board of Scientific Counselors of the National Cancer Institute from 2004 to 2007. Dr. Rowinsky received a B.A. degree from New York University and an M.D. degree from the Vanderbilt University School of Medicine. Following his residency in internal medicine, he completed fellowship training in medical oncology at the Johns Hopkins University School of Medicine.

There are no family relationships among any of the Company’s directors or executive officers.

CORPORATE GOVERNANCE

During 2008, the Board met seventeen times, the audit committee met seven times and action was taken by unanimous written consent once, the compensation committee met seven times, the nominating and governance committee met three times and action was taken by unanimous written consent once and the research and development committee met three times. During 2008, each member of the Board nominated for re-election attended 75% or more of the aggregate of (i) the total number of Board meetings held during the period of such member’s service and (ii) the total number of meetings of committees on which such member served, during the period of such member’s service, except that Dr. Goldberg attended five, or approximately 71%, of the total number of audit committee meetings held during 2008. The Company encourages all directors to attend its annual Stockholder meetings. Messrs. Bagnall, Levine and Lief attended the Company’s 2008 annual meeting of stockholders.

Director Independence

The Board has determined that Dr. Denner, Dr. Goldberg, Mr. Lief, Dr. Pykett and Dr. Rowinsky are “independent” under the rules of the NYSE Amex (formerly, the American Stock Exchange). Before his employment by the Company in April 2008, Mr. Bagnall was also “independent” under the rules of the NYSE Amex. Under applicable rules of the NYSE Amex and the Securities and Exchange Commission (the “SEC”), the existence of certain transactions above certain thresholds between a director and the Company are required to be disclosed and preclude a finding by the Board that the director is independent. In addition to transactions required to be disclosed under these NYSE Amex and SEC rules, in making its independence determination with respect to Dr. Denner, the Board considered Dr. Denner’s position with entities affiliated with Mr. Icahn and such entities’ (a) ownership position in the Company and (b) rights under that certain Rights Agreement, dated July 27, 2005, as amended (the “Rights Agreement”), pursuant to which such entities, along with others, are, among other things, entitled to participate in future sales by the Company of additional securities and cause the Board to nominate a Board nominee selected by them. After considering these relationships and transactions, the Board concluded that they did not interfere with Dr. Denner’s ability to exercise independent judgment in carrying out his responsibilities as a member of the Board.

Board Committees

The Board currently has standing audit, compensation and nominating and governance committees. In February 2008, the Board created a research and development committee.

Audit Committee. The audit committee currently consists of Mr. Lief (chair), Dr. Goldberg and Dr. Pykett. During 2008 until his employment by the Company in April 2008, Mr. Bagnall served as a member and chair of the audit committee. The Board has determined that all members of the audit committee are independent directors and meet the eligibility standards for audit committee service under the rules of the NYSE Amex. The Board has determined that Mr. Lief qualifies as an “audit committee financial expert” as defined by the rules of the SEC. The purpose of the audit committee is to oversee the accounting and financial reporting processes of the Company and audits of its financial statements. The responsibilities of the audit committee include appointing and providing for the compensation of the independent accountants to conduct the annual audit of the Company’s accounts, reviewing the scope and results of the independent audits, reviewing and evaluating internal accounting policies, and approving all professional services to be provided to the Company by its independent accountants. The audit committee is governed by a written charter approved by the Board.

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Compensation Committee. The compensation committee currently consists of Dr. Goldberg (chair), Dr. Denner and Mr. Lief. During 2008 until May 2008, Dr. Pykett served as a member of the compensation committee. The Board has determined that all members of the compensation committee are independent directors under the rules of the NYSE Amex. The compensation committee administers the Company's benefit plans, reviews, approves and administers all compensation arrangements for executives, and establishes and reviews general policies relating to the compensation and benefits of the Company's executives and other personnel. The compensation committee meets several times a year and consults with independent compensation consultants, as it deems appropriate, to review, analyze and set compensation packages for the Company's executives. The compensation committee is governed by a written charter approved by the Board.

Under its charter, the compensation committee has authority to determine the amount and form of compensation paid to the Company's chief executive officer, and to take such action, and to direct the Company to take such action, as is necessary and advisable to compensate the Company's chief executive officer in a manner consistent with its determinations, and shall deliberate and vote on all such actions outside the presence of the Company's chief executive officer. In accordance with its charter, the compensation committee will review at least annually the performance of the Company's chief executive officer, including in light of any goals and objectives established for such performance, and in light of such review determine his or her compensation.

The compensation committee has authority to determine the amount and form of compensation paid to the Company's executives, employees, consultants and advisors and to review the performance of such persons in order to determine appropriate compensation. The compensation committee has authority to take such action, and to direct the Company to take such action, as is necessary and advisable to compensate such persons and to implement such policies and practices in a manner consistent with its determinations. The Committee may delegate its authority on these matters with regard to non-executive employees of the Company to officers and other appropriate supervisory personnel of the Company, subject to applicable law and regulations.

Except with respect to its responsibilities regarding setting compensation for the Company's chief executive officer and the Company's other executives, the compensation committee may delegate its authority to individual members of the compensation committee or other members of the Board. In addition, to the extent permitted by applicable law and regulations, the compensation committee may delegate to one or more officers of the Company (or other appropriate supervisory personnel) the authority to grant stock options, stock appreciation rights, restricted stock units and performance units to employees (who are not officers or members of the Board) of the Company or of any subsidiary of the Company; provided, however that (a) the number of shares of the Company's common stock underlying such options, stock appreciation rights, restricted stock units and performance units are consistent with guidelines previously approved by the compensation committee; (b) the per-share exercise or purchase price of such awards equals the fair market value of the Company's common stock on the date of grant; and (c) the vesting and other terms that apply to such awards are the same terms as apply under the Company's standard form of agreement under the applicable equity compensation plan, provided that such officer(s) may, in such officer(s)' discretion, grant awards that are fully vested on the date of grant of the award or grant awards with more restrictive vesting requirements.

Historically, including in 2008, the Company's chief executive officer reviewed and assessed the performance of the other executive officers for the preceding year in the first quarter of each year and subsequently made recommendations to the compensation committee regarding the amount and form of those officers' compensation packages for the current year. The compensation committee generally gives substantial deference to the chief executive officer's recommendations because the members of that committee generally believe the chief executive officer is in the best position to evaluate the other executive officers' past performance and anticipated contributions. From September 2004 until the end of his employment relationship with the Company in October 2008, the Company's chief executive was Mr. Levine. During the first quarter of 2008, Mr. Levine evaluated the 2007 performance of the Company's other executive officers and, based on those officers' individual performance and anticipated contributions and the Company's 2007 performance and 2008 goals and projections, made recommendations as to 2008 compensation for those executive officers to the compensation committee. The compensation committee took Mr. Levine's recommendations into consideration, according them substantial deference, in setting the executive officers' 2008 compensation.

In February 2007, the compensation committee retained Frederic W. Cook & Co., Inc., a nationally-recognized compensation consulting firm, to provide an independent evaluation of the Company's compensation practices. The compensation committee retained responsibility and authority over the scope of services provided by F.W. Cook and F.W. Cook reported and was responsible to the compensation committee. In connection with retaining F.W. Cook, the compensation committee charged F.W. Cook with, among other things, conducting a competitive assessment of the Company's executive compensation practices, in particular those applicable to the chief executive officer, which included assisting the compensation committee in identifying a peer group of companies against which to evaluate the competitiveness of the Company's executive compensation packages. In February 2007, F.W. Cook completed its analysis of the chief executive officer's compensation and, in May 2007, completed its analysis of the other executive officers' compensation. Other than reviewing with the compensation committee the results of its analysis and providing corresponding written reports, the compensation committee generally did not involve F.W. Cook in its 2007 compensation determinations. In connection with determining 2008 executive compensation, the compensation committee reviewed and evaluated the information previously provided by F.W. Cook and contacted F.W. Cook with certain specific questions, but otherwise did not involve F.W. Cook in its 2008 compensation determinations.

Nominating and Governance Committee. The nominating and governance committee currently consists of Dr. Pykett (chair) and Dr. Rowinsky, each of whom the Board has determined is an independent director under the rules of the NYSE Amex. During 2008 and until May 2008, Dr. Goldberg and Mr. Lief served on the nominating and governance committee. The nominating and governance committee's responsibilities include recommending to the Board nominees for possible election to the Board and providing oversight with respect to corporate governance and succession planning matters. The nominating and governance committee is governed by a written charter approved by the Board.

Research and Development Committee. Currently, the sole member and chair of the research and development committee is Dr. Rowinsky. The research and development committee assists the Board in evaluating the Company's basic scientific and manufacturing research, clinical development and regulatory affairs and the allocation of the Company's resources.

Charters for the Board's audit, compensation and nominating and governance committees, as well as the Company's corporate governance guidelines, are posted on the Company's corporate website at: www.adventrx.com.

DIRECTOR NOMINATIONS

Criteria for Board Membership. In selecting candidates for appointment or re-election to the Board, the nominating and governance committee considers the appropriate balance of experience, skills and characteristics required of the Board, and seeks to insure that at least a majority of the directors are independent under the rules of the NYSE Amex, and that members of the audit committee meet the financial literacy and sophistication requirements under the rules of the NYSE Amex (including that at least one of them qualifies as an "audit committee financial expert" under the rules of the SEC). Nominees for director are selected on the basis of their depth and breadth of experience, wisdom, integrity, ability to make independent analytical inquiries, understanding of the Company's business environment, willingness to devote adequate time to Board duties, the interplay of the nominee's experience and skills with those of other directors and the extent to which the nominee would be a desirable addition to the Board and any committees of the Board.

Stockholder Nominees. Other than under the Rights Agreement, the Company has never received a proposal from a stockholder of the Company to nominate a director. The nominating and governance committee will consider qualified candidates for director suggested by stockholders applying the criteria located above under the caption "Criteria for Board Membership." Any such nominations must be submitted to the nominating and governance committee c/o the secretary of the Company and must include the following information: a statement that the writer is a stockholder of the Company and is proposing a candidate for consideration by the nominating and governance committee; the name, age, business address and residence address of the nominee; a statement of the nominee's business and educational experience; the principal occupation or employment of the nominee; the class and number of shares of the Company that are beneficially owned by the nominee; a detailed description of all relationships, arrangements or understandings between the proposing stockholder and the nominee and any other person or persons (naming such person or persons) pursuant to which the nominations are to be made by the stockholder; a detailed description of all relationships, arrangements or understandings between the nominee and any service-provider, supplier or competitor of the Company; information regarding each of the criteria located above under the caption "Criteria for Board Membership" in sufficient detail to allow the nominating and governance committee to evaluate the nominee; and a statement from the nominee that the nominee is willing to be considered and willing to serve as a director if nominated and elected. The proposing stockholder must also include the following information with respect to such stockholder: the name and address, as they appear on the Company's books, and the class and number of shares of the Company that are beneficially owned. In addition, the Company's bylaws contain provisions which address the process by which a stockholder may nominate an individual to stand for election to the Board at any annual meeting of stockholders. Such nominations may be made only if the stockholder has given timely written notice to the secretary of the Company containing the information required by the Company's bylaws. To be timely, such notice must be received at the Company's principal executive offices not earlier than the 120th day, nor later than the close of business on the 90th day, prior to the first anniversary of the date of the preceding year's annual meeting as first specified in the Company's notice of meeting (without regard to any postponements or adjournments of such meeting after such notice was first sent), except that if no annual meeting was held in the previous year or the date of the annual meeting is more than 30 days earlier or later than such anniversary date, such notice must be received not earlier than the 120th day prior to the date of such annual meeting and not later than the close of business on the later of the 90th day prior to the date of such annual meeting or the 10th day following the date on which public announcement of the date of such meeting is first made by the Company.

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Process for Identifying and Evaluating Nominees. The Board, with advice from the chair of the nominating and governance committee, believes the Company is well-served by its current directors. In the ordinary course, absent special circumstances or a material change in the criteria for Board membership, the nominating and governance committee will re-nominate incumbent directors who continue to be qualified for Board service and are willing to continue as directors. If an incumbent director is not standing for re-election, or if a vacancy on the Board occurs between annual stockholder meetings and the Board determines to fill such vacancy, the nominating and governance committee will seek out potential candidates for Board appointment who meet the criteria for selection as a nominee and have the specific qualities or skills being sought. Director candidates will be selected based on input from members of the Board, senior management of the Company and, if the nominating and governance committee deems appropriate, a third-party search firm. The nominating and governance committee will evaluate each candidate's qualifications and check relevant references; in addition, such candidates will be interviewed by at least one member of the nominating and governance committee. Based on this input, the nominating and governance committee will evaluate which of the prospective candidates is qualified to serve as a director and whether the nominating and governance committee should recommend to the Board that this candidate be appointed to fill a current vacancy on the Board, or presented for the approval of the stockholders, as appropriate.

Board Nominees for the 2009 Annual Meeting. Each of the nominees listed in this Proxy Statement are current directors standing for re-election. Dr. Rowinsky, who was first appointed to the Board in February 2008 and is standing for re-election at the Annual Meeting, was recommended as a nominee by Dr. Denner.

Pursuant to the Rights Agreement, the Company is required to cause the Board to nominate a Board nominee (the "Purchaser Designee") selected by the "Purchasers" who at the time own a majority of the "Purchased Shares." Dr. Denner is the current Purchaser Designee. "Purchasers," as defined in the Rights Agreement, refers to those entities that purchased common stock and warrants of the Company in a private transaction in July 2005. "Purchased Shares," as defined in the Rights Agreement, refers to those shares of common stock outstanding and issuable upon exercise of warrants issued to the Purchasers in connection with July 2005 transaction. The Purchasers' right to select a Purchaser Designee for nomination to the Board shall terminate upon the earlier of (i) July 27, 2012, (ii) the date that the Purchasers' aggregate holdings of Purchased Shares (either of record or beneficially) is, as a result of sales or other dispositions thereof, equal to less than 50% of the aggregate number of shares purchased by the Purchasers in connection with the July 2005 transaction, and (iii) at the time of a change of control of the Company.

Pursuant to that certain Second Amendment to Rights Agreement, dated February 25, 2008 (the "Second Amendment"), the Rights Agreement was amended to allow the Board to increase the authorized number of directors from six to seven if the vacancy created by such action was filled by a majority of the Board directors then in office, which majority must include the Purchaser Designee (as defined in the Rights Agreement), if any; provided that, if at any time there are seven members of the Board and one of such members is removed, resigns, retires or dies and the Purchaser Designee, if any, does not approve a successor, the Company will do those things reasonably necessary and within its control to, as soon as reasonably practicable after the effective date of such removal, resignation, retirement or death, set the authorized number of Board directors at six. The Second Amendment confirmed that Dr. Denner, and not Dr. Rowinsky, is the Purchaser Designee. Following the resignation of Evan M. Levine as a member of the Board in December 2008, the Board set the authorized number of directors constituting the Board at six.

COMMUNICATIONS WITH DIRECTORS

Stockholders who wish to communicate with the Company's directors to report complaints or concerns related to accounting, internal accounting controls or auditing may do so using the audit committee's procedures for the receipt of such communications. These procedures allow submitting the complaint or concern telephonically as set forth in the Company's Code of Business Conduct and Ethics, which is available on the Company's website at www.adventrx.com.

If any stockholder of the Company wishes to address questions regarding the business affairs of the Company directly to the Board, or any individual director, the stockholder must submit the inquiry in writing to: ADVENTRX Pharmaceuticals, Inc., Attn: Investor Relations, 6725 Mesa Ridge Road, Suite 100, San Diego, CA 92121. Stockholders of the Company should indicate they are a stockholder of the Company. Depending on the subject matter, investor relations will (alone or in concert with other personnel of the Company, as appropriate): forward the inquiry to the chair of the Board, who may forward the inquiry to a particular director if the inquiry is directed towards a particular director; forward the inquiry to the appropriate personnel within the Company (for instance, if it is primarily commercial in nature); attempt to handle the inquiry directly (for instance, if it is a request for information about the Company or a stock-related matter); or not forward the inquiry, if it relates to an improper or inappropriate topic or is otherwise irrelevant.

The Company encourages all directors to attend annual stockholder meetings. Messrs. Bagnall, Levine and Lief attended the Company's 2008 annual meeting of stockholders.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth information regarding beneficial ownership of the Company’s common stock as of April 6, 2009 (the “Evaluation Date”), or an earlier date for information based on filings with the SEC, by (a) each person known to the Company to beneficially own more than 5% of the outstanding shares of the Company’s common stock, (b) each director and nominee for director of the Company, (c) each of the named executive officers listed in the compensation tables appearing later in this Proxy Statement and (d) all directors and executive officers of the Company as a group. The information in this table is based solely on statements in filings with the SEC or other reliable information. As of the Evaluation Date, there were 90,252,572 shares of the Company’s common stock outstanding.

Name and Address of Beneficial Owner(1)	Amount and Nature of Beneficial Ownership(2)	Percent of Class
Principal Stockholders		
Funds affiliated with Carl C. Icahn(3) c/o Icahn Associates Corp. 767 Fifth Avenue New York, NY 10153	8,648,648	9.1%
Directors and Named Executive Officers		
Mark N.K. Bagnall(4)	350,000	*
Alexander J. Denner(5)	8,798,648	9.3%
Michael M. Goldberg(6)	226,000	*
Jack Lief(7)	150,000	*
Mark J. Pykett(8)	208,000	*
Eric K. Rowinsky(9)	100,000	*
Brian M. Culley(10)	298,958	*
Patrick L. Keran(11)	138,958	*
Evan M. Levine(12)	4,395,000	4.9%
Greg Hanson	0	*
Joan M. Robbins(13)	156,500	*
All directors and executive officers as a group (10 persons)(14)	10,366,970	10.8%

* Less than 1%.

- (1) Unless otherwise indicated, the address of each of the listed persons is c/o ADVENTRX Pharmaceuticals, Inc., 6725 Mesa Ridge Road, Suite 100, San Diego, CA 92121.
- (2) Beneficial ownership of shares is determined in accordance with the rules of the SEC and generally includes any shares over which a person exercises sole or shared voting or investment power, or of which a person has the right to acquire ownership within 60 days after the Evaluation Date. Except as otherwise noted, each person or entity has sole voting and investment power with respect to the shares shown. Unless otherwise noted, none of the shares shown as beneficially owned on this table are subject to pledge.

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- (3) Consists of (a) 864,865 shares of common stock held by High River Limited Partnership (“High River”); (b) 1,660,540 shares of common stock held by Icahn Partners LP (“Icahn Partners”); (c) 1,798,919 shares of common stock held by Icahn Partners Master Fund LP (“Icahn Master”); (d) 864,865 shares of common stock issuable upon exercise of warrants held by High River; (e) 1,660,540 shares of common stock issuable upon exercise of warrants held by Icahn Partners and (f) 1,798,919 shares of common stock issuable upon exercise of warrants held by Icahn Master. Based on the Company’s review of a Schedule 13D filed with the SEC on August 5, 2005 (the “Icahn 13D”) by High River, Hopper Investments, LLC (“Hopper”), Barberry Corp. (“Barberry”), Icahn Master, Icahn Offshore LP (“Icahn Offshore”), CCI Offshore Corp. (“CCI Offshore”), Icahn Partners, Icahn Onshore LP (“Icahn Onshore”), CCI Onshore Corp. (“CCI Onshore”) and Mr. Carl C. Icahn, the Company believes that (i) Barberry, Hopper and Mr. Icahn may be deemed to beneficially own (as that term is defined in Rule 13d-3 under the Securities Exchange Act of 1934, as amended) the shares (including warrant shares) held by High River; (ii) CCI Onshore, Icahn Onshore and Mr. Icahn may be deemed to beneficially own (as that term is defined in Rule 13d-3 under the Securities Exchange Act of 1934, as amended) the shares (including warrant shares) directly held by Icahn Partners; and (iii) CCI Offshore, Icahn Offshore and Mr. Icahn may be deemed to beneficially own (as that term is defined in Rule 13d-3 under the Securities Exchange Act of 1934, as amended) the shares (including warrant shares) directly held by Icahn Master because, in each of the foregoing cases, such referenced persons are in a position to directly or indirectly determine the investment and voting decisions of the holder referenced. Barberry, Hopper, CCI Onshore, Icahn Onshore, CCI Offshore, Icahn Offshore and Mr. Icahn each disclaim beneficial ownership of such shares they may be deemed the beneficial owner of for all other purposes.
- (4) Consists of 350,000 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date.
- (5) Consists of (a) 150,000 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date, (b) 864,865 shares of common stock held by High River, (c) 1,660,540 shares of common stock held by Icahn Partners, (d) 1,798,919 shares of common stock held by Icahn Master, (e) 864,865 shares of common stock issuable upon exercise of warrants held by High River, (f) 1,660,540 shares of common stock issuable upon exercise of warrants held by Icahn Partners and (g) 1,798,919 shares of common stock issuable upon exercise of warrants held by Icahn Master. Dr. Denner is a Managing Director of entities affiliated with Mr. Icahn, including Icahn Partners and Icahn Master. Dr. Denner disclaims beneficial ownership of the shares owned by High River, Icahn Partners and Icahn Master except to the extent of his pecuniary interest therein.
- (6) Includes 200,000 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date.
- (7) Consists of 150,000 shares of common stock subject to an option currently exercisable or exercisable within 60 days of the Evaluation Date.
- (8) Consists of (a) 200,000 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date and (b) 8,000 shares of common stock held by Dr. Pykett and his spouse, as joint tenants.
- (9) Consists of 100,000 shares of common stock subject to an option currently exercisable or exercisable within 60 days of the Evaluation Date.
- (10) Consists of 298,958 shares of common stock subject to an option currently exercisable or exercisable within 60 days of the Evaluation Date.
- (11) Consists of 138,958 shares of common stock subject to an option currently exercisable or exercisable within 60 days of the Evaluation Date.
- (12) Consists of (a) 4,320,000 shares of common stock held by Mark Capital LLC, (b) 60,000 shares of common stock held by Mr. Levine in an individual retirement account and (c) 15,000 shares of common stock held by Mr. Levine and his father, as joint tenants with right of survivorship. Mr. Levine is the managing member of Mark Capital LLC.
- (13) Consists of 146,500 shares of common stock held by Dr. Robbins’ husband and 10,000 shares of common stock held by Dr. Robbins and her spouse, as joint tenants.
- (14) Includes 6,008,646 shares of common stock subject to options and warrants currently exercisable or exercisable within 60 days of the Evaluation Date. Includes shares deemed beneficially owned by Dr. Denner but as to which he disclaims beneficial ownership.

CURRENT EXECUTIVE OFFICERS

Set forth below is the name, age, position and a brief account of the business experience of each of the Company's executive officers as of April 6, 2009:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Brian M. Culley	37	Interim Principal Executive officer, Chief Business Officer and Senior Vice President
Mark N.K. Bagnall	52	Interim Principal Financial and Accounting Officer
Patrick L. Keran	37	General Counsel, Secretary and Vice President, Legal
Mark E. Erwin	44	Senior Vice President, Operations
Michele L. Yelmene	45	Vice President, Regulatory Affairs and Quality

Biographical information regarding Mr. Bagnall is provided above under "Nominees for Election to the Board."

Brian M. Culley, M.S., M.B.A. Mr. Culley currently is the Company's interim principal executive officer, a position he has held since February 2009, and chief business officer and a senior vice president, positions he has held since January 2007. Mr. Culley served as vice president, business development since joining the Company in December 2004, and was appointed senior vice president, business development in February 2006. From 2002 until 2004, Mr. Culley managed all strategic collaborations and licensing agreements for Immusol, Inc. in San Diego, where his most recent title was director of business development and marketing. From 1999 until 2000, he was a licensing and marketing associate at the University of California, San Diego, department of technology transfer & intellectual property services and from 1996 to 1999, he was a research associate for Neurocrine Biosciences, Inc., where he performed drug discovery research. Mr. Culley has over 15 years of experience in the biotechnology industry, including deal structure and negotiation, licensing, due diligence, market and competitive research, and venture funding. He received a B.S. in biology from Boston College, an M.S. in biochemistry from the University of California, Santa Barbara and an M.B.A. from The Johnson School of Business at Cornell University with an emphasis on private equity and entrepreneurship.

Patrick L. Keran, J.D. Mr. Keran currently is the Company's general counsel, a position he has held since August 2006, secretary, a position he has held since September 2006, and vice president, legal, a position he has held since January 2007. From April 2004 to August 2006, Mr. Keran was associate general counsel at Isis Pharmaceuticals, a publicly held drug discovery and development company. From February 2003 to April 2004, Mr. Keran practiced corporate law at the law firm of Heller Ehrman LLP, specializing in public and private financings, licensing arrangements, mergers and acquisitions and corporate governance matters. From September 1999 to February 2003, Mr. Keran practiced law at the law firm of Brobeck Phleger & Harrison LLP where he had a similar corporate practice. Mr. Keran is licensed to practice law in the State of California. Mr. Keran received a B.A. from the University of California at San Diego and a J.D. from the University of California at Berkeley, Boalt Hall School of Law.

Mark E. Erwin. Mr. Erwin currently is the Company's senior vice president, operations, a position he has held since October 2008. From October 2007 to October 2008, Mr. Erwin was the Company's vice president, commercialization. From September 2005 to October 2007, Mr. Erwin was senior director, program development for Centric Health Finance, LLC, a centralized service provider to healthcare providers, pharmaceutical manufacturers, distributors, payors and patients. From October 2003 to June 2005, Mr. Erwin was director, oncology marketing for Ligand Pharmaceuticals Corp., an oncology-focused biopharmaceutical company, and, from August 1999 to October 2003, was head of government affairs and reimbursement for IDEC Pharmaceuticals, Inc. Mr. Erwin began his career in a variety of sales and marketing roles with Eli Lilly & Co., including product manager for the launch of Lilly's oncology business in the U.S. Mr. Erwin holds a B.S. in chemistry from Purdue University.

Michele L. Yelmene. Ms. Yelmene currently is the Company's vice president, regulatory affairs and quality, a position she has held since May 2008. From March 2007 to May 2008, Ms. Yelmene was the Company's vice president, regulatory affairs. From October 2006 to March 2007, she consulted for the Company regarding various regulatory matters. From April 2002 through March 2006, Ms. Yelmene was executive director, clinical and regulatory affairs and corporate secretary for Perlan Therapeutics, a privately held company focused on development of recombinant protein-based drugs. From 1998 until 2002, Ms. Yelmene was director in biomedical operations for Genzyme Corporation, a leading biotechnology company focused on rare inherited disorders, kidney disease, orthopaedics, cancer, transplant and immune diseases, and diagnostic testing, and from 1996 through 1998 she was manager of medical and regulatory affairs for Mallinckrodt, a publicly held pharmaceutical company acquired by Tyco Healthcare. Ms. Yelmene brings over 25 years of operational and project management, clinical and scientific research and regulatory affairs experience in the biotechnology and pharmaceutical industries. During her career, Ms. Yelmene was responsible for clinical development, preparation, and presentation of 14 FDA-approved products and over 25 investigational new drug applications (INDs) for both pharmaceutical and biologics-based therapies in the areas of viral infections, respiratory, CNS, metabolic and endocrine diseases, and lysosomal storage disorders. She has participated in meetings with the FDA at all phases (pre-IND through advisory committee) of clinical development. Ms. Yelmene is a member of the Regulatory Affairs Professional Society, Drug Information Association and Co-Chair of the FDA Committee at BIOCOM in San Diego. She received a B.S. in biology and B.A. in English writing, both from Rider University.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The Company has incorporated into its written review and approval policies certain procedures designed to ensure that any proposed transaction in which the Company would be a participant and in which any of the Company's directors, executive officers, holders of more than 5% of its common stock, or any member of the immediate family of any of the foregoing would have a direct or indirect material interest is reviewed by individuals within the Company (including its general counsel) familiar with the requirements of Item 404 of Regulation S-K promulgated by the SEC. If any such proposed transaction would require disclosure pursuant to Item 404(a), it will be presented to the audit committee for review and, if appropriate, approval.

Since January 1, 2007, there has not been, nor currently are there proposed, any transactions or series of similar transactions in which the Company was or is to be a participant and the amount involved exceeds or will exceed the lesser of \$120,000 or 1% of the average of the Company's total assets at December 31, 2007 and 2008, and in which any director, executive officer, holder of more than 5% of the Company's common stock or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest, other than the transactions described below.

Separation Arrangements with Former President and Chief Medical Officer

Dr. James Merritt was employed by the Company from September 2006 to January 2008 as its President and Chief Medical Officer. Dr. Merritt was a named executive officer of the Company for fiscal year 2007. In February 2008, the Company entered into a letter agreement regarding terms of separation with Dr. Merritt. The terms of Dr. Merritt's employment separation, as provided in the letter agreement, are substantially identical to those set forth in his offer letter, dated September 7, 2006, and in the stock option agreement relating to the stock option to purchase up to 300,000 shares of the Company's common stock granted to him in September 2006 in connection with the commencement of his employment, both of which have been previously filed with the SEC, except that the Company agreed to extend the exercise period of that option from June 29, 2008 to December 31, 2008.

As set forth in the letter agreement regarding terms of separation, in exchange for a mutual release, beginning in February 2008, the Company paid Dr. Merritt an aggregate of \$181,250, which was equal to six months of Dr. Merritt's base salary in effect at the time of termination, less applicable state and federal payroll deductions, in substantially equal installments in accordance with the Company's standard payroll practices over 13 pay periods. In addition, the Company paid Dr. Merritt \$16,038, less applicable state and federal payroll deductions, which the Company and Dr. Merritt agreed satisfied in full the Company's obligation to pay all costs that the Company would otherwise have incurred to maintain Dr. Merritt's health, welfare and retirement benefits if Dr. Merritt had continued for six continuous months after Dr. Merritt's termination date. The Company paid the \$16,038 amount in substantially equal installments commencing on and continuing in accordance with the same schedule described above with respect to payment of Dr. Merritt's base salary. Furthermore, the Company accelerated the vesting and extended the time to exercise vested shares under the stock option granted to Dr. Merritt in September 2006 in connection with the commencement of his employment. Under this option, Dr. Merritt was granted the right to purchase up to 300,000 shares of the Company's common stock at a price of \$2.86 per share, which right was subject to a vesting schedule. As of Dr. Merritt's termination date, this option was vested as to 100,000 shares and unvested as to 200,000 shares. Pursuant to the letter agreement regarding terms of separation, the Company accelerated vesting as to 31,249 of the unvested shares, which resulted in this option being vested as to a total of 131,249 shares, and extended the time for Dr. Merritt to exercise the vested shares under this option to Noon (Pacific time) on December 31, 2008. Dr. Merritt did not exercise the option by December 31, 2008 and, accordingly, it terminated. The closing market price of the Company's common stock on December 31, 2008 was \$0.08 per share, while the exercise price of the option was \$2.86 per share. In addition, at the time of his separation from the Company, Dr. Merritt held another option that was vested as to 8,334 shares. Pursuant to its terms, this option expired, unexercised, on April 28, 2008. The closing market price of the Company's common stock on April 28, 2008 was \$0.52 per share, while the exercise price of this option was \$2.75 per share.

Under the letter agreement regarding terms of separation, Dr. Merritt represented that he had returned to the Company all of its property and data that had been in his possession or control and acknowledged that he is bound by an agreement with the Company regarding the use and confidentiality of the Company's confidential information.

Indemnification of Officers and Directors

The Company's amended and restated certificate of incorporation and its bylaws provide that the Company will indemnify each of its directors and officers to the fullest extent permitted by the Delaware General Corporation Law. Further, the Company has entered into indemnification agreements with each of its directors and officers, and has purchased a policy of directors' and officers' liability insurance that insures its directors and officers against the cost of defense, settlement or payment of a judgment under certain circumstances. On February 25, 2008, the Company entered into an indemnification agreement with Dr. Rowinsky in connection with his appointment to the Board. This agreement is in the same form as the indemnification agreements entered into previously with current directors.

Other Transactions

In February 2008, the Company entered into a Second Amendment to Rights Agreement with certain entities affiliated with Mr. Icahn. The amendment amended certain terms of the Rights Agreement to permit the appointment of Dr. Rowinsky to the Board.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and SEC rules require the Company's directors, executive officers and beneficial owners of more than 10% of any class of equity security to file with the SEC initial reports of their ownership and reports of changes in ownership of the common stock and other equity securities of the Company. These reporting persons are required by SEC rules to furnish the Company with copies of all Section 16(a) reports they file. Based solely on the Company's review of copies of the Forms 3, 4 and 5 (and any amendments thereto) submitted to the Company during and with respect to 2008 and written representations from the Company's directors and executive officers, such Section 16(a) filing requirements were complied with during 2008, except that Dr. Robbins, the Company's former Chief Scientific Officer and Senior Vice President, inadvertently filed a late Form 4 on May 16, 2008 with respect to one transaction and Dr. Denner, a member of the Board, inadvertently filed a late Form 4 on July 8, 2008 with respect to one transaction.

EQUITY COMPENSATION PLAN INFORMATION

The following table provides information as of December 31, 2008 regarding equity compensation plans previously approved by the Company's stockholders. The Company does not have any equity compensation plans that have not been approved by its stockholders.

Plan	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Second Column)
2008 Omnibus Incentive Plan	578,000	\$.30	12,519,500(1)
2005 Equity Incentive Plan	3,786,833(1)	\$ 1.99	0(1)
2005 Employee Stock Purchase Plan	0	\$ 0	3,173,634(2)

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- (1) In May 2008, the Company's stockholders approved the Company's 2008 Omnibus Incentive Plan, following which no awards have been or will be granted under the 2005 Equity Incentive Plan and no automatic increase will occur to the maximum number of shares that may be issued pursuant to the 2005 Equity Incentive Plan. However, the 2005 Equity Incentive Plan will continue to govern any outstanding awards previously granted under the 2005 Equity Incentive Plan. In addition, if, after December 31, 2007, any shares of the Company's common stock subject to an award under the 2005 Equity Incentive Plan are forfeited, expire or are settled for cash pursuant to the terms of an award, the shares subject to the award may be used again for awards under the 2008 Omnibus Incentive Plan to the extent of the forfeiture, expiration or settlement. The shares of common stock will be added back as 1 share for every share of common stock if the shares were subject to options or stock appreciation rights granted under the 2005 Equity Incentive Plan and as 1.2 shares for every share of common stock if the shares were subject to awards other than options or stock appreciation rights granted under the 2005 Equity Incentive Plan.
- (2) The 2005 Employee Stock Purchase Plan contains a provision for an automatic increase in the number of shares available for grant on the first day of each fiscal year beginning in 2006 and on each anniversary of that date thereafter equal to the lesser of (i) one percent of the number of outstanding shares of the Company's common stock on such day, (ii) 750,000 and (iii) such other amount as the Board may specify prior to the date such annual increase is to take effect.

EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

Summary Compensation Table

The following table sets forth information concerning compensation earned for services rendered to the Company during the years ended December 31, 2008 and December 31, 2007 by (i) each individual serving as principal executive officer during 2008, (ii) the two most highly compensated executive officers, other than the individuals serving as the principal executive officer, who were serving as executive officers of the Company as of December 31, 2008, and (iii) the individuals who would have qualified under the foregoing clause (ii) but for the fact that such individuals were not serving as executive officers of the Company as of December 31, 2008. Collectively, these individuals are referred to as the “Named Executive Officers.”

Name and Principal Position(1)	Year	Salary	Bonus	Stock Awards	Option Awards(2)	Non-Equity Incentive Plan Compensation	Nonqualified Deferred Compensation Earnings	All Other Compensation(3)	Total
Brian M. Culley	2008	\$ 262,500	—	—	\$ 183,493	—	—	\$ 13,989	\$ 459,982
Chief Business Officer	2007	\$ 250,000	—	—	\$ 235,852	—	—	\$ 9,162	\$ 495,014
Patrick Keran	2008	\$ 231,000	—	—	\$ 121,708	—	—	\$ 13,758	\$ 366,466
General Counsel									
Evan M. Levine	2008	\$ 381,635	—	—	—	—	—	\$ 493,685(4)	\$ 875,320
Former Chief Executive Officer	2007	\$ 450,000	\$ 200,000	—	—	—	—	\$ 9,180	\$ 659,180
Mark N.K. Bagnall(5)	2008	\$ 258,462	—	—	\$ 37,599(6)	—	—	\$ 97,791(7)	\$ 393,852
Former Chief Financial Officer									
Gregory P. Hanson	2008	\$ 67,308	—	—	\$ 38,194	—	—	\$ 341,498(8)	\$ 447,000
Former Chief Financial Officer	2007	\$ 250,000	—	—	\$ 149,498	—	—	\$ 10,188	\$ 409,686
Joan M. Robbins	2008	\$ 224,740	—	—	\$ 181,994	—	—	\$ 86,110(9)	\$ 492,844
Former Chief Scientific Officer	2007	\$ 265,000	—	—	\$ 192,095	—	—	\$ 9,270	\$ 466,365

- (1) Mr. Culley and Mr. Keran held the positions listed in the table through December 31, 2008. On April 2, 2008, Mr. Hanson’s employment with the Company ended. On October 14, 2008, Dr. Robbins’ employment with the Company ended. On October 17, 2008, Mr. Levine’s employment with the Company ended and, on December 22, 2008, Mr. Levine resigned from the Board. On December 26, 2008, Mr. Bagnall’s employment with the Company ended, though he remains on the Board. Compensation information for Mr. Keran and Mr. Bagnall for 2007 is not included because they were not 2007 named executive officers.
- (2) The value of the option awards has been computed in accordance with the provisions of FAS 123R, which requires that the Company recognizes as compensation expense the value (excluding the effect of assumed forfeiture rates) of all stock-based awards, including stock options, granted to employees in exchange for services over the requisite service period, which is typically the vesting period. For more information, including the assumptions made in calculating the FAS 123R value of the option awards, see Note 8 of the Notes to Consolidated Financial Statements contained in the Company’s Annual Report on Form 10-K filed with the SEC on March 27, 2009 and Note 9 of the Consolidated Financial Statements contained in the Company’s Annual Report on Form 10-K filed with the SEC on March 17, 2008.
- (3) Except as otherwise indicated, consists of (a) matching contributions made pursuant to the Company’s tax-qualified 401(k) plan and (b) premiums paid for term life insurance policies for the benefit of the Company’s executives.
- (4) Consists of (a) matching contributions pursuant the Company’s 401(k) plan of \$12,519, (b) life insurance premiums of \$145, (c) severance payments of \$365,000, (d) a severance-related health benefit allowance of \$19,870, and (e) accrued vacation benefits paid in connection with termination of employment of \$90,865. See “Narrative Disclosure to Summary Compensation Table” below for additional information regarding termination-related payments.
- (5) Mr. Bagnall served as the Company’s Chief Financial Officer, Executive Vice President and Treasurer from April 3, 2008 to December 26, 2008. From November 3, 2008 to December 26, 2008, Mr. Bagnall additionally served as the Company’s principal executive officer. Both prior to and after his service as an employee of the Company, he served as a member of the Board and, after his service as an employee of the Company, he served as a consultant to the Company.
- (6) Consists of the value of an option award to Mr. Bagnall in 2007 as a member of the Board.
- (7) Consists of (a) matching contributions pursuant the Company’s 401(k) plan of \$13,800, (b) life insurance premiums of \$345, (c) accrued vacation benefits paid in connection with termination of employment of \$19,683, (d) the value of the partial acceleration of an option award triggered by termination of employment of \$49,863, and (e) non-employee director fees for service on the Board during the periods in 2008 in which Mr. Bagnall was not employed by the Company of \$14,100. Mr. Bagnall received severance and a health benefit allowance in connection with the termination of his employment, but these payments were not paid or accrued to Mr. Bagnall in 2008 because the Company did not enter into a separation agreement with Mr. Bagnall until January 2009. See “Narrative Disclosure to Summary Compensation Table” below for additional information regarding termination-related payments.
- (8) Consists of (a) matching contributions pursuant the Company’s 401(k) plan of \$4,038, (b) life insurance premiums of \$320, (c) severance payments of \$125,000, (d) a severance-related health benefit allowance of \$20,997, (e) the value of the partial acceleration of an option award triggered by termination of employment of \$174,272, (f) accrued vacation benefits paid in connection with termination of employment of \$16,496, and (g) consulting fees of \$375. See “Narrative Disclosure to Summary Compensation Table” below for additional information regarding termination-related payments.
- (9) Consists of (a) matching contributions pursuant the Company’s 401(k) plan of \$12,519, (b) life insurance premiums of \$218, (c) severance payments of \$22,475, (d) a severance-related health benefit allowance of \$1,511, and (e) accrued vacation benefits paid in connection with termination of employment of \$49,387. See “Narrative Disclosure to Summary Compensation Table” below for additional information regarding termination-related payments.

Narrative Disclosure to Summary Compensation Table

Employment and Severance Arrangements with Currently Employed Named Executive Officers

Each of Mr. Culley's and Mr. Keran's employment with the Company is at-will and, as of December 31, 2008, the Company had no obligation to pay such officer any severance or other benefits, other than as may be required by law, in connection with a termination of employment. In January 2009, the Company entered into Retention and Incentive Agreements with each of Mr. Culley and Mr. Keran, the provisions of which require severance payments to Mr. Culley and Mr. Keran in the event of an involuntary termination of employment before September 30, 2009. In addition, at the same time, the Company granted, under its 2008 Omnibus Incentive Plan, to each of Mr. Culley and Mr. Keran an award of restricted stock units that represents the right to receive 1,200,000 and 850,000 shares, respectively, of the Company's common stock. These units will vest immediately prior to a strategic transaction. The Employment Agreements and restricted stock units awards are primarily intended to reinforce and encourage these officers' continued employment with and dedication to the Company without distraction from the possibility of involuntary termination or a change in control and related events and circumstances.

Pursuant to the Retention and Incentive Agreements, if, as applicable, Mr. Culley's or Mr. Keran's employment with the Company terminates as a result of an involuntary termination and he delivers (and does not revoke) a general release of claims, he will receive a lump-sum cash severance payment, less applicable withholdings, equal to nine months of his then-current annual base salary multiplied by a fraction, the numerator of which is the number of days between his termination date and September 30, 2009 and the denominator of which is 365. These agreements are intended to be binding upon any successor to the Company or to all or substantially all of the Company's business and/or assets. For purposes of these agreements, "involuntary termination" means, without Mr. Culley's or Mr. Keran's, as applicable, express written consent, a significant reduction of or removal from his current duties, position or responsibilities, a material reduction of his base salary or in the kind or level of employee benefits (including cash and stock bonus plans) to which he is entitled which results in a material adverse change to his employment relationship or a relocation to a facility or location that increases his one-way commute by more than 50 miles, any termination of employment which is not for cause or any material breach of the agreements by the Company, including the failure of a successor to assume the Company's obligations thereunder. For purposes of these agreements, "cause" means any act of personal dishonesty taken by the employee in connection with his responsibilities as an employee which is intended to result in substantial personal enrichment, the employee's conviction of a felony that the board of directors reasonably believes has had or will have a material detrimental effect on the Company's reputation or business, a willful act by the employee that constitutes misconduct and is injurious to the Company, or continued willful violations by the employee of his obligations to the Company after delivery to him of a written demand for performance that describes the basis for the Company's belief that he has not substantially performed his duties.

Pursuant to a notice of grant of restricted stock units and the related restricted stock units agreement, the Company issued under its 2008 Omnibus Incentive Plan to Mr. Culley and Mr. Keran 1,200,000 and 850,000, respectively, restricted stock units. Each restricted stock unit represents the right to receive one share of the Company's common stock upon vesting and settlement of the restricted stock unit. Provided Mr. Culley's and Mr. Keran's services to the Company have not terminated beforehand, 100% of the restricted stock units shall vest immediately prior to the consummation of a strategic transaction. Settlement of the vested restricted stock units will occur at the same time as vesting unless a sale by Mr. Culley or Mr. Keran of the shares issuable upon settlement of the restricted stock units would violate any insider trading policy of the Company, any federal, state or foreign law or any contractual obligation to which Mr. Culley or Mr. Keran is subject (such as a lock-up or market stand-off agreement), in which case settlement of the restricted stock units shall be deferred until the first to occur of (a) the next business day on which a sale of the shares by Mr. Culley or Mr. Keran would not violate such insider trading policy or contractual obligation and (b) the latest date possible that such settlement can be deferred without becoming subject to Section 409A of the Internal Revenue Code. If the Company does not consummate a strategic transaction, none of the restricted stock units shall vest and the Company shall automatically reacquire all of the restricted stock units upon termination of Mr. Culley's or Mr. Keran's services to the Company without any payment therefor. For purposes of the restricted stock units, "strategic transaction" generally means a transaction or series of related transactions constituting a change of control of the Company or a subsidiary of the Company or a sale or other disposition of all or substantially all of its assets or the grant of an exclusive license of the Company's intellectual property related to ANX-514 to make, use or sell products in the United States for the treatment of cancer by intravenous administration of formulations consisting of emulsified products.

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In addition, as of December 31, 2008, the Company had accrued vacation benefits liability for Mr. Culley in the amount of \$48,461 and for Mr. Keran in the amount of \$30,166. If their employment with the Company had ended on December 31, 2008, they would have been entitled to payment of those amounts.

It is the Company's policy that, at the beginning of their employment, all employees sign the Company's standard confidential information, non-solicitation and invention assignment agreement for employees. Under the current version of this agreement, employees agree that, during the period of the employee's service to the Company and for one year thereafter, the employee will not (a) solicit any employee or consultant of the Company to leave the employ of or terminate any relationship with the Company or (b) solicit the business of any client or customer of the Company using its confidential information. Each of Mr. Culley and Mr. Keran executed such an agreement in connection with the commencement of his employment with the Company.

2008 Stock Option Grants

On March 31, 2008, the compensation committee granted stock option awards to certain non-CEO executives, including a stock option to purchase 200,000 shares to each of Messrs. Culley and Keran and Dr. Robbins. The compensation committee did not grant any stock option awards to Mr. Levine (the reasons for which are described under "Compensation Programs and Process — Elements of Compensation" in the Company's proxy statement filed with the SEC on April 16, 2008) or Mr. Bagnall, who was then a non-employee director of the Company (see "Employment and Separation Arrangements with Mr. Bagnall" below regarding an option granted to him in April 2008 in connection with commencement of his employment). The March 2008 stock options were granted under the Company's 2005 Equity Incentive Plan, have a term of 10 years, and vest and become exercisable as to one-fifth of the shares subject to the option on each of January 1, 2009, January 1, 2010, January 1, 2011, January 1, 2012 and January 1, 2013. The vesting schedule was recommended by Mr. Levine, then the Company's chief executive officer, and, after substantial discussion, approved by the compensation committee. The per share exercise price of these options is \$0.54, which was the closing price, as reported by the NYSE Amex, of the Company's common stock on March 31, 2008. None of these options currently are in-the-money.

The Company structured the number of shares underlying and the vesting schedule of the March 2008 stock options primarily to retain and incentivize the Company's executives, and not primarily as a form of compensation or to recognize individual or corporate performance in 2007. In particular, the Company did not view these awards as typical annual option grants. The compensation committee's goal in determining the size of these stock option awards was to emphasize unity and cohesion within the Company's executive ranks. The compensation committee intended for the Company's non-CEO executives to share equally in the Company's future success and, accordingly, granted similarly situated executives comparably sized stock option awards.

The compensation committee granted these awards to retain and properly incentive the individuals capable of maximizing the potential of the Company's assets. Without a substantial opportunity to participate in the Company's future success, the Company was concerned that it would be unable to retain key executives. In addition, the 5-year, cliff-based vesting schedule of the March 2008 stock options was structured to provide substantial retentive value.

2007 Bonus to Mr. Levine

In March 2008, the Company evaluated its executives' 2007 compensation and performance and, consistent with past practice, no cash bonuses for any of the Company's non-CEO executives were approved by the compensation committee. However, the compensation committee awarded Mr. Levine a discretionary cash bonus of \$200,000.

Mr. Levine's 2007 bonus was not based on achievement of the corporate objectives previously established by the compensation committee. Following the Company's announcement in October 2007 regarding the results of the Company's phase 2b clinical trial of ANX-510, several of corporate objectives previously established by the compensation committee became irrelevant or undesirable and the compensation committee did not subsequently revise those objectives. Mr. Levine's 2007 bonus was awarded in part in recognition of his 2007 performance, but also to compensate him in lieu of the Company not granting him any stock option awards (the reasons for which are more fully described under "Compensation Programs and Process — Elements of Compensation" in the Company's proxy statement filed with the SEC on April 16, 2008). Despite the Company's October 2007 announcement regarding the results of its phase 2b clinical trial of ANX-510 and the resulting decline in its stock price, 2007 was marked with several positive achievements for the Company. Furthermore, the compensation committee determined that Mr. Levine's performance in 2007 was exceptional in light of prevailing conditions and that he displayed the leadership and perseverance in the face of adversity that the Company seeks in its executives and wishes to reward.

In approving Mr. Levine's 2007 bonus, the compensation committee was sensitive to the perception that it was rewarding Mr. Levine when the Company's stockholders and stock price have suffered. To rebuild value, however, the compensation committee believed it was critical that it retain and properly incentivize Mr. Levine because of the unique qualities that he possesses, as well as to provide continuity to its operations. Based on the Company's successes in 2007 and Mr. Levine's leadership following the Company's October 2007 clinical trial results announcement, as well as the Company not granting Mr. Levine any equity awards since 2003, the compensation committee determined that a cash bonus reflecting 80% of Mr. Levine's target award was appropriate.

Separation Arrangements with Mr. Levine

In October 2008, Mr. Levine's employment relationship with the Company ended and, in December 2008, Mr. Levine resigned from the Board. Mr. Levine formerly served as the Company's Chief Executive Officer and President. In December 2008, the Company entered into a Confidential Separation Agreement and General Release of All Claims regarding terms of separation with Mr. Levine (the "Levine Separation Agreement").

As set forth in the Levine Separation Agreement, in exchange for a mutual release of claims and Mr. Levine's agreement and representations (as more fully described below), the Company agreed to provide a severance payment of \$225,000 to Mr. Levine. In addition, the Company agreed to provide a health benefit allowance of \$19,870, which Mr. Levine may use, at his discretion, to pay the premiums required to continue his group health care coverage under COBRA or any other health care related expenses. The severance payment and the health benefit allowance were paid in one lump sum, less applicable payroll deductions and required withholdings, in January 2009. In addition, pursuant to the Levine Separation Agreement, the Company agreed to issue 1,000,000 fully-vested shares of its common stock to Mr. Levine, subject to the satisfaction of certain conditions by January 30, 2009, or, if those conditions were not so satisfied, pay Mr. Levine an additional \$100,000 in one lump sum, less applicable payroll deductions and required withholdings. In February 2009, because the conditions to the Company's obligation to issue the shares had not been timely satisfied, the Company paid Mr. Levine an additional \$100,000 in one lump sum, less applicable payroll deductions and required withholdings. In November 2008, prior to entering into the Levine Separation Agreement, the Company paid Mr. Levine a total of \$40,000 in four weekly installments ending in December 2008 in exchange for Mr. Levine's agreement not to sign a Confidential Separation Agreement and General Release of All Claims that was presented to Mr. Levine on October 19, 2008 to allow time for discussions related to the terms of Mr. Levine's separation from the Company and release of claims to continue.

Under the Levine Separation Agreement, Mr. Levine represented that he had returned to the Company all property, data and information belonging to the Company and agreed not to use or disclose to others any confidential or proprietary information of the Company and agreed to comply with his continuing obligations under various agreements and other documents as previously executed by him. In addition, the Company and Mr. Levine each agreed that neither will make any voluntary statements, written or oral, or cause or encourage others to make any such statements, that defame, disparage or in any way criticize the personal and/or business reputation, practices or conduct of, respectively, Mr. Levine, on the one hand, or the Company or its employees, officers and directors, among others, on the other hand. Each of the Company and Mr. Levine also represented that neither had filed any lawsuits, complaints or other accusatory pleadings against the other. Mr. Levine also certified that all transactions in the Company's securities prior to his separation date and reportable under Section 16 of the Securities Exchange Act of 1934 had been reported on Form 4 and agreed to execute and deliver promptly after December 31, 2008 a document certifying that he is not required to file a Form 5 for the fiscal year ended December 31, 2008.

Employment and Separation Arrangements with Mr. Bagnall

In connection with Mr. Bagnall's employment as the Company's Chief Financial Officer, Executive Vice President and Treasurer, effective as of April 3, 2008, the Company entered into an offer letter agreement with Mr. Bagnall. Pursuant to the terms of the offer letter, Mr. Bagnall's base salary was \$350,000 per year and he was entitled to participate in the Company's health and welfare benefits, 401(k) plan and other benefits on the same terms as the Company's other executive officers. In addition, Mr. Bagnall was eligible to participate in the Company's 2008 Incentive Plan, which is discussed under "Executive Officer and Director Compensation — Compensation Discussion and Analysis" in the Company's proxy statement filed with the SEC on April 16, 2008, on the same basis as the Company's other executive officers. In the event of Mr. Bagnall's involuntary termination, the Company agreed to (a) continue to pay Mr. Bagnall's base salary in effect immediately prior to the effective date of such involuntary termination for the number of months equal to the number of full 30-day periods he was a full-time employee of the Company, provided that in no event would such number of months exceed 12 (the "Severance Period"), (b) pay Mr. Bagnall all costs that the Company would otherwise have incurred to maintain his health and similar benefits during the Severance Period, and (c) pay Mr. Bagnall the amount of the matching 401(k) contribution that would have been contributed by the Company based on the amount contributed by Mr. Bagnall in the pay-period immediately prior to the effective date of the involuntary termination. The Company's obligation to make such payments was conditioned upon Mr. Bagnall's execution and delivery of a general release of claims and submission of his resignation as a member of the Board. If Mr. Bagnall failed to execute and deliver the release of claims or subsequently revoked the release, he would not have been entitled to any of the severance payment. If Mr. Bagnall failed to submit his resignation from the Board, he would not have received any severance payment until after the Company's next annual meeting of stockholders for which he was not nominated for election to the Board in the proxy materials related to such meeting. On December 11, 2008, the compensation committee of the Board approved amendments to the offer letter intended to make severance benefits payable to Mr. Bagnall exempt from potential deferred compensation tax penalties.

In addition, on March 31, 2008, the compensation committee of the Board approved a stock option to Mr. Bagnall under the Company's 2005 Equity Incentive Plan to purchase up to 500,000 shares of the Company's common stock, contingent upon the commencement of Mr. Bagnall's employment with the Company. Accordingly, this option was granted on April 3, 2008 with an exercise price of \$0.52 per share, which was the closing price of the Company's common stock on April 3, 2008, as reported by the NYSE Amex. The terms of the option provide that it would vest and become exercisable with respect to 100,000 of the underlying shares on each of January 1, 2009, January 1, 2010, January 1, 2011, January 1, 2012 and January 1, 2013, subject to Mr. Bagnall's continuous service (as defined in the Company's 2005 Equity Incentive Plan). However, in the event of Mr. Bagnall's involuntary termination, the option's vesting schedule would accelerate such that (a) an additional 50,000 shares will vest and become exercisable if the effective date of such involuntary termination occurs between January 1 and June 30 of a given calendar year and (b) an additional 100,000 shares will vest and become exercisable if the effective date of such involuntary termination occurs between July 1 and December 31 of a given calendar year, subject to Mr. Bagnall's execution and delivery to the Company of a release of claims and his not revoking such release. In the event of Mr. Bagnall's death, disability or other termination, the option would be exercisable for 90 days following such event, except that in the event of an involuntary termination, the option would be exercisable for 180 days following such termination, subject to Mr. Bagnall's execution and delivery to the Company of a release of claims and his not revoking such release. In addition, in the event of a change of control (as defined in the Company's 2005 Equity Incentive Plan) where Mr. Bagnall was employed by the Company or one of its affiliates as of the closing date of the change of control and the option was not assumed or replaced, the option would accelerate in full. In the event of Mr. Bagnall's involuntary termination before and in connection with a change of control, the option would accelerate in full upon the change of control. Finally, in the event of a change of control where the option is assumed or replaced, (i) 50% of any unvested portion of the option would vest immediately prior to the closing date of the change of control, (ii) the remaining unvested portion of the option would vest ratably by month over the 12-month period beginning on the closing date of the change of control, subject to Mr. Bagnall's continuous service, and (iii) 100% of any remaining unvested portion of the option would vest upon an involuntary termination of Mr. Bagnall that occurs within 12 months of the change of control. Unless terminated earlier pursuant to its terms, the option would expire on April 2, 2018.

For purposes of the offer letter and the stock option granted to Mr. Bagnall, an "involuntary termination" is one that occurs by reason of involuntary dismissal by the Company for any reason other than misconduct (as defined below) or by Mr. Bagnall's voluntary resignation for "good reason," which means the occurrence of one of the following events or circumstances without his written consent: (i) a change in position that materially reduces the level of his responsibility, (ii) a material reduction in his base salary, or (iii) relocation by more than 50 miles from his then-primary work location; provided that his resignation shall not be for "good reason" unless (x) he provides the Company with written notice within 30 days after he first has knowledge of the occurrence or existence of such event or circumstance, (y) the Company fails to correct the circumstance or event so identified within 30 days after receipt of such written notice, and (z) he resigns within 90 days after the date of delivery of the notice. "Misconduct" means the commission of any act of fraud, embezzlement or dishonesty by Mr. Bagnall, any unauthorized use or disclosure by him of confidential information or trade secrets of the Company (or any parent or subsidiary), or any other intentional misconduct by him adversely affecting the business affairs of the Company (or any parent or subsidiary) in a material manner.

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In December 2008, Mr. Bagnall's employment relationship with the Company ended. In January 2009, the Company entered into a Confidential Separation Agreement and General Release of All Claims regarding terms of separation with Mr. Bagnall (the "Bagnall Separation Agreement").

As set forth in the Bagnall Separation Agreement, in exchange for a release of claims and Mr. Bagnall's agreement and representations (as more fully described below), the Company agreed to provide a severance payment of \$165,500 to Mr. Bagnall and each of the Company and Mr. Bagnall agreed to enter into a consulting relationship. In addition, the Company agreed to provide a health benefit allowance of \$18,352, which Mr. Bagnall may use, at his discretion, to pay the premiums required to continue his group health care coverage under COBRA or any other health care related expenses. The severance payment and the health benefit allowance were paid in one lump sum, less applicable payroll deductions and required withholdings, in January 2009. The severance provisions set forth in the Bagnall Separation Agreement supersede and replace the severance provisions set forth in Mr. Bagnall's offer letter from the Company, which was effective as of April 3, 2008 and amended as of December 11, 2008. Pursuant to the terms of the stock option granted to Mr. Bagnall in April 2008 in connection with the commencement of his employment (as more fully described above), 100,000 shares underlying this option vested and became exercisable immediately prior to Mr. Bagnall's involuntary termination in December 2008. As a result of Mr. Bagnall's remaining on the Board, Mr. Bagnall remained in continuous service and this option will continue to vest until such time as Mr. Bagnall is no longer in continuous service. Stock options held by Mr. Bagnall granted to him as a member of the Board were unaffected by Mr. Bagnall's involuntary termination.

Under the Bagnall Separation Agreement, Mr. Bagnall represented that he returned to the Company all property, data and information belonging to the Company other than is reasonably required by Mr. Bagnall to perform services as a member of the Board or is reasonably related to such services or is needed by Mr. Bagnall to provide services as a consultant to the Company. Mr. Bagnall agreed not to use or disclose to others any confidential or proprietary information of the Company, except, as applicable, in connection with Mr. Bagnall's position as a member of the Board or as a consultant to the Company, in which case such use and disclosure will be governed by such documents, agreements and duties as apply to such positions. Mr. Bagnall further agreed to comply with his continuing obligations under various agreements and other documents as previously executed by him. In addition, Mr. Bagnall agreed that he will not make any voluntary statements, written or oral, or cause or encourage others to make any such statements, that defame, disparage or in any way criticize the personal and/or business reputation, practices or conduct of the Company or its employees, officers and directors, among others. Mr. Bagnall also represented that he had not filed any lawsuits, complaints or other accusatory pleadings against the Company and certified that all transactions in the Company's securities prior to his separation date and reportable under Section 16 of the Securities Exchange Act of 1934 had been reported on Form 4 and agreed to execute and deliver promptly after December 31, 2008 a document certifying that he is not required to file a Form 5 for the fiscal year ended December 31, 2008. Finally, Mr. Bagnall agreed, at the end of the consulting period, to extend and reaffirm the promises made by Mr. Bagnall in the Bagnall Separation Agreement, including the release of claims.

In December 2008, the Company and Mr. Bagnall entered into a consulting agreement. Under the consulting agreement, Mr. Bagnall agreed to provide consulting services on an as-needed basis to assist the Company in identifying and evaluating strategic options and to respond to inquiries regarding finance and other matters, and the Company agreed to pay Mr. Bagnall \$100 per hour. In February 2009, the Company and Mr. Bagnall amended the consulting agreement to include services related to Mr. Bagnall acting as the Company's interim principal financial and accounting officer, and agreed to pay Mr. Bagnall \$250 per hour for services provided after such amendment. Either party may terminate the consulting agreement upon written notice. In 2008, the Company did not pay or accrue any amount with respect to Mr. Bagnall's consulting services. The Company does not expect to pay Mr. Bagnall more than \$120,000 under the consulting agreement.

Employment and Separation Arrangements with Mr. Hanson

In connection with the commencement of Mr. Hanson's employment in December 2006 as the Company's Chief Financial Officer and a Senior Vice President, the Company entered into an offer letter agreement with Mr. Hanson which provided that in the event of Mr. Hanson's involuntary termination, subject to Mr. Hanson's execution of a mutual release (which included a nondisparagement provision and a covenant not to sue the Company), Mr. Hanson would receive an amount equal to his base salary for the six-month period immediately prior to the effective date of such involuntary termination, payable in six substantially equal installments over the six-month period following such effective date, and the Company would pay in cash all costs the Company would otherwise have incurred to maintain Mr. Hanson's health, welfare and retirement benefits if Mr. Hanson had continued to render services to the Company for six months after such effective date. In addition, the Company granted to Mr. Hanson a stock option to purchase up to 250,000 shares of the Company's common stock, which option would vest and become exercisable monthly over 48 months from the vesting start date except that no shares would vest or become exercisable for the first 12 months and, on the 12-month anniversary of the vesting start date, which was December 20, 2007, 25% of the shares vest and become exercisable. Pursuant to the terms of Mr. Hanson's December 2006 stock option, in the event of Mr. Hanson's involuntary termination, and subject to Mr. Hanson's execution of a general release of claims (which included a nondisparagement provision and a covenant not to sue the Company), that number of shares underlying the stock option would vest and become exercisable, effective immediately prior to the effective date of such involuntary termination, as would have vested and become exercisable had Mr. Hanson remained in continuous service (i.e., the absence of any interruption or termination of services as an employee, director or consultant of the Company, or any subsidiary) for six months following such effective date, and Mr. Hanson would have 180 days following the effective date of such involuntary termination to exercise this stock option. For purposes of this agreement, an "involuntary termination" meant one that occurred by reason of dismissal for any reason other than misconduct or of voluntary resignation following: (i) a change in position that materially reduced the level of Mr. Hanson's responsibility, (ii) a material reduction in Mr. Hanson's base salary, or (iii) relocation by more than 50 miles; provided that (ii) and (iii) will apply only if Mr. Hanson did not consent to the change or relocation. "Misconduct" meant the commission of any act of fraud, embezzlement or dishonesty by Mr. Hanson, any unauthorized use or disclosure by Mr. Hanson of confidential information or trade secrets of the Company (or any parent or subsidiary), or any other intentional misconduct by Mr. Hanson adversely affecting the business affairs of the Company (or any parent or subsidiary) in a material manner.

In April 2008, Mr. Hanson's employment relationship with the Company ended. In April 2008, the Company entered into a letter agreement regarding terms of separation with Mr. Hanson. The terms of Mr. Hanson employment separation, as provided in the letter agreement, were substantially identical to those set forth in his offer letter, dated December 13, 2006, and in the stock option agreement relating to the stock option granted to him in December 2006 in connection with the commencement of his employment, both of which are described above and have been previously filed with the SEC.

As set forth in the letter agreement regarding terms of separation, in exchange for a mutual release, beginning in April 2008, the Company paid Mr. Hanson an aggregate of \$125,000, which was equal to six months of Mr. Hanson base salary in effect at the time of termination, less applicable payroll deductions and required withholdings, in substantially equal installments in accordance with the Company's standard payroll practices over 13 pay periods. In addition, the Company paid Mr. Hanson \$20,997, less applicable payroll deductions and required withholdings, which the Company and Mr. Hanson agreed satisfied in full the Company's obligation to pay all costs that the Company would otherwise have incurred to maintain Mr. Hanson's health, welfare and retirement benefits if Mr. Hanson had continued for six continuous months after Mr. Hanson's termination date. The Company paid the \$20,997 amount in substantially equal installments commencing on and continuing in accordance with the same schedule described above with respect to payment of Mr. Hanson's base salary. Furthermore, the Company accelerated the vesting and extended the time to exercise vested shares under the stock option granted to Mr. Hanson in December 2006 in connection with the commencement of his employment. Under this option, Mr. Hanson was granted the right to purchase up to 250,000 shares of the Company's common stock at a price of \$2.57 per share, which right was subject to a vesting schedule. As of Mr. Hanson's termination date, this option was vested as to 78,125 shares and unvested as to 171,875 shares. Pursuant to the letter agreement regarding terms of separation, the Company accelerated vesting as to 31,250 of the unvested shares, which resulted in this option being vested as to a total of 109,375 shares, and extended the time for Mr. Hanson to exercise the vested shares under this option through September 29, 2008. Mr. Hanson did not exercise the option by September 29, 2008 and, accordingly, it terminated on that date. The closing market price of the Company's common stock on September 29, 2008 was \$0.18 per share, while the exercise price of the option was \$2.57 per share.

Under the letter agreement regarding terms of separation, Mr. Hanson represented that he had returned to the Company all of its property and data that had been in his possession or control and acknowledged that he will continue to be bound an agreement with the Company regarding the use and confidentiality of the Company's confidential information and, in particular, that he will hold all of the Company's confidential information in confidence and not directly or indirectly use any aspect of such confidential information. Mr. Hanson also agreed not to make any voluntary statements, written or oral, or cause or encourage others to make any such statements that defame or disparage the Company and, among others, its officers and directors.

In addition, in April 2008, the Company and Mr. Hanson entered into a consulting agreement and related confidential information and invention assignment agreement. Under the consulting agreement, Mr. Hanson agreed to provide consulting services on an as-needed basis and the Company agreed to pay Mr. Hanson (a) for the first ten hours in a particular calendar month, \$250 per hour and (b) for any time beyond ten hours in a particular calendar month, \$150 per hour. Either party may terminate the consulting agreement upon written notice, except that Mr. Hanson could not terminate the consulting agreement, other than for the Company's failure to pay Mr. Hanson as set forth in the consulting agreement, prior to December 31, 2008. The Company does not expect to require Mr. Hanson's consulting services during 2009.

Employment and Separation Arrangements with Dr. Robbins

Under the terms of an offer letter, dated March 5, 2003, the Company agreed to pay Dr. Robbins a bonus, payable in stock options, equal to 5% of all government grants received by the Company. In addition, the Company agreed to pay Dr. Robbins a bonus, payable in stock options, equal to 5% of capital received by the Company that is a direct result of Dr. Robbins' introduction. The Company never issued any stock options to Dr. Robbins as a result of these provisions. In October 2008, Dr. Robbins employment relationship with the Company ended. Dr. Robbins formerly served as the Company's Chief Scientific Officer and a Senior Vice President. In December 2008, the Company entered into a Confidential Separation Agreement and General Release of All Claims regarding terms of separation with Dr. Robbins (the "Robbins Separation Agreement").

As set forth in the Robbins Separation Agreement, in exchange for a release of claims and Dr. Robbins' agreement to provide certain transition assistance and Dr. Robbins' other agreements and representations (as more fully described below), the Company agreed to provide a severance payment of \$123,615 to Dr. Robbins. In addition, the Company agreed to provide a health benefit allowance of \$8,309, which Dr. Robbins may use, at her discretion, to pay the premiums required to continue her group health care coverage under COBRA or any other health care related expenses. The Company agreed to pay the severance payment and the health benefit allowance in eleven substantially equal installments over a period of five and one-half months, less applicable payroll deductions and required withholdings, beginning in December 2008, conditioned upon Dr. Robbins' making herself available as needed during that period to answer business-related questions by telephone or in person as deemed reasonably necessary by the Company. At the time of her separation from the Company, Dr. Robbins held vested options to purchase up to 495,312 shares. Pursuant to their terms, these options expired, unexercised, on December 30, 2008 and January 12, 2009. The closing market price of the Company's common stock on December 30, 2008 was \$0.07 per share, while the exercise price of the option that expired on December 30, 2008 was \$0.50 per share. The closing market price of the Company's common stock on January 12, 2009 was \$0.12 per share, while the exercise prices of the options that expired on January 12, 2009 were \$2.30 per share, \$2.75 per share and \$4.75 per share.

Under the Robbins Separation Agreement, Dr. Robbins represented that she had returned to the Company all property, data and information belonging to the Company and agreed not to use or disclose to others any confidential or proprietary information of the Company and agreed to comply with her continuing obligations under various agreements and other documents as previously executed by her. In addition, she agreed to make herself available, as needed, without any additional compensation, to answer business-related questions by telephone or in person as deemed reasonably necessary by the Company and that she will not make any voluntary statements, written or oral, or cause or encourage others to make any such statements, that defame, disparage or in any way criticize the personal and/or business reputation, practices or conduct of the Company or its employees, officers and directors, among others. Dr. Robbins also represented that she had not filed any lawsuits, complaints or other accusatory pleadings against the Company and certified that all transactions in the Company's securities prior to her separation date and reportable under Section 16 of the Securities Exchange Act of 1934 had been reported on Form 4 and agreed to execute and deliver promptly after December 31, 2008 a document certifying that she is not required to file a Form 5 for the fiscal year ended December 31, 2008.

Acceleration of Vesting of Outstanding Stock Options

Stock options granted under the Company's 2005 Equity Incentive Plan typically are evidenced by the Company's standard stock option agreement. The Company may elect to incorporate into its standard stock option agreement one or more alternatives regarding the effect of a change in control on the underlying option, including its vesting and exercisability. The Company has not granted any stock options to any of the Named Executive Officers currently employed by the Company under its 2008 Omnibus Incentive Plan.

The Company generally provides in stock option agreements (actually entered into with recipients of stock option awards) that the option will accelerate in full in the event of an "acquisition" constituting a "change of control" (as such terms are defined in the Company's standard form of stock option agreement) if the recipient remains employed by the Company as of the closing date of such acquisition and the option is not assumed or replaced by the successor or acquiring entity or the entity in control of such successor or acquiring entity. Otherwise, the option will not accelerate in the event of such an acquisition. All of the stock option agreements governing the outstanding, unvested options held by the Named Executive Officers contain this acceleration provision.

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In addition, the Company has incorporated into certain stock option agreements for options granted in and after August 2006 a provision providing that, if following a change of control in which an option is assumed as described above, in the event of the recipient's "involuntary termination" within a period of time, not to exceed 24 months, after the closing date of such change of control, the vesting of the assumed option will be accelerated such that the option will vest as of the effective date of such involuntary termination with respect to all shares that would have vested during such period. For purposes of the stock option agreements, an "involuntary termination" is a termination of employment that occurs by reason of dismissal for any reason other than "misconduct" or of voluntary resignation following: (i) a change in position that materially reduces the level of the employee's responsibility, (ii) a material reduction in the employee's base salary, or (iii) relocation by more than 50 miles; provided that (ii) and (iii) will apply only if the employee has not consented to the change or relocation.

"Misconduct" means the commission of any act of fraud, embezzlement or dishonesty by the employee, any unauthorized use or disclosure by the employee of confidential information or trade secrets of the Company (or any parent or subsidiary), or any other intentional misconduct by the employee adversely affecting the business affairs of the Company (or any parent or subsidiary) in a material manner. All of the stock option agreements governing the options granted to the Named Executive Officers in January 2007 contain this double trigger acceleration provision. The Company anticipates continuing to include this or a similar double trigger acceleration provision in most stock option awards made in the future.

As of December 31, 2008, none of the Named Executive Officers had any in-the-money unvested stock options. The value at December 31, 2008 of the acceleration provisions described above is based on the "spread" between the exercise price of option shares that would accelerate under the acceleration scenarios described above and the market value of these shares as of December 31, 2008. The market value of these shares is based on the closing market price of the Company's common stock on December 31, 2008, which was \$0.08 per share. None of the outstanding, unvested options held by the Named Executive Officers has an exercise price of less than \$0.08 per share. Accordingly, none of the Named Executive Officers would have realized any value as a result of the acceleration provisions described above had any of the acceleration scenarios occurred on December 31, 2008.

Outstanding Equity Awards at Fiscal Year-End 2008

The following table sets forth information regarding outstanding equity awards held by the Named Executive Officers at the end of fiscal 2008:

Name	Option Awards					Stock Awards			
	Number of Securities Underlying Unexercised Options (#)	Number of Securities Underlying Unexercised Options (#)	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Rights That Have Not Vested (\$)
Brian M. Culley	100,000	—	—	\$ 2.30	7/13/2015	—	—	—	—
	58,333(1)	21,667(1)	—	\$ 4.75	1/30/2016	—	—	—	—
	71,875(2)	78,125(2)	—	\$ 2.75	1/11/2017	—	—	—	—
	—	200,000(3)	—	\$ 0.54	3/30/2018	—	—	—	—
Patrick L. Keran	58,333(4)	41,667(4)	—	\$ 2.99	8/17/2016	—	—	—	—
	23,958(2)	26,042(2)	—	\$ 2.75	1/11/2017	—	—	—	—
	—	200,000(3)	—	\$ 0.54	3/30/2018	—	—	—	—
Evan M. Levine	—	—	—	—	—	—	—	—	—
Mark N.K. Bagnall	50,000	—	—	\$ 2.42	7/13/2015	—	—	—	—
	50,000	—	—	\$ 4.62	6/01/2016	—	—	—	—
	50,000	—	—	\$ 2.57	5/22/2017	—	—	—	—
	100,000(5)	400,000(5)	—	\$ 0.52	4/02/2018	—	—	—	—
Gregory P. Hanson	—	—	—	—	—	—	—	—	—
Joan M. Robbins	93,750(6)	6,250(6)	—	\$ 2.30	1/12/2009	—	—	—	—
	68,750(6)	31,250(6)	—	\$ 4.75	1/12/2009	—	—	—	—
	32,812(6)	42,188(6)	—	\$ 2.75	1/12/2009	—	—	—	—
	—	200,000(7)	—	\$ 0.54	1/12/2009	—	—	—	—

- (1) Subject to accelerated vesting in the event of a change in control, as described above under “Narrative Disclosure to Summary Compensation Table — Acceleration of Vesting of Outstanding Stock Options,” this option vested and became exercisable with respect to 1/4 of the total underlying shares on January 1, 2007 and vests and becomes exercisable with respect to 1/48 of the total underlying shares at the end of each successive calendar month thereafter.
- (2) Subject to accelerated vesting in the event of a change in control or an involuntary termination within 24 months of a change in control, as described above under “Narrative Disclosure to Summary Compensation Table — Acceleration of Vesting of Outstanding Stock Options,” this option vested and became exercisable with respect to 1/4 of the total underlying shares subject to the option on January 1, 2008 and vests and becomes exercisable with respect to 1/48 of the total underlying shares at the end of each successive month thereafter.
- (3) Subject to accelerated vesting in the event of a change in control or an involuntary termination within 24 months of a change in control, as described above under “Narrative Disclosure to Summary Compensation Table — Acceleration of Vesting of Outstanding Stock Options,” this option will vest and become exercisable with respect to 1/5 of the total underlying shares on each of January 1, 2009, January 1, 2010, January 1, 2011, January 1, 2012 and January 1, 2013.
- (4) Subject to accelerated vesting in the event of a change in control or an involuntary termination within 24 months of a change in control, as described above under “Narrative Disclosure to Summary Compensation Table — Acceleration of Vesting of Outstanding Stock Options,” this option vested and became exercisable with respect to 1/4 of the total underlying shares subject to the option on August 7, 2007 and vests and becomes exercisable with respect to 1/48 of the total underlying shares at the end of each successive month thereafter.
- (5) Subject to accelerated vesting in the event of a change in control or an involuntary termination within 12 months of a change in control, as described above under “Narrative Disclosure to Summary Compensation Table — Employment and Separation Arrangements with Mr. Bagnall,” this option vested and became exercisable with respect to 100,000 shares immediately prior to Mr. Bagnall’s involuntary termination in December 2008 and will vest and become exercisable with respect to 1/5 of the total underlying shares on each of January 1, 2009, January 1, 2010, January 1, 2011 and January 1, 2012.
- (6) Dr. Robbins’ employment with the Company ended on October 14, 2008 and, as a result, this option stopped vesting as of such date. Pursuant to the terms of the option grant, this option expired and was no longer exercisable as of January 12, 2009.
- (7) Dr. Robbins’ employment with the Company ended on October 14, 2008 and, as a result, this option stopped vesting as of such date. On October 14, 2008, none of the shares underlying this option were vested or exercisable.

Tax-Qualified Defined Contribution Plan

The Company has a defined contribution savings plan pursuant to Section 401(k) of the IRC. The plan is for the benefit of all full-time employees and permits voluntary contributions by qualifying employees of up to 100% of eligible compensation, subject to Internal Revenue Service-imposed maximum limits. Until January 1, 2008, the Company was required to make matching contributions in the amount of 100% of employee contributions up to 3% of eligible compensation and 50% of employee contributions between 3% and 5% of eligible compensation. Effective January 1, 2008, the plan was amended to require the Company to make matching contributions equal to 100% of employee contributions up to 6% of eligible compensation, limited by the IRS-imposed maximum. The Company incurred total expenses of approximately \$218,150 and \$118,000 in employer matching contributions in 2008 and 2007, respectively.

Compensation of Directors

Directors who are employees of the Company do not receive any additional compensation for their services as directors. The Company's non-employee directors are compensated as described below.

Retainer and Meeting Fees

During 2008, the Company paid its non-employee directors quarterly cash retainers and Board and committee meeting fees. The amounts of the quarterly retainers vary depending on the non-employee director's role on the Board and its committees, as set forth in the table below:

Quarterly Retainers	Chairperson	Member
Board of Directors	\$ 6,250	\$ 2,500
Audit Committee	\$ 5,000	\$ 2,500
Compensation Committee	\$ 2,500	\$ 1,250
Nominating and Governance Committee	\$ 2,500	\$ 1,250
Research and Development Committee	\$ 2,500	\$ 1,250

In addition to the quarterly retainers, the Company pays the following per meeting fees with respect to each meeting of the Board or any committee of the Board with a duration of more than 15 minutes, other than (i) the first four meetings of the Board held during each calendar year, (ii) the first four meetings of the audit committee held during each calendar year, (iii) the first two meetings of the compensation committee held during each calendar year and (iv) the first meeting of the nominating and governance committee held during each calendar year:

- \$1,000 to each director for each such meeting attended in person; and
- \$500 to each director for each such meeting attended via telephone conference call.

In addition to the quarterly retainer and meeting fees, the Company reimburses its non-employee directors for travel and other reasonable out-of-pocket expenses related to attendance at Board and committee meetings.

Equity Compensation

Pursuant to the terms of the Company's 2005 Equity Incentive Plan, each non-employee director was automatically granted a nonstatutory option to purchase 50,000 shares of the Company's common stock at the first meeting of the Board following each annual meeting of stockholders, provided that such non-employee director had served on the Board for at least the preceding six months. The exercise price per share of each automatically granted option was equal to 105% of the per-share fair market value of the Company's common stock on the grant date. Each such option became exercisable as to 1/12th of the shares underlying the option at the end of each calendar month after its date of grant, provided that the director remains in continuous service. The options expire no later than ten years after the date of grant. In May 2008, the Company's stockholders approved the Company's 2008 Omnibus Incentive Plan. Following adoption of the Company's 2008 Omnibus Incentive Plan, no additional awards (including the automatic options to the Company's non-employee directors described above) have been or will be made under the Company's 2005 Equity Incentive Plan; however, the 2005 Equity Incentive Plan will continue to govern any outstanding awards (including the automatic options to the Company's non-employee directors described above) previously granted under the 2005 Equity Incentive Plan.

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Awards under the Company’s 2008 Omnibus Incentive Plan are at the discretion of the Board or the compensation committee of the Board. Unlike the 2005 Equity Incentive Plan, the 2008 Omnibus Incentive Plan does not provide for automatic awards to the Company’s directors. However, the Company currently intends to grant annual nonstatutory options to its non-employee directors on terms substantially similar to the terms of the automatic annual options granted to the non-employee directors under the 2005 Equity Incentive Plan, except that the exercise price per share of these options would be equal to 100% of the per-share fair market value of the Company’s common stock on the date of grant.

In February 2008, the Board approved an option to purchase up to of 50,000 shares of the Company’s common stock to each of Drs. Rowinsky and Denner. The Board granted an option to Dr. Rowinsky in connection with his appointment to the Board in February 2008 and granted an option to Dr. Denner in acknowledgment that it had not granted Dr. Denner an option in connection with his appointment to the Board in October 2006. Each option will vest and become exercisable in 12 equal monthly installments beginning on, for Dr. Rowinsky, February 25, 2008, and, for Dr. Denner, February 28, 2008, and will expire on March 23, 2018. The grants of these options were contingent upon the Company’s receipt of a waiver under the Rights Agreement of restrictions relating to equity awards to directors and employees of the Company. The Company received the waiver on March 24, 2008 and, accordingly, the options were granted with an exercise price of \$0.48 per share, which was the closing price of the Company’s common stock on March 24, 2008, as reported by the NYSE Amex. If Dr. Rowinsky’s or Dr. Denner’s service to the Company terminates for any reason, the options will be exercisable, to the extent then vested, during the three-year period after the date of such termination, but in no event after March 23, 2018.

In May 2008, the Board approved an option to purchase up to 50,000 shares of the Company’s common stock to each non-employee member of the Board. Each option will vest and become exercisable in 12 equal monthly installments beginning on May 28, 2008 and will expire on June 29, 2018. To comply with the requirements of the NYSE Amex regarding the listing of additional securities and applicable securities laws, the Board authorized these options to be granted as of a date that would give the Company a reasonable time to apply for and receive approval to list the additional shares with the NYSE Amex and to prepare and file a registration statement on Form S-8 covering awards under the Company’s 2008 Omnibus Incentive Plan. Accordingly, the Board approved a grant date of June 30, 2008 for these options and the options were granted with an exercise price of \$0.37 per share, which was the closing price of the Company’s common stock on June 30, 2008. If any of the non-employee director’s service to the Company terminates for any reason, the options will be exercisable, to the extent then vested, during the three-year period after the date of such termination, but in no event after June 29, 2018.

Director Compensation in 2008

The following table shows compensation information for the individuals who served as non-employee directors of the Company during the year ended December 31, 2008:

Name(1)	Fees Earned or Paid in Cash	Stock Awards	Option Awards(2)	Non-Equity Incentive Plan Compensation	Nonqualified Deferred Compensation Earnings	All Other Compensation	Total
Alexander J. Denner	\$ 44,772(3)	—	\$ 65,890(4)	—	—	—	\$110,662
Michael M. Goldberg	\$ 42,056	—	\$ 47,002(5)	—	—	—	\$ 89,058
Jack Lief	\$ 59,944	—	\$ 47,002(6)	—	—	—	\$106,947
Mark J. Pykett	\$ 41,556	—	\$ 47,002(7)	—	—	—	\$ 88,558
Eric K. Rowinsky	\$ 29,723	—	\$ 28,291(8)	—	—	—	\$ 58,014

(1) Mark N.K. Bagnall served as a non-employee director of the Company for part of 2008, but from April 3, 2008 to December 26, 2008, he served as the Company’s Executive Vice President, Chief Financial Officer and Treasurer. Accordingly, all of Mr. Bagnall’s 2008 compensation is set forth above in the Summary Compensation Table and under “Narrative Disclosure to the Summary Compensation Table.”

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- (2) Values for option awards have been computed in accordance with FAS 123R, which requires that the Company recognizes as compensation expense the value (excluding the effect of assumed forfeiture rates) of the options granted to the directors over the requisite service period, which is typically the vesting period. For the assumptions made in calculating the FAS 123R value of the option awards, see Note 8 of the Notes to Consolidated Financial Statements contained in the Company's Annual Report on Form 10-K filed with the SEC on March 27, 2009. The amounts in this column include the ratable compensation expense recognized in 2008 for options granted in 2007.
- (3) Since October 2006, when Dr. Denner joined the Board, through February 2008, based on its past practice regarding cash compensation with respect to Mr. Meister, the Purchaser Designee under the Rights Agreement prior to Dr. Denner, the Company did not pay Dr. Denner any fees associated with his participation on the Board or its committees. For information regarding the Rights Agreement, see "Director Nominations — Board Nominees for the 2009 Annual Meeting," above. In March 2008, after discussions with Dr. Denner, the Company paid Dr. Denner \$18,500 and \$2,772, which represented fees earned by Dr. Denner in 2007 and 2006, respectively, for participation on the Board and its compensation committee.
- (4) The aggregate number of shares underlying Dr. Denner's outstanding options at December 31, 2008 was 150,000 shares.
- (5) The aggregate number of shares underlying Dr. Goldberg's outstanding options at December 31, 2008 was 250,000 shares.
- (6) The aggregate number of shares underlying Mr. Lief's outstanding options at December 31, 2008 was 150,000 shares.
- (7) The aggregate number of shares underlying Dr. Pykett's outstanding options at December 31, 2008 was 250,000 shares.
- (8) The aggregate number of shares underlying Dr. Rowinsky's outstanding options at December 31, 2008 was 100,000 shares.

AUDIT COMMITTEE REPORT

Under the guidance of a written charter adopted by the Board, the purpose of the audit committee is to oversee the accounting and financial reporting processes of the Company and audits of its financial statements and the effectiveness of the Company's internal control over financial reporting, if applicable. The responsibilities of the audit committee include appointing and providing for the compensation of the Company's independent registered public accounting firm. Each of the members of the audit committee meets the independence and qualification requirements of the NYSE Amex.

Management has primary responsibility for the system of internal controls and the financial reporting process. The independent registered public accounting firm has the responsibility to express an opinion on the financial statements based on an audit conducted in accordance with generally accepted auditing standards.

In this context and in connection with the audited financial statements contained in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008, the audit committee:

- reviewed and discussed the audited financial statements as of and for the fiscal year ended December 31, 2008 with the Company's management;
- discussed with J.H. Cohn, LLP, the Company's independent registered public accounting firm, the matters required to be discussed by Statement of Auditing Standards No. 61, as amended, as adopted by the Public Company Accounting Oversight Board in Rule 3200T;
- reviewed the written disclosures and the letter from J.H. Cohn, LLP required by applicable requirements of the Public Company Accounting Oversight Board regarding the independent accountant's communications with the audit committee concerning independence, and has discussed with J.H. Cohn, LLP their independence; and
- based on the foregoing reviews and discussions, recommended to the Board that the audited financial statements be included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008 filed with the Securities and Exchange Commission.

AUDIT COMMITTEE

Jack Lief
Michael M. Goldberg
Mark J. Pykett

The preceding "Audit Committee Report" shall not be deemed soliciting material or filed with the Securities and Exchange Commission, nor shall any information in this report be incorporated by reference into any of past or future filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent the Company specifically incorporates it by reference into such filing.

Policy Regarding Pre-Approval of Audit and Non-Audit Services by the Company's Independent Registered Public Accounting Firm

The Company has established a policy that all audit and permissible non-audit services provided by the Company's independent registered public accounting firm will be pre-approved by the audit committee. These services may include audit services, audit-related services, tax services and other services. The audit committee considers whether the provision of each non-audit service is compatible with maintaining the independence of our auditors.

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Principal Accountant Fees and Services

The audit committee has appointed J.H. Cohn LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009. The Company is asking the stockholders to ratify this appointment.

The following table shows the fees paid or accrued by the Company for the audit and other services provided by J.H. Cohn LLP for fiscal 2007 and 2008.

	<u>2007</u>	<u>2008</u>
Audit Fees(1)	\$ 256,392	\$ 188,779
Audit-Related Fees(2)	10,000	14,500
Tax Fees	—	—
All Other Fees(3)	1,042	—
Total	<u>\$ 267,434</u>	<u>\$ 203,279</u>

(1) "Audit Fees" represent fees for professional services provided in connection with the audit of the Company's financial statements (including the audit of internal controls over financial reporting under Section 404 of the Sarbanes Oxley Act, if conducted) and review of the Company's quarterly financial statements and services normally provided in connection with statutory and regulatory filings and engagements.

(2) "Audit-Related Fees" consist primarily of assurance and related services related to the performance of the annual audit or review of the Company's financial statements.

(3) "All Other Fees" for 2007 consist of fees to access an accounting research software tool.

PROPOSAL 1 — ELECTION OF DIRECTORS

At the Annual Meeting, the stockholders will vote on the election of six directors to serve for one-year terms until the next annual meeting of stockholders in and until their successors are elected and qualified, or until their earlier death, retirement, resignation or removal. The Board has unanimously nominated Mark N.K. Bagnall, Alexander J. Denner, Michael M. Goldberg, Jack Lief, Mark J. Pykett and Eric K. Rowinsky for election to the Board as directors. The nominees have indicated that they are willing and able to serve as directors. If any of the nominees becomes unable or unwilling to serve, the accompanying proxy may be voted for the election of such other person as shall be designated by the Board. The proxies being solicited will be voted for no more than six nominees at the Annual Meeting. The directors will be elected by the affirmative vote of a majority of the votes cast with respect to each director nominee, in person or by proxy, at the Annual Meeting, assuming a quorum is present. Stockholders do not have cumulative voting rights in the election of directors.

The Board recommends a vote “FOR” the election of Mark N.K. Bagnall, Alexander J. Denner, Michael M. Goldberg, Jack Lief, Mark J. Pykett and Eric K. Rowinsky as directors.

Unless otherwise instructed, it is the intention of the persons named in the accompanying proxy card to vote shares represented by properly executed proxy cards for the election of Mark N.K. Bagnall, Alexander J. Denner, Michael M. Goldberg, Jack Lief, Mark J. Pykett and Eric K. Rowinsky.

PROPOSAL 2 — RATIFICATION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

At the Annual Meeting, the stockholders will be asked to ratify the appointment of J.H. Cohn LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009. If the stockholders do not ratify the appointment of J.H. Cohn LLP, the audit committee will reconsider this appointment. Approval of this proposal requires the affirmative vote of the holders of a majority of the shares represented in person or by proxy and entitled to vote at the Annual Meeting. Broker non-votes will not have any effect on the outcome of this proposal. Even if the appointment is ratified, the audit committee, in its discretion, may appoint a different independent registered public accounting firm at any time during the year if the audit committee determines that such a change would be in the best interests of the Company and its stockholders.

The Company expects representatives of J.H. Cohn LLP to be present at the Annual Meeting and they will have the opportunity to make statements if they desire to do so. The Company also expects such representatives to be available to respond to appropriate questions.

The Board recommends a vote "FOR" the ratification of the appointment of J.H. Cohn LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009.

OTHER MATTERS

As of the time of preparation of this Proxy Statement, neither the Board nor management of the Company intends to bring before the Annual Meeting any business other than the matters referred to in the Notice of Annual Meeting and this Proxy Statement. If any other business should properly come before the Annual Meeting, or any adjournment thereof, the persons named in the proxy will vote on such matters according to their best judgment.

STOCKHOLDER PROPOSALS FOR 2010 ANNUAL MEETING

Stockholder proposals may be included in the Company's proxy materials for the 2010 Annual Meeting of Stockholders if they are provided to the Company on a timely basis and satisfy the other conditions set forth in applicable SEC rules. For a stockholder proposal to be included in the Company's proxy materials for the 2010 Annual Meeting of Stockholders, the proposal must be received at the Company's principal executive offices, addressed to the secretary of the Company, not later than December 30, 2009. Stockholder business that is not intended for inclusion in the Company's proxy materials may be brought before the annual meeting so long as the Company receives notice of the proposal as specified by the Company's bylaws, addressed to the secretary of the Company at the Company's principal executive offices, not earlier than February 2, 2010 nor later than the close of business on March 4, 2010. Stockholders may make nominations of persons for election to the Board at the 2010 Annual Meeting of Stockholders so long as the Company receives notice of the proposal as specified by the Company's bylaws, addressed to the secretary of the Company at the Company's principal executive offices, not earlier than February 2, 2010 nor later than the close of business on March 4, 2010. Stockholders are advised to review the Company's bylaws, which contain additional advance notice requirements, including requirements with respect to advance notice of stockholder proposals and director nominations. A copy of the Company's bylaws is available to stockholders from the secretary of the Company upon written request.

By Order of the Board of Directors



Chief Business Officer and Senior Vice President

San Diego, California
April 30, 2009

YOUR VOTE IS IMPORTANT!

You are cordially invited to attend the Annual Meeting. However, to ensure that your shares are represented at the meeting, please submit your proxy or voting instructions by mail, using the return envelope provided. Please see the instructions on the proxy and voting instruction card. Submitting a proxy or voting instructions will not prevent you from attending the Annual Meeting and voting in person, if you so desire, but will help the Company secure a quorum and reduce the expense of additional proxy solicitation.

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IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDERS MEETING TO BE HELD ON JUNE 3, 2009: Our notice of annual meeting of stockholders, proxy statement and annual report on Form 10-K for the fiscal year ended December 31, 2008 may be viewed at <https://www.proxydocs.com/anx>.

ADVENTRX PHARMACEUTICALS, INC.

**Proxy Solicited on behalf of the Board of Directors
for the Annual Meeting of Stockholders
to be Held June 3, 2009**

The undersigned stockholder of ADVENTRX Pharmaceuticals, Inc. (the "Company") hereby appoints Brian M. Culley and Mark N.K. Bagnall, or any one of them with full power of substitution, as proxies of the undersigned to attend the Annual Meeting of Stockholders of the Company to be held on June 3, 2009 at 9:00 a.m., Pacific time, and any adjournment thereof, hereby revoking any proxies heretofore given, and to vote all shares of common stock of the Company held or owned by the undersigned as directed on the reverse side of this proxy card, and in their discretion upon such other matters as may come before the meeting.

CONTINUED AND TO BE SIGNED ON REVERSE SIDE

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The Board recommends that you vote FOR the following proposals. The shares represented by this proxy, when properly executed, will be voted in the manner directed below. **IF NO CHOICE IS INDICATED, THE SHARES REPRESENTED BY THIS PROXY WILL BE VOTED FOR ALL OF THE FOLLOWING PROPOSALS.** This proxy may be revoked by the undersigned at any time, prior to the time it is voted by any of the means described in the accompanying Proxy Statement.

1. To elect as directors, to hold office until the 2010 Annual Meeting of Stockholders and until their successors are elected and qualified, the nominees listed below:

Mark N.K. Bagnall

Alexander J. Denner

Michael M. Goldberg

Jack Lief

Mark J. Pykett

Eric K. Rowinsky

_____ FOR _____ WITHHOLD AUTHORITY TO VOTE
all nominees listed (except as indicated below) (as to all nominees)

To withhold authority to vote for any individual nominee, write the nominee's name on the line provided below.

2. To ratify the appointment of J.H. Cohn LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009.

_____ For _____ Against _____ Abstain

Please sign here. Date and sign exactly as name(s) appear(s) on this proxy. If signing for estates, trusts, corporations or other entities, full title or capacity should be stated. If shares are held jointly, each holder should sign.

Signature(s) of Stockholder(s):

Date: _____, _____

**PLEASE COMPLETE, DATE AND SIGN THIS PROXY
AND RETURN IT PROMPTLY IN THE ENCLOSED ENVELOPE.**