

EPIX Pharmaceuticals, Inc.
Form DEF 14A
April 24, 2009

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**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

EPIX 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:

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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:

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**EPIX Pharmaceuticals, Inc.
4 Maguire Road
Lexington, Massachusetts 02421**

April 24, 2009

Dear Stockholder,

We cordially invite you to attend our 2009 Annual Meeting of Stockholders to be held at 10:00 a.m. on Tuesday, June 16, 2009 at the offices of Goodwin Procter LLP, our outside legal counsel, located at Exchange Place, 53 State Street, Boston, Massachusetts 02109.

At this meeting, you will be asked to elect two class I directors for three-year terms, to approve an amendment to our Restated Certificate of Incorporation to increase the number of shares of our authorized common stock and to ratify the selection of our independent registered public accountants. The board of directors unanimously recommends that you vote FOR each of these proposals. Details regarding the matters to be acted upon at this annual meeting appear in the accompanying notice of annual meeting and proxy statement. Please give this material your careful attention.

Whether or not you plan to attend the annual meeting, we urge you to sign and return the enclosed proxy card, or to complete your proxy by telephone or via the Internet in accordance with the instructions on the proxy card, so that your shares will be represented at the annual meeting. If you attend the annual meeting and wish to vote in person, you may withdraw a previously submitted proxy at that time. Your prompt cooperation will be greatly appreciated.

Sincerely,

Elkan Gamzu, Ph.D.
President and Chief Executive Officer

**YOUR VOTE IS IMPORTANT.
PLEASE RETURN YOUR PROXY PROMPTLY.**

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EPIX PHARMACEUTICALS, INC.
4 Maguire Road
Lexington, Massachusetts 02421

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
To Be Held On June 16, 2009

To the Stockholders of EPIX Pharmaceuticals, Inc.:

The annual meeting of stockholders of EPIX Pharmaceuticals, Inc., a Delaware corporation (the Company), will be held on Tuesday, June 16, 2009, at 10:00 a.m., local time, at the offices of Goodwin Procter LLP, our outside legal counsel, located at Exchange Place, 53 State Street, Boston, Massachusetts 02109 for the following purposes:

1. To elect two members to the board of directors as class I directors, nominated by the Board of Directors, each to serve for a three-year term and until his successor has been duly elected and qualified or until his earlier resignation or removal;
2. To approve an amendment to our Restated Certificate of Incorporation to increase our authorized common stock from 100,000,000 shares to 200,000,000 shares;
3. To ratify the selection of Ernst & Young LLP as our independent registered public accountants for the current fiscal year; and
4. To transact such other business as may properly come before the annual meeting and any adjournment or postponement thereof.

Proposal 1 relates solely to the election of two (2) class I directors nominated by the Board of Directors and does not include any other matters relating to the election of directors, including without limitation, the election of directors nominated by any stockholder of the Company.

Only stockholders of record as of the close of business on May 7, 2009, the record date fixed by the board of directors, are entitled to notice of and to vote at the annual meeting and any adjournment or postponement thereof.

All stockholders are cordially invited to attend the annual meeting in person. **However, to assure your representation at the annual meeting, we urge you, whether or not you plan to attend the annual meeting, to vote promptly in one of the following ways:** (1) by completing, signing and dating the enclosed proxy card, (2) by completing your proxy using the toll-free number listed on the proxy card or (3) by completing your proxy via the Internet by visiting the website address listed on your proxy card. If you attend the annual meeting, you may vote in person even if you have previously submitted your proxy. If you plan to attend the annual meeting and you require directions, please call us at (781) 761-7600.

BY ORDER OF THE BOARD OF DIRECTORS

ELKAN GAMZU, Ph.D.
President and Chief Executive Officer

Lexington, Massachusetts
April 24, 2009

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE SHAREHOLDER MEETING TO BE HELD ON JUNE 16, 2009. THE PROXY STATEMENT AND ANNUAL REPORT TO SHAREHOLDERS ARE AVAILABLE AT www.edocumentview.com/EPIX

IN ACCORDANCE WITH OUR SECURITY PROCEDURES, ALL PERSONS ATTENDING THE ANNUAL MEETING WILL BE REQUIRED TO PRESENT PICTURE IDENTIFICATION.

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EPIX PHARMACEUTICALS, INC.
4 Maguire Road
Lexington, Massachusetts 02421
(781) 761-7600

PROXY STATEMENT
For the Annual Meeting of Stockholders
To Be Held on June 16, 2009

April 24, 2009

This proxy statement is furnished in connection with the solicitation of proxies by the board of directors of EPIX Pharmaceuticals, Inc., a Delaware corporation (the Company), for use at the annual meeting of stockholders to be held on Tuesday, June 16, 2009, at 10:00 a.m., local time, at the offices of Goodwin Procter LLP, our outside legal counsel, located at Exchange Place, 53 State Street, Boston, Massachusetts 02109, and any adjournments or postponements thereof. An annual report to stockholders, containing financial statements for the fiscal year ended December 31, 2008, is being mailed together with this proxy statement to all stockholders entitled to vote at the annual meeting. This proxy statement and the form of proxy are expected to be first mailed to stockholders on or about May 12, 2009.

The purposes of the annual meeting are to elect two class I directors for three-year terms, to approve an amendment to our Restated Certificate of Incorporation to increase the number of shares of our authorized common stock, and to ratify the selection of our independent registered public accountants. Only stockholders of record at the close of business on May 7, 2009 will be entitled to receive notice of and to vote at the annual meeting. As of April 10, 2009, 41,947,441 shares of common stock, \$0.01 par value per share, of the Company were issued and outstanding. The holders of common stock are entitled to one vote per share on any proposal presented at the annual meeting.

As a stockholder, you may vote in one of the following three ways whether or not you plan to attend the annual meeting: (1) by completing, signing and dating the enclosed proxy card, (2) by completing your proxy using the toll-free number listed on the proxy card or (3) by completing your proxy via the Internet by visiting the website address listed on your proxy card. If you attend the annual meeting, you may vote in person even if you have previously completed your proxy by mail, telephone or via the Internet. Any proxy given pursuant to this solicitation may be revoked by the person giving it at any time before it is voted. Proxies may be revoked by (i) filing with the Secretary of the Company, before the taking of the vote at the annual meeting, a written notice of revocation bearing a later date than the proxy, (ii) duly completing a later-dated proxy relating to the same shares and delivering it to the Secretary of the Company before the taking of the vote at the annual meeting, or (iii) attending the annual meeting and voting in person (although attendance at the annual meeting will not in and of itself constitute a revocation of a proxy). Any written notice of revocation or subsequent proxy should be sent so as to be delivered to EPIX Pharmaceuticals, Inc., 4 Maguire Road, Lexington, Massachusetts 02421, Attention: Secretary, before the taking of the vote at the annual meeting.

The representation in person or by proxy of at least a majority of the outstanding shares of common stock entitled to vote at the annual meeting is necessary to constitute a quorum for the transaction of business. Votes withheld from any nominee, abstentions and broker non-votes are counted as present or represented for purposes of determining the presence or absence of a quorum for the annual meeting. A non-vote occurs when a nominee holding shares for a beneficial owner votes on one proposal but does not vote on another proposal because, with respect to such other proposal, the nominee does not have discretionary voting power and has not received instructions from the beneficial owner.

Directors are elected by a plurality of the votes cast by stockholders entitled to vote and voting on the matter at the annual meeting. The affirmative vote of the holders of a majority of the outstanding common stock on the record date is required for approval of Proposal No. 2. On all other matters that may be submitted to stockholders, an affirmative vote of at least a majority of the shares present, or represented by proxy, entitled to vote and voting at the annual meeting is required for approval. Abstentions are included in the

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number of shares present or represented and voting on each matter. Broker non-votes are not considered voted for the particular matter and have the effect of reducing the number of affirmative votes required to achieve a majority for such matter by reducing the total number of shares from which the majority is calculated.

The persons named as attorneys-in-fact in the proxies, Elkan Gamzu, Ph.D. and Kim Cobleigh Drapkin, CPA were selected by the board of directors and are officers of the Company. All properly executed proxies returned in time to be counted at the annual meeting will be voted by such persons at the annual meeting. Where a choice has been specified on the proxy with respect to the foregoing matters, the shares represented by the proxy will be voted in accordance with the specifications. If no such specifications are indicated, such proxies will be voted FOR election of the director nominees, FOR approval of the amendment to our Restated Certificate of Incorporation to increase the number of shares of our authorized common stock, and FOR ratification of the selection of our independent registered public accountants.

Aside from the election of directors, approval of an amendment to our Restated Certificate of Incorporation and ratification of the selection of our independent registered public accountants, the board of directors knows of no other matters to be presented at the annual meeting. If any other matter should be presented at the annual meeting upon which a vote properly may be taken, shares represented by all proxies received by the board of directors will be voted with respect thereto in accordance with the judgment of the persons named as attorneys-in-fact in the proxies.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of April 10, 2009 for:

each person or group of affiliated persons known by us to be the beneficial owner of more than 5% of our common stock;

each named executive officer in the Summary Compensation Table below;

each of our directors;

each person nominated to become director; and

all executive officers, directors and nominees as a group.

Unless otherwise noted below, the address of each person listed on the table is c/o EPIX Pharmaceuticals, Inc., 4 Maguire Road, Lexington, Massachusetts 02421.

| Name of Beneficial Owner | Shares Beneficially Owned(1) | Percentage of Shares Beneficially Owned(2) |
|---|---|---|
| 5% Stockholders: | | |
| GlaxoSmithKline plc(3) 980 Great West Road Brentford Middlesex TW8 9GS England | 4,559,235 | 10.87% |

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| | | |
|---|-----------|-------|
| Prescott Group Capital Management, L.L.C.(4) 1924 South Utica, Suite 1120 Tulsa, Oklahoma 74104 | 3,294,760 | 7.85% |
| T. Rowe Price Associates, Inc.(5) 100 E. Pratt Street Baltimore, Maryland 21202 | 2,946,500 | 7.02% |
| Wellington Management Company, LLP(6) 75 State Street Boston, MA 02109 | 2,581,733 | 6.15% |

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| Name of Beneficial Owner | Shares Beneficially Owned(1) | Percentage of Shares Beneficially Owned(2) |
|--|------------------------------------|---|
| Directors and Named Executive Officers: | | |
| Elkan Gamzu, Ph.D.(7) | 300,000 | * |
| Kim Cobleigh Drapkin, CPA(8) | 228,983 | * |
| Chen Schor, CPA(9) | 380,630 | * |
| Michael G. Kauffman, M.D., Ph.D.(10) | 90,000 | * |
| Andrew C.G. Uprichard, M.D.(11) | | |
| Frederick Frank(12) | 63,196 | * |
| Michael Gilman, Ph.D.(13) | 36,666 | * |
| Mark Leuchtenberger(14) | 51,110 | * |
| Gregory D. Phelps(15) | 41,666 | * |
| Ian F. Smith, CPA(16) | 34,037 | * |
| Executive officers and directors as a group (7 persons) (17) | 755,658 | 1.77% |

* Represents beneficial ownership of less than 1% of the outstanding shares of our common stock.

- (1) Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission, or SEC, and includes voting and investment power with respect to shares. Unless otherwise indicated below, to the knowledge of the Company, all persons listed below have sole voting and investment power with respect to their shares of common stock, except to the extent authority is shared by spouses under applicable law. Pursuant to the rules of the SEC, the number of shares of common stock deemed to be beneficially owned and outstanding includes shares issuable pursuant to options held by the respective person or group that are currently exercisable or may be exercised within 60 days of April 10, 2009. However, these shares are not deemed to be beneficially owned and outstanding for purposes of computing the percentage beneficially owned by any other person.
- (2) Applicable percentage of ownership as of April 10, 2009 is based upon 41,947,441 shares of common stock outstanding.
- (3) Includes 1,629,689 shares held by Glaxo Group Limited, 1,379,338 shares held by SmithKline Beecham Corporation and 1,550,208 shares held by S.R. One, Limited, in each case, as of December 31, 2008. Glaxo Group Limited, SmithKline Beecham Corporation and S.R. One, Limited are wholly-owned subsidiaries of GlaxoSmithKline plc. GlaxoSmithKline plc has sole voting and dispositive power with respect to 4,559,235 shares. This information is based solely on a Schedule 13G/A filed by GlaxoSmithKline plc with the SEC on February 17, 2009.
- (4) Includes 3,284,760 shares owned by Prescott Group Aggressive Small Cap, L.P. and Prescott Group Aggressive Small Cap II, L.P. Prescott Group Capital Management, L.L.C. serves as the general partner of Prescott Group Aggressive Small Cap, L.P. and Prescott Group Aggressive Small Cap II, L.P. and may direct the vote and disposition of the shares in the funds. As principal of Prescott Group Capital Management, L.L.C., Mr. Phil Frohlich may direct the vote and disposition of the shares in the funds as well as the 10,000 shares that Mr. Frohlich owns individually. This information is based solely on a Schedule 13G/A filed by the above entities and Mr. Frohlich with the SEC on February 10, 2009.

- (5) These securities are owned by various individual and institutional investors, including 2,770,000 shares owned by T. Rowe Price New Horizons Fund, Inc., for which T. Rowe Price Associates, Inc. (Price Associates) serves as investment advisor with power to direct investments and/or sole power to vote the securities. For purposes of the reporting requirements of the Securities Exchange Act of 1934, Price Associates is deemed to be a beneficial owner of such securities; however, Price Associates expressly disclaims that it is, in fact, the beneficial own of such securities. This information is based solely on a Schedule 13G/A filed by Price Associates with the SEC on February 11, 2009.

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- (6) These securities are deemed to be beneficially owned by Wellington Management Company, LLP, in its capacity as investment advisor to various clients. Wellington Management Company, LLP has shared voting power with respect to 2,275,833 shares and shared dispositive power with respect to 2,581,733 shares. This information is based solely on a Schedule 13G filed by Wellington Management Company, LLP with the SEC on February 17, 2009.
- (7) Consists of 300,000 shares subject to options exercisable within the 60-day period following April 10, 2009.
- (8) Includes 175,062 shares subject to options exercisable within the 60-day period following April 10, 2009.
- (9) Includes 234,395 shares subject to options exercisable within the 60-day period following April 10, 2009. Chen Schor resigned from the Company as of March 23, 2009.
- (10) Michael G. Kauffman resigned from the Company as of July 25, 2008.
- (11) Andrew C.G. Uprichard resigned from the Company as of May 21, 2008.
- (12) Includes 33,946 shares subject to options exercisable within the 60-day period following April 10, 2009.
- (13) Consists of 36,666 shares subject to options exercisable within the 60-day period following April 10, 2009.
- (14) Consists of 51,110 shares subject to options exercisable within the 60-day period following April 10, 2009.
- (15) Consists of 41,666 shares subject to options exercisable within the 60-day period following April 10, 2009.
- (16) Consists of 34,037 shares subject to options exercisable within the 60-day period following April 10, 2009.
- (17) Includes an aggregate of 672,487 shares issuable upon exercise of stock options held by seven (7) executive officers and directors. Does not include shares held by Dr. Kauffman and Mr. Schor, who are no longer executive officers of the Company as of the date of this proxy statement.

PROPOSAL 1

ELECTION OF DIRECTORS

Nominees

Our board of directors currently consists of six members. Our certificate of incorporation divides the board of directors into three classes. One class is elected each year for a term of three years. The board of directors, upon the recommendation of the nominating and governance committee, has nominated Michael Gilman, Ph.D. and Mark Leuchtenberger, and recommended that each be elected to the board of directors as a class I director, each to hold office until the annual meeting of stockholders to be held in the year 2012 and until his successor has been duly elected and qualified or until his earlier death, resignation or removal. Dr. Gilman and Mr. Leuchtenberger are our current class I directors whose terms expire at this annual meeting. The board of directors is also composed of (i) two class II directors (Elkan Gamzu and Gregory D. Phelps), whose term expires upon the election and qualification of directors at the annual meeting of stockholders to be held in 2010 and (ii) two class III directors (Frederick Frank and Ian F. Smith, CPA), whose terms expire upon the election and qualification of directors at the annual meeting of stockholders to be held in 2011. Following the resignation of Robert J. Perez from the board of directors on

February 28, 2009, the board of directors, acting pursuant to our certificate of incorporation, reclassified Gregory D. Phelps, formerly a class III director, as a class II director. Mr. Frank currently serves as the chairman of the board of directors.

The board of directors knows of no reason why any of the nominees would be unable or unwilling to serve, but if any nominee should for any reason be unable or unwilling to serve, the proxies will be voted for the election of such other person for the office of director as the board of directors may recommend in the place of such nominee. Unless otherwise instructed, the proxy holders will vote the proxies received by them for the nominees named below.

**THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS
A VOTE *FOR* THE NOMINEES LISTED BELOW**

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The following table sets forth the nominees to be elected at the annual meeting and continuing directors, the year each such nominee or director was first elected a director, the positions with us currently held by each nominee and director, the year each nominee's or director's current term will expire and each nominee's and director's current class:

| Nominee's or Director's Name and Year First Became a Director | Position with the Company | Year Current Term Will Expire | Current Class of Director |
|--|---|--|--|
| Nominees for Class I Directors: | | | |
| Michael Gilman, Ph.D. 2006 | Director | 2009 | I |
| Mark Leuchtenberger 2004 | Director | 2009 | I |
| Continuing Directors: | | | |
| Elkan Gamzu 2009 | President, Chief Executive Officer and Director | 2010 | II |
| Gregory D. Phelps 2004 | Director | 2010 | II |
| Frederick Frank 2006 | Chairman of the Board | 2011 | III |
| Ian F. Smith, CPA 2006 | Director | 2011 | III |

DIRECTORS AND EXECUTIVE OFFICERS

The following table sets forth the director nominees to be elected at the annual meeting, our directors and executive officers, their ages, and the positions currently held by each such person as of the date of this proxy statement.

| Name | Age | Position |
|-----------------------------|------------|---|
| Frederick Frank(3) | 77 | Chairman of the Board |
| Elkan Gamzu, Ph.D. | 66 | President, Chief Executive Officer and Director |
| Kim Cobleigh Drapkin, CPA | 41 | Chief Financial Officer |
| Michael Gilman, Ph.D.(1)(2) | 54 | Director |
| Mark Leuchtenberger(1)(2) | 53 | Director |
| Gregory D. Phelps(2)(3) | 60 | Director |
| Ian F. Smith, CPA(3) | 43 | Director |

(1) Member of compensation committee

(2) Member of nominating and governance committee

(3) Member of audit committee

Elkan Gamzu, Ph.D. has served as our President and Chief Executive Officer and a member of our board of directors since March 2, 2009. Dr. Gamzu previously served as our interim Chief Executive Officer since joining the Company in July 2008. Dr. Gamzu is a Principal of enERGetics Biopharmaceutical Consultancy, LLC and was a founding partner of BioPharmAnalysis, LLC. From February 2007 until January 2008, Dr. Gamzu was the Chief Executive Officer of Pharmos Corporation, and from March 2005 until March 2006, Dr. Gamzu was Acting Head of Clinical Development of Hypnion, Inc. From December 2004 until February 2005, Dr. Gamzu was the interim CEO of XTL Biopharmaceuticals, Ltd., and from 2001 until 2002, Dr. Gamzu was Vice President of Product Management Leadership for Millennium Pharmaceuticals, Inc. Dr. Gamzu also served as President and Chief Executive Officer of Cambridge Neuroscience, Inc. from 1994

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until 1998, and as President and Chief Operating Officer and Vice President of Development for Cambridge Neuroscience, Inc. from 1989 to 1994. Previously, Dr. Gamzu held a variety of senior positions with Warner-Lambert and Hoffmann-La Roche, Inc. Dr. Gamzu is a graduate of Hebrew University in Jerusalem, and has M.A. and Ph.D. degrees in experimental and physiological psychology from the University of Pennsylvania.

Kim Cobleigh Drapkin, CPA has served as our Chief Financial Officer since the closing of our merger with Predix on August 16, 2006. Prior to the closing of the merger, Ms. Drapkin served as Predix's Chief Financial Officer from February 2005 through August 2006. From 1995 to February 2005, Ms. Drapkin held senior positions of increasing responsibility within the finance organization at Millennium Pharmaceuticals, Inc. with leadership responsibility for financial reporting, technical accounting, compliance and internal audit. Ms. Drapkin began her professional career at Price Waterhouse (now PricewaterhouseCoopers LLP) and is a Certified Public Accountant. Ms. Drapkin is a graduate of Babson College, holding a B.S. in Accounting summa cum laude.

Frederick Frank has served as a member of our board of directors since the closing of our merger with Predix on August 16, 2006 and as chairman of our board of directors since June 27, 2007. Prior to the closing of the merger, Mr. Frank served as chairman of Predix's board of directors from January 2001 through August 2006. Mr. Frank is Vice Chairman of Peter J. Solomon Company. Before joining Peter J. Solomon Company, Mr. Frank was Vice Chairman of Lehman Brothers and Barclays Capital. Before joining Lehman Brothers as a Partner in October 1969, Mr. Frank was co-director of research, as well as Vice President and Director, of Smith, Barney & Co. Incorporated. He is a Chartered Financial Analyst, member of The New York Society of Security Analysts and a past president of the Chemical Processing Industry Analysts. Mr. Frank is a director of Landec Corporation, PDL BioPharma, Institute for Systems Biology and Pharmaceutical Product Development, Inc. He is Chairman of the National Genetics Foundation, a past director of the Salk Institute, a member of the Pharmaceutical Executive Magazine advisory board and the Journal of Life Sciences, the former Chairman of the Board of The Irvington Institute for Immunological Research, a member of the Advisory Board of The Harvard School of Public Health and also a past member of the advisory board of the John Hopkins Bloomberg School of Public Health and he serves on the Advisory Board of the Massachusetts Institute of Technology Center for Biomedical Innovation. Mr. Frank holds a B.A. from Yale University and an MBA from Stanford Business School.

Michael Gilman, Ph.D. has been a member of our board of directors since April 2006. Since June 2006, Dr. Gilman has been the President and Chief Executive Officer of Stromedix, Inc. He was previously Executive Vice President, Research at Biogen Idec. He joined Biogen in 1999 as Director of Molecular Biology and became head of research at Biogen in 2000. From 1994 to 1999, Dr. Gilman held several positions at ARIAD Pharmaceuticals, including Executive Vice President and Chief Scientific Officer. Prior to that, Dr. Gilman spent eight years on the scientific staff of Cold Spring Harbor Laboratory in New York, where his research focused on mechanisms of signal transduction and gene regulation. Dr. Gilman holds a Ph.D. in Biochemistry from University of California, Berkeley, and a S.B. in Life Sciences from Massachusetts Institute of Technology.

Mark Leuchtenberger has been a member of our board of directors since September 2004. Mr. Leuchtenberger served as the President and Chief Executive Officer of Targanta Therapeutics Corporation from 2006 to February 2009. Mr. Leuchtenberger joined Targanta in 2006 from Therion Biologics Corporation, a privately held cancer vaccine company, where he served as President and Chief Executive Officer from 2002 to 2006. Therion Biologics Corporation filed a petition under the federal bankruptcy laws in 2006. Prior to joining Therion in 2002, Mr. Leuchtenberger spent 11 years at Biogen, Inc., where he led the development and launch of Avonex® and ran North American and international commercial operations. Prior to Biogen, he was a consultant at Bain & Company specializing in healthcare. Mr. Leuchtenberger also serves on boards for the Massachusetts Biotechnology Council, Beth Israel Deaconess Medical Center and Wake Forest University.

Gregory D. Phelps has served as a member of our board of directors since July 2004. Mr. Phelps is an independent management consultant and is a director of Proteon Therapeutics, Inc. Mr. Phelps was previously a director of RenaMed Biologics, Inc. from April 2007 to April 2008 and was the Chairman of the Board, President and Chief Executive Officer of RenaMed From October 2004 to April 2007. From June 2004 to

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September 2004, Mr. Phelps was the Vice Chairman of RenaMed. He has previously held positions of Chief Executive Officer of Ardais Corporation, Viagene, Inc. and ZymoGenetics, Inc. He has also served as Vice Chairman of Dyax Corporation, Executive Vice President of Genzyme Corporation and Vice President of Baxter Travenol Laboratories, Inc. (now Baxter Healthcare). Mr. Phelps holds a B.S. in Electrical Engineering from Bradley University and an MBA from Harvard Business School.

Ian F. Smith, CPA, ACA has been a member of our board of directors since the closing of our merger with Predix on August 16, 2006. Prior to the closing of the merger, Mr. Smith served as a member of Predix's board of directors from May 2005 through August 2006. Mr. Smith is currently Executive Vice President and Chief Financial Officer of Vertex Pharmaceuticals Incorporated. He began as Vice President and Chief Financial Officer in October 2001, and was promoted to Executive Vice President and Chief Financial Officer in November 2003. Prior to joining Vertex, Mr. Smith was a partner in the Life Science and Technology Practice of Ernst & Young, LLP since 1999. He had various responsibilities in Ernst & Young's accounting, auditing and mergers and acquisitions groups. Mr. Smith initially joined Ernst & Young's U.K. firm in 1987, and then joined its Boston office in 1995. Mr. Smith currently serves on the board of directors of Acorda Therapeutics, Inc. Mr. Smith holds a B.A. in Accounting and Finance from Manchester Metropolitan University, U.K., is a member of the American Institute of Certified Public Accountants and is a Chartered Accountant of England and Wales.

CORPORATE GOVERNANCE AND BOARD MATTERS

Independence of Members of the Board of Directors

The board of directors has determined that each of Frederick Frank, Michael Gilman, Ph.D., Mark Leuchtenberger, Gregory D. Phelps and Ian F. Smith, CPA, comprising five of its six members, is an independent director within the meaning of the director independence standards of The NASDAQ Stock Market, or NASDAQ. Furthermore, the board of directors has determined that all of the members of the audit committee, compensation committee and nominating and governance committee are independent within the meaning of the director independence standards of NASDAQ and the rules of the SEC applicable to each such committee. Robert J. Perez, former member of the board of directors who resigned as of February 28, 2009, was also an independent director within the meaning of the director independence standards of NASDAQ.

Executive Sessions of Independent Directors

Executive sessions of the independent directors are generally scheduled following each regularly scheduled in-person meeting of the board of directors. Executive sessions did not include our non-independent director, Michael G. Kauffman, Ph.D., M.D. who resigned from the Company as of July 25, 2008, and are chaired by the chairman of the board. The independent directors of the board of directors met in executive session eight times in 2008.

Policies Governing Director Nominations

Director Qualifications

The nominating and governance committee of the board of directors is responsible for reviewing with the board of directors from time to time the appropriate qualities, skills and characteristics desired of members of the board of directors in the context of the needs of the business and current make-up of the board of directors. This assessment includes consideration of the following minimum qualifications that the nominating and governance committee believes must be met by all directors:

nominees must have high ethical standards, integrity and sound business judgment;

nominees must be well-regarded and experienced participants in their field(s) of specialty;

nominees must be familiar at the time of their appointment with our business;

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nominees must be willing to devote the time and attention necessary to deepen and refine their understanding of our company and the issues we face; and

nominees must have an understanding of the demands and responsibilities of service on a public company board of directors.

In addition, nominees who, based on biotechnology and/or pharmaceutical industry experience, have proven capabilities or knowledge in the key areas relating to our management and business, will be given particular consideration.

The board of directors seeks members from diverse professional backgrounds who combine a broad spectrum of relevant industry and strategic experience and expertise that, in concert, offer us and our stockholders diversity of opinion and insight in the areas most important to us and our corporate mission. In addition, nominees for director are selected to have complementary, rather than overlapping, skill sets. All candidates for director nominee must have time available to devote to the activities of the board of directors. The nominating and governance committee also considers the independence of candidates for director nominee, including the appearance of any conflict in serving as a director.

Candidates for director nominee who do not meet all of these criteria may still be considered for nomination to the board of directors, if the nominating and governance committee believes that the candidate will make an exceptional contribution to us and our stockholders.

Process for Identifying and Evaluating Director Nominees

The board of directors is responsible for selecting its own members. The board of directors delegates the selection and nomination process to the nominating and governance committee, with the expectation that other members of the board of directors, and of management, will be requested to take part in the process as appropriate.

Generally, the nominating and governance committee identifies candidates for director nominee in consultation with management, through the use of search firms or other advisors, through the recommendations submitted by stockholders or through such other methods as the nominating and governance committee deems to be helpful to identify candidates. Once candidates have been identified, the nominating and governance committee confirms that the candidates meet all of the minimum qualifications for director nominees established by the nominating and governance committee. The nominating and governance committee may gather information about the candidates through interviews, detailed questionnaires, comprehensive background checks or any other means that the nominating and governance committee deems to be helpful in the evaluation process. The nominating and governance committee then meets as a group to discuss and evaluate the qualities and skills of each candidate, both on an individual basis and taking into account the overall composition and needs of the board of directors. Based on the results of the evaluation process, the nominating and governance committee recommends candidates for the board of directors approval as director nominees for election to the board of directors. The nominating and governance committee also recommends candidates to the board of directors for appointment to the committees of the board of directors.

Procedures for Recommendation of Director Nominees

The nominating and governance committee will consider director nominee candidates who are recommended by our stockholders. In general, persons recommended by stockholders will be considered on the same basis as candidates from other sources. Stockholders, in submitting recommendations for director nominee candidates, shall follow the

following procedures:

Our secretary must receive any such recommendation for nomination not less than 50 days nor more than 75 days prior to our annual meeting of stockholders; however, if less than 65 days notice is given to stockholders by written notice or by public disclosure, then the written recommendation must be received by the close of business on the 15th day following the notice to stockholders.

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All recommendations for nominations must be in writing and include the following:

Name and record address of the stockholder making the recommendation;

Class and number of shares of our capital stock that are owned beneficially by such stockholder;

Name, age, business and residential address, and principal occupation or employment of the individual recommended for consideration as a director nominee;

Class and number of shares of our capital stock that are owned beneficially by such person; and

All other information relating to the recommended candidate that would be required to be disclosed in solicitations of proxies for the election of directors or is otherwise required, in each case pursuant to Regulation 14A under the Exchange Act.

As of and following the date of our 2009 annual meeting of stockholders, our secretary must receive any such recommendation for nomination before an annual or special meeting of stockholders (i) in the case of annual meeting of stockholders, not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year's annual meeting of stockholders; provided however, that in the event the annual meeting is first convened more than 30 days before or more than 60 days after such anniversary date, notice by the stockholder to be timely must be received by the secretary not later than the close of business on the later of the 90th day prior to such annual meeting or the 15th day following the day on which public announcement of the day of such annual meeting is first made or (ii) in the case of a special meeting of stockholders, on or prior to the later of the 90th day prior to such special meeting or the 15th day following the day on which public announcement is first made of the date of the special meeting of stockholders. Recommendations for nomination will also need to contain the following additional information:

Name and record address of any beneficial owner, if any, on whose behalf the nomination is being made;

Class and number of shares of our equity that are owned beneficially by such stockholder and its affiliates including all synthetic equity instruments (e.g., derivatives, swaps, hedges, etc.), voting rights, rights to fees, dividends, or other material rights; and

Whether such stockholder will solicit our stockholders and whether such stockholder is party to any voting or other arrangement regarding the nomination.

Nominations must be sent to the attention of our secretary by U.S. mail (including courier or expedited delivery service) to:

EPIX Pharmaceuticals, Inc.
4 Maguire Road
Lexington, MA 02421
Attn: Secretary of EPIX Pharmaceuticals, Inc.

Our secretary will promptly forward any such nominations to the nominating and governance committee. Once the nominating and governance committee receives the nomination of a candidate and the candidate has complied with the minimum procedural requirements above, such candidacy will be evaluated and a recommendation with respect to such candidate will be delivered to the board of directors.

Policy Governing Security Holder Communications with the Board of Directors

The board of directors provides to every security holder the ability to communicate with the board of directors as a whole and with individual directors on the board of directors through an established process for security holder communication as follows:

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For communications directed to the board of directors as a whole, security holders may send such communications to the attention of the chairman of the board of directors by U.S. mail (including courier or expedited delivery service) to:

EPIX Pharmaceuticals, Inc.
4 Maguire Road
Lexington, MA 02421
Attn: Chairman of the Board of Directors, c/o Secretary

For security holder communications directed to an individual director in his or her capacity as a member of the board of directors, security holders may send such communications to the attention of the individual director by U.S. mail (including courier or expedited delivery service) to:

EPIX Pharmaceuticals, Inc.
4 Maguire Road
Lexington, MA 02421
Attn: [Name of the director], c/o Secretary

We will forward any such security holder communication to the chairman of the board of directors, as a representative of the board of directors, or to the director to whom the communication is addressed, on a periodic basis. We will forward such communications by certified U.S. mail to an address specified by each director and the chairman of the board of directors for such purposes or by secure electronic transmission.

Policy Governing Director Attendance at Annual Meetings of Stockholders

Directors are encouraged to be present at our stockholder meetings. All seven of our then-current board members attended the annual meeting of stockholders in 2008.

Board of Directors Evaluation Program

The board of directors performs annual self-evaluations of its composition and performance, including evaluations of its standing committees and individual evaluations for each director. In addition, each of the standing committees of the board of directors conducts its own self-evaluation, which is reported to the board of directors. The board of directors retains the authority to engage its own advisors and consultants.

Code of Ethics

We have adopted a code of ethics, as defined by regulations promulgated under the Securities Act of 1933, as amended, and the Exchange Act, that applies to all of our directors and employees worldwide, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A current copy of the Code of Business Conduct and Ethics is available at the Corporate Governance section of our website at <http://www.epixpharma.com>. A copy of the Code of Business Conduct and Ethics may also be obtained, free of charge, from us upon a request directed to: EPIX Pharmaceuticals, Inc., 4 Maguire Road, Lexington, Massachusetts, 02421, Attention: Investor Relations. We intend to disclose any amendment to or waiver of a provision of the Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, by posting such information on our website available at <http://www.epixpharma.com> and/or in our public filings with the Securities and Exchange Commission.

For more corporate governance information, you are invited to access the Corporate Governance section of our website available at <http://www.epixpharma.com>.

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THE BOARD OF DIRECTORS AND ITS COMMITTEES

Board of Directors

The board of directors met 16 times during the fiscal year ended December 31, 2008, and took action by unanimous written consent two times. Each of the directors attended at least 75% of the aggregate of the total number of meetings of the board of directors and the total number of meetings of all committees of the board of directors on which they served during fiscal 2008.

The board of directors has the following standing committees: audit committee; compensation committee; and nominating and governance committee, each of which operates pursuant to a separate charter that has been approved by the board of directors. A current copy of each charter is available at <http://www.epixpharma.com>. Each committee reviews the appropriateness of its charter at least annually. The board of directors performs periodic self-evaluations of its composition and performance, including evaluations of its standing committees and its individual directors. The board of directors and each committee retains the authority to engage its own advisors and consultants. The composition and responsibilities of each committee are summarized below.

Audit Committee

The audit committee of the board of directors currently has three members, Frederick Frank, Gregory D. Phelps and Ian F. Smith, CPA (Chairman). Each of the members is an independent director within the meaning of the director independence standard of NASDAQ and the Securities and Exchange Commission, including Rule 10A-3(b)(1) under the Exchange Act. The board of directors has determined that Mr. Smith qualifies as an audit committee financial expert under the rules of the Securities and Exchange Commission.

The audit committee met eight times during the fiscal year ended December 31, 2008. The audit committee operates under a written charter adopted by the board of directors, a current copy of which is available at the Corporate Governance section of our website at <http://www.epixpharma.com>.

As described more fully in its charter, the audit committee oversees our accounting and financial reporting processes, internal controls and audit functions. In fulfilling its role, the audit committee's primary duties and responsibilities are to:

oversee that management has maintained the reliability and integrity of our accounting policies, financial reporting and disclosure practices;

oversee that management has established and maintained an independent relationship with our external auditor;

oversee that management has established and maintained processes to assure that an adequate system of internal control of financial reporting is functioning within our company; and

oversee that management has established and maintained processes to assure compliance with all applicable laws, regulations and corporate policy.

Compensation Committee

The compensation committee of the board of directors currently has two members, Michael Gilman, Ph.D. and Mark Leuchtenberger (Chairman). In March 2008, Mr. Leuchtenberger replaced Patrick J. Fortune, Ph.D. on this committee.

In February 2009, Robert Perez, a member of the compensation committee, resigned from the compensation committee and the board of directors. Each of the current members is a non-employee director as defined in Rule 16b-3 of the Exchange Act, and an outside director pursuant to Rule 162(m) of the Internal Revenue Code. The board of directors has determined that each member of the compensation committee is also an independent director within the meaning of NASDAQ's director independence standards. Prior to their resignations from the compensation committee, Patrick J. Fortune, Ph.D. and Robert J. Perez

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were independent directors within the meaning of these independence standards. The compensation committee's responsibilities include:

- formulating, evaluating and approving compensation of our directors, executive officers and key employees;
- overseeing all compensation programs involving the use of our stock; and
- producing an annual report on executive compensation for inclusion in our proxy statement for our annual meeting of stockholders.

The compensation committee met ten times during the fiscal year ended December 31, 2008. The compensation committee operates under a written charter adopted by the board of directors, a current copy of which is available at the Corporate Governance section of our website at <http://www.epixpharma.com>.

Nominating and Governance Committee

The nominating and governance committee of the board of directors currently consists of Michael Gilman, Ph.D., Mark Leuchtenberger and Gregory D. Phelps (Chairman). Each of the current members is an independent director within the meaning of the director independence standards of NASDAQ.

The nominating and governance committee's responsibilities include:

- assisting the board by identifying qualified candidates for director and recommending to the board the director nominees for the next annual meeting of stockholders;
- leading the board in its annual review of the board's performance;
- recommending to the board director nominees for each board committee;
- overseeing the annual process of evaluation of the performance of our management; and
- developing and recommending to the board a set of corporate governance guidelines.

The nominating and governance committee met two times during the fiscal year ended December 31, 2008. The nominating and governance committee operates under a written charter adopted by the board of directors, a current copy of which is available at the Corporate Governance section of our website at <http://www.epixpharma.com>.

Compensation Committee Interlocks and Insider Participation

During 2008, Mark Leuchtenberger, Patrick J. Fortune, Ph.D., Michael Gilman, Ph.D., and Robert J. Perez served on the compensation committee. During the last year, no executive officer of the Company served as: (i) a member of the compensation committee (or other committee of the board of directors performing equivalent functions or, in the absence of any such committee, the entire board of directors) of another entity, one of whose executive officers served on our compensation committee; (ii) a director of another entity, one of whose executive officers served on our compensation committee; or (iii) a member of the compensation committee (or other committee of the board of directors performing equivalent functions or, in the absence of any such committee, the entire board of directors) of another entity, one of whose executive officers served as a director of the Company.

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EXECUTIVE AND DIRECTOR COMPENSATION

Compensation Discussion and Analysis

This Compensation Discussion and Analysis explains our executive compensation philosophy, programs and policies with respect to our named executive officers. It is intended to highlight for investors significant information relating to our executive compensation programs and practices and includes analysis on the compensation earned by our named executive officers, which, for the fiscal year ended December 31, 2008, consists of our president and chief executive officer, chief financial officer, former chief executive officer, former president and former chief business officer, as determined in accordance with applicable SEC rules.

Compensation Objectives

We endeavor to provide compensation opportunities that achieve the following objectives:

attract, motivate, reward and retain individuals of superior ability and managerial talent critical to our long-term success;

align executives' interests with our corporate strategies, business objectives and the long-term interests of our shareholders; and

create incentives to achieve key strategic performance measures.

We place significant emphasis on pay-for-performance based incentive compensation, which is designed to reward the achievement of specific, measurable corporate and, in some cases, individual goals selected by our compensation committee. Performance is measured based on the achievement of these goals, in each case, as determined by our compensation committee. The corporate and individual goals are established so that target attainment is not assured and the attainment of payment for performance at or above-target levels will require significant effort on the part of our executive officers.

Compensation Process

We develop our compensation plans by utilizing publicly available compensation data and subscription compensation survey data for national and regional companies in the pharmaceutical and biotechnology industry. With respect to 2008 compensation decisions, we utilized (1) a Radford Biotechnology Compensation Survey conducted April 2007 and published September 2007 that covered approximately 65 similar-sized companies with 50 to 149 employees and (2) Equilar Surveys conducted October 2007 of (i) eight peer biotechnology companies including Acadia Pharmaceuticals Inc., Alnylam Pharmaceuticals, Inc., Arena Pharmaceuticals, Inc., CombinatoRx, Incorporated, Icagen, Inc, Infinity Pharmaceuticals, Inc., Memory Pharmaceuticals Corp. and Targacept, Inc. and (ii) companies that had similar-sized market capitalizations of greater than \$150 million and less than \$200 million. We believe that the practices of these groups of companies provide us with appropriate compensation benchmarks because these companies have similar organizational structures, are at similar stages of development and tend to compete with us for executives and other employees. For benchmarking executive compensation, we typically review the compensation data we have collected from the complete group of companies included in the surveys. The compensation committee benchmarks total compensation, as well as annual cash and long-term performance compensation, for experienced executives who achieve the majority of their goals at between the 50th and 60th percentile for executive officers performing similar job functions at companies in our peer group, adjusted to reflect relative company size and performance. We believe that the actual levels of compensation reflect a balancing of the need to attract and retain

talented executives in a highly competitive market against the corporate performance and current financial condition of the company. The compensation committee may approve total compensation packages for senior executive management that vary, lower or higher, from the peer group based on several principal factors, including level of overall experience, tenure with us and performance ratings over several years. Overall, the compensation committee believes that our compensation programs, as structured, are generally within the market range of our peer group, based on survey information reviewed each year.

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We believe that benchmarking is an appropriate tool because it ensures that we are paying our named executive officers in accordance with industry standards. We believe that this is necessary to retain and motivate our key management personnel. The compensation committee reviews all components of compensation for our named executive officers. The compensation committee also, in accordance with its charter, among other responsibilities, administers our incentive compensation plans and reviews and makes recommendations to our management on company-wide compensation programs and practices.

To achieve the compensation objectives described above, the compensation committee has maintained, and expects to further implement, compensation plans that tie a substantial portion of the executive's overall compensation to our research, clinical, regulatory, financial and operational performance. Our performance-driven compensation policy consists of the following four primary components:

base salary;

an annual cash incentive program;

long-term incentive awards in the form of stock options, restricted stock and/or restricted stock units; and

severance, change of control and/or employment agreements.

In addition, in 2008 the compensation committee retained the services of The Hay Group to implement a one-year retention program for certain members of the senior management team, including Kim Cobleigh Drapkin and Chen Schor, our chief financial officer and former chief business officer, respectively. The details of the 2008 retention plan are set forth in the section titled "2008 Retention Bonus Plan." The Hay Group was also engaged by the compensation committee in 2009 to assist in the implementation of the compensation package to our current president and chief executive officer, Elkan Gamzu, Ph.D.

We use short-term compensation (base salaries and annual cash incentive awards) and long-term incentive awards to achieve our goal of driving long-term growth. We believe that long-term growth will be derived from setting challenging goals and creating clear incentives for achieving such goals. We recognize that in a company such as ours which is seeking to develop potential new drugs that there are numerous risks and uncertainties and that goals periodically need to be adjusted to reflect changes in circumstances and to encourage our named executive officers to find effective ways to overcome unanticipated or otherwise new challenges.

Within the context of the overall objectives of our compensation programs, we determined the specific amounts of compensation to be paid to each of our executives in 2008 based on a number of factors including:

the amount of compensation generally paid by similarly situated companies to their executives with similar roles and responsibilities, based on survey data as outlined above;

the roles and responsibilities of our executives;

the individual experience and skills of, and expected contributions from, our executives;

the amounts of compensation being paid to our other executives;

our executives' historical compensation at our company;

executive and company performance relative to specific goals set at the beginning of 2008 and as amended during the year.

Just as our shareholders have their investments at risk when they invest in our company, we believe that a significant portion of our named executive officers' compensation should be at risk and subject to our corporate performance. For example, only 47% of our former chief executive officer's total potential compensation related to fiscal 2008 was fixed (in the form of base salary) and the remaining 53% was at risk during fiscal 2008 (23% was represented by his cash incentive bonus, and 30% by his long-term equity incentive compensation). In addition, only 51% of our chief financial officer's total potential compensation related to fiscal 2008 was fixed (38% in the form of base salary and 13% in the form of retention awards) and

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the remaining 49% was at risk during fiscal 2008 (11% was represented by her cash incentive bonus, 19% by her long-term equity incentive compensation and 19% in the form of performance-based retention awards). We believe that this weighting of performance-based at-risk compensation most effectively meets our critical objectives of performance alignment and long-term retention of top executive talent.

We discuss each of the primary elements of our executive compensation in detail below. While we have identified particular compensation objectives that each element of executive compensation serves, our compensation programs are designed to complement each other and collectively serve all of our executive compensation objectives described above. Accordingly, whether or not specifically mentioned below, we believe that, as a part of our overall executive compensation, each element to a greater or lesser extent serves each of our objectives.

2008 Executive Compensation Actions

On July 25, 2008, Michael G. Kauffman, M.D., Ph.D. resigned as our chief executive officer and as a member of our board of directors. We entered into a separation agreement with Dr. Kauffman pursuant to which he received, following his execution of a release of claims, a lump-sum payment equal to 12 months base salary (\$405,366), continued payments toward group health plan benefits for 12 months, and a lump-sum payment equal to the pro rata portion of his 2008 cash bonus under our annual bonus program (\$101,342).

In connection with Dr. Kauffman's resignation, on July 25, 2008, we appointed Dr. Gamzu as chief executive officer on an interim basis and entered into a letter agreement with Dr. Gamzu providing for a base salary of \$300,000 per year. On July 31, 2008, we also granted Dr. Gamzu an option award under our 2008 Stock Option and Incentive Plan and Equity Award Grant Policy to purchase 300,000 shares of our common stock. On March 2, 2009, we appointed Dr. Gamzu to serve as our president and chief executive officer on a full-time basis. We executed an employment agreement with Dr. Gamzu on April 6, 2009 that replaced his letter agreement. The details of Dr. Gamzu's employment agreement are set forth in the section titled "Employment Agreements and Severance Benefits" on page 25.

On May 21, 2008, Andrew C.G. Uprichard, M.D. resigned as our president and head of research and development. Following his departure, on May 29, 2008, we entered into a Separation Agreement and Post-Employment Consulting Agreement with Dr. Uprichard. Under this agreement, subject to his continued compliance with the terms and conditions of the agreement, Dr. Uprichard would become entitled in 2009 to the termination benefits described in his previous employment agreement, including a lump-sum severance payment equal to 12 months base salary (\$361,900) and a lump-sum payment equal to the pro rata portion of his 2008 cash bonus under our annual bonus program (\$60,320). In addition, Dr. Uprichard was entitled to continued medical insurance payments for 12 months. Under this agreement, Dr. Uprichard provided consulting services to us (i) from June 1, 2008 until June 30, 2008, the date when our New Drug Application, or NDA, for Vasovist was resubmitted to the FDA, at a rate of \$30,000 per month, and (ii) from July 1, 2008 until December 22, 2008, the date of approval of the NDA for Vasovist by the FDA, at a rate of \$22,500 per month. Since December 23, 2008, Dr. Uprichard has been obligated to provide further consulting services for at least eight hours per week, at a rate of \$400 per hour until April 6, 2009, the date that we sold the commercial rights to Vasovist to Lantheus Medical Imaging, Inc. Under the agreement, Dr. Uprichard earned an aggregate of \$250,000 of bonus payments (out of a potential \$300,000) upon the achievement of certain milestones related to the approval and monetization of Vasovist.

2008 Retention Bonus Plan

In September 2008, subsequent to the departures of our former chief executive officer and our former president, and based in part on our financial position, our board of directors implemented a retention plan for members of our senior management, including Ms. Drapkin, our chief financial officer, and Mr. Schor, our chief business officer at the time, to retain their services through to the achievement of critical corporate goals. In conjunction with the retention plan,

we entered into a new employment agreement with Ms. Drapkin and an amendment to the existing employment agreement with Mr. Schor. The terms of their revised employment agreements provided, among other items, that Ms. Drapkin and Mr. Schor were entitled to the following

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benefits as long as they remained employed by us: (i) a number of fully vested shares of common stock equal to 25% of each executive's then-current gross annual base salary on each of December 31, 2008 and June 30, 2009 and (ii) a cash bonus equal to 25% of each executive's then-current gross annual base salary upon each of (a) the approval of Vasovist by the FDA and (b) our raising at least \$25 million from one or more sales of debt, equity or equity-linked securities of the company or committed funds from a newly executed collaboration or licensing agreement on or after July 1, 2008. The goal for the approval of Vasovist was achieved on December 22, 2008 and a cash payment was made to each of Ms. Drapkin and Mr. Schor equal to 25% of their respective base salaries (\$65,000 and \$65,611). In addition, Ms. Drapkin's employment agreement provides that, as long as she remains an employee through the applicable dates, she will receive four quarterly cash payments of \$12,500 beginning September 30, 2008.

On February 23, 2009, Chen Schor announced his resignation as our chief business officer, effective March 23, 2009.

Elements of Compensation

Base Salary

Base salaries, the fixed regular component of compensation, for each of our named executive officers are used to recognize the experience, skills, knowledge and responsibilities required of the named executive officers in their roles, and are generally set within a range of salaries that we believe are paid to peers with comparable qualifications, experience, responsibilities and performance at similarly situated companies. The salaries of our named executive officers are reviewed on an annual basis, as well as at the time of promotion or other changes in responsibilities. In setting compensation levels, the compensation committee also takes into account such factors as (i) past corporate level performance and expectations of future performance, (ii) individual experience, (iii) the general and industry-specific business environment and (iv) individual performance. The compensation committee does not assign relative weights or rankings to these factors, but instead makes a determination based upon the consideration of all of these factors.

Our chief executive officer reviews and evaluates the performance of each of the other named executive officers, and the compensation committee considers the input of our chief executive officer in conducting its own review of the performance of these same executives. The compensation committee also assesses the performance of our chief executive officer. Generally, salary decisions for our named executive officers are made near the beginning of each calendar year and such salaries may be adjusted based on current salary level, company and executive performance and competitive and market conditions among other factors. Fiscal year 2008 base salaries were determined by the compensation committee based on these considerations.

For the fiscal year ended December 31, 2008, the annual base salaries of our chief financial officer, former chief executive officer, former president and former chief business officer, were increased by 4%, 5%, 5%, and 3%, respectively over each executive's 2007 salary. The increases were based on a variety of factors, including executive performance and a review of standard salary increases among similarly situated companies. We believe that the base salaries paid to our executive officers during our fiscal year ended December 31, 2008 achieve our executive compensation objectives, compare favorably to our peer group and, in light of our overall compensation program, are within our target of providing total compensation at between the 50th and 60th percentile of the market. In addition, we believe that the base salaries of our named executive officers, which range from 47% to 56% as a percentage of total compensation, are set at an appropriate level to keep a significant portion of executive compensation at risk as part of our pay-for-performance compensation philosophy, and are set at an appropriate level with respect to an internal base salary equity comparison among the named executive officers. Neither our chief financial officer nor our former chief business officer received increases in base salary in 2009 over each executive's 2008 salary. Our president and chief executive officer's base salary was adjusted pursuant to his new employment agreement entered into on April 6, 2009, as further described under the section titled "Employment Agreements and Severance Benefits" on

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Cash Incentive Bonuses

Cash bonuses are administered pursuant to our annual bonus program and are intended to reward individual and corporate performance during the year and can therefore be highly variable from year to year. We design cash bonuses for our executive officers to focus on realistic but challenging research, clinical, regulatory and business goals, encourage our executive officers to work as a team to advance our corporate goals, provide a short-term cash incentive for our executive officers to achieve goals above and beyond predetermined corporate objectives and attract, reward, motivate and retain our leadership team in an extremely competitive environment. The amount of the cash bonus depends on the level of achievement of the specified corporate and, in some cases, individual performance goals, with a target bonus set as a percentage of base salary. In its discretion, the compensation committee may, however, award bonus payments to our executive officers above or below the amounts specified in our annual bonus program.

The target and maximum payout amounts were set at levels our compensation committee determined were appropriate in order to achieve our objective of retaining top executives. The compensation committee based 100% of the target bonus for each of Drs. Kauffman and Uprichard on the achievement of the specified corporate goals in light of their respective roles as the top two executive officers responsible for the operation of our company as a whole. The compensation committee based 80% of the target bonus for each of Ms. Drapkin and Mr. Schor on the achievement of the corporate goals and the remaining 20% was based on the achievement of each respective executive officer's individual goals. As interim chief executive officer during fiscal year 2008, Dr. Gamzu was not eligible for a cash incentive bonus. The compensation committee has discretion in assessing individual performance and compensation and can, at its discretion, provide incremental awards to executive officers. In sum, this element of executive compensation is earned on the basis of corporate success in executing our operating plan and on the basis of individual success in supporting that process.

The individual goals for our named executive officers were generally designed to support the corporate goals, including key corporate objectives, such as goals related to strategic planning, and achievement of specific research, clinical, regulatory, operational and financial performance. The corporate goals under our annual bonus program are established by our compensation committee and board of directors in consultation with our chief executive officer, after approval of our operating plan by the board of directors. In 2008, our corporate goals (and the percentage of total corporate goals that they represent) were:

- (1) drug development (constituting 45% of the corporate goals), including clinical development efforts for each of PRX-08066 for treatment of pulmonary hypertension, PRX-00023 for treatment of depression, PRX-03140 for treatment of Alzheimer's disease, PRX-07034 for treatment of cognitive impairment and Vasovist for use as an imaging agent;
- (2) discovery (constituting 30% of the corporate goals), including identification of new discovery targets and progression of the existing discovery pipeline; and
- (3) business (constituting 25% of the corporate goals), including financing efforts, outlicensing specified programs and continued progression of partnered compounds.

Based on our actual corporate performance in 2008, our compensation committee determined that 30% of fixed corporate goals had been achieved (20% out of 45% in drug development goals, 10% out of 30% in discovery goals and 0% out of 25% in business goals), and that a 15% over allotment be added based on the overachievement of certain drug development goals, for a total of 45% corporate goal achievement in 2008. Upon the recommendation of our senior management team to forgo their annual cash bonuses in light of our limited cash resources, the compensation committee exercised its discretion to eliminate bonus payments to

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our named executive officers for 2008 performance under our annual bonus program. The following table denotes the potential and actual fiscal 2008 bonuses to our named executives.

| Named Executive Officer | 2008 Target Bonus as % of Base Salary | 2008 Maximum Bonus as % of Base Salary | 2008 Actual Performance Bonus |
|--------------------------------|--|---|--|
| Elkan Gamzu | 0% | 0% | \$ |
| Kim Cobleigh Drapkin | 30% | 38% | \$ |
| Chen Schor | 30% | 38% | \$ |
| Michael G. Kauffman(1) | 50% | 63% | \$ |
| Andrew C.G. Uprichard(2) | 40% | 50% | \$ |

(1) Dr. Kauffman resigned his position as chief executive officer effective as of July 25, 2008. Under Dr. Kauffman's employment agreement, he received a lump-sum payment equal to the pro rata portion of his 2008 bonus of \$101,342.

(2) Dr. Uprichard resigned his position as president effective as of May 21, 2008.

Equity Incentive Compensation

We also use equity-based incentive programs to attract, retain, motivate and reward our named executive officers, primarily through grants of stock options and restricted stock units, or RSUs. Through our stock option and RSU grants, we seek to align the interests of our named executive officers with our shareholders, reward and motivate long-term executive performance and provide an incentive for retention. Our decisions regarding the amount and type of equity incentive compensation and relative weighting of these awards among total executive compensation (which range from 27% to 33% of total compensation for our named executive officers) have been based on our understanding of market practices of similarly situated companies and our negotiations with our executives in connection with their initial employment or promotion.

Our practice has been to grant equity-based awards to our named executive officers at the time they commence employment or are promoted, as well as on an annual basis, consistent with the number of options granted to peer group companies within and outside the industry at similar levels of seniority. We believe that our practice in this regard is consistent with our objective of attracting and retaining key management personnel. All such grants require the approval of the compensation committee. In 2008, we considered a number of factors in determining the amount of equity incentive awards, if any, to grant to our executives, in addition to company performance, including:

the number of shares subject to, and exercise price of, outstanding options, both vested and unvested, held by our executives;

the vesting schedule of the unvested stock options held by our executives; and

the amount and percentage of our total equity on a diluted basis held by our executives.

Equity awards

During early 2008 and prior to the adoption and approval of our 2008 Stock Option and Incentive Plan, or the 2008 Plan, equity awards to our named executive officers were made pursuant to our Amended and Restated 1992 Incentive Plan and Amended and Restated 2003 Stock Incentive Plan. Following stockholder approval of the 2008 Plan, we will no longer grant equity awards under the prior equity plans.

Stock option awards provide our named executive officers with the right to purchase shares of our common stock at a fixed exercise price typically for a period of up to ten years, subject to continued employment with us. Stock options are earned on the basis of continued service to us and generally vest pro-rata quarterly over four years and therefore serve as a retention tool. The exercise price of each stock option granted under our equity plans is based on the fair market value of our common stock on the date of grant. The fair market value of our common stock for purposes of determining the exercise price of stock options has been determined based on our closing market price on the grant date.

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RSUs provide our named executive officers with a contingent right to receive one share of common stock for each RSU upon the vesting of the RSU. RSUs are earned on the basis of continued service to us and generally vest in equal annual installments over two years and therefore serve as a retention tool.

In addition, the compensation committee may make performance-based awards from time-to-time, as it deems appropriate. In making such performance-based awards, the compensation committee may consider individual contributions to our research, development, business and strategic objectives, among other factors. No performance-based awards were granted to any of our named executive officers in 2008.

In February 2008, the compensation committee awarded stock options and RSUs to our named executive officers in connection with their 2007 performance as shown in the following table:

| Name | Number of Options Granted | Number of RSUs Granted |
|-----------------------|--|---------------------------------------|
| Kim Cobleigh Drapkin | 40,000 | 17,500 |
| Chen Schor | 40,000 | 17,500 |
| Michael G. Kauffman | 75,000 | 37,500 |
| Andrew C.G. Uprichard | 81,333 | 32,333 |

Dr. Gamzu received 300,000 stock options in July 2008 when he was appointed as our interim chief executive officer. Equity awards for 2008 performance were made in March 2009.

Equity Award Grant Policy

In March 2007, we adopted an equity award grant policy in order to make the grant process more efficient in connection with new hires, to ensure that our equity granting practices continue to be maintained in compliance with our equity plans and policies and with all applicable laws, and to specifically prevent the backdating of any equity grant, or the manipulation of the timing of equity grants with the public release of material information with the intent of benefiting a grantee under an equity award. Under this policy, all grants will continue to be made at fair market value and calculated based on our closing market price on the grant date. The equity grant policy will further provide that we will only grant equity awards on a regularly scheduled basis, as follows:

grants made in conjunction with the hiring of a new employee or the promotion of an existing employee will be made on a regular monthly basis on the last trading day of the month;

grants made to existing employees other than in connection with a promotion or under a predefined performance plan will be made, if at all, on an annual basis on the third business day following our release of earnings results for the fourth quarter and year end; and

grants, if any, made to employees which are exceptions to this policy must be approved by the compensation committee and will be made on the last trading day of the month in which they are approved.

Employment Agreements

Consistent with our goal of retaining and motivating top executive talent, we enter into employment agreements with our named executive officers that set forth certain terms of employment as well as provide our named executive

officers with certain severance, change in control, and in certain cases, retention benefits. We believe that these agreements are necessary in light of our current financial position and the intense competition for top executives in the biotechnology field and among similarly situated companies, and that the terms of these agreements are consistent with our executive compensation goals.

The level of severance payments to be made pursuant to the employment agreements was determined by evaluating executive employment agreements with comparative publicly-traded biotechnology and pharmaceutical companies. The compensation committee considered the nature of the responsibilities of the named executive officers, the length of time to replace these positions, and the effect of a decision to terminate on the

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executive officer's career during that time period. In addition, the compensation committee included retention payments earned upon the achievement of specified corporate goals in the employment agreement for our chief financial officer, as described under the section titled "2008 Retention Bonus Plan." The terms of the severance benefit under the employment agreements are intended to help ensure that the executive focuses his or her attention on the management of our company, including a willingness to undertake a reasonable degree of business risk in an effort to create shareholder value. We believe that the levels of severance payments determined by the compensation committee will help our named executive officers remain focused on our corporate goals and objectives in the event of a change in control transaction. For a specific discussion of the terms of our current employment agreements and potential severance payments payable to our named executive officers, see the section titled "Employment Agreements and Severance Benefits" on page 25.

Other Compensation

We maintain broad-based benefits that are provided to all employees, including health insurance, life and disability insurance, dental insurance, and a 401(k) plan. In particular circumstances, we also utilize cash signing bonuses and relocation assistance when certain executive officers and non-executives join us. In addition, we also offer benefits for our employees located in Israel, as a result of applicable Israeli laws, government social programs and customs, which may be in addition to or different from those offered to our U.S.-based employees.

Perquisites

We do not provide any perquisites to any of our named executive officers.

Common Share Ownership Requirements

We believe that broad-based stock ownership by our employees (including the named executive officers) enhances our ability to deliver shareholder returns by increasing the alignment between the interests of our employees and our shareholders. The goal of our equity grant program is to engage all of our named executive officers as partners in our success and help us realize the maximum gain from its strategy. We do not have a formal requirement for share ownership by any group of employees.

Tax Deductibility of Compensation

Within our performance-based compensation program, we aim to compensate our named executive officers in a manner that is tax-effective for us from a corporate tax perspective. Section 162(m) of the Internal Revenue Code restricts the ability of publicly held companies to take a federal income tax deduction for compensation paid to certain of their executive officers to the extent that compensation exceeds \$1.0 million per covered officer in any fiscal year. However, this limitation does not apply to compensation that is performance-based.

The non-performance based compensation paid in cash to our executive officers for the 2008 fiscal year did not exceed the \$1.0 million limit per officer, and the compensation committee does not anticipate that the non-performance based compensation to be paid in cash to our executive officers for fiscal 2009 will exceed that limit.

Conclusion

Our compensation policies are designed to retain and motivate our senior executive officers and to ultimately reward them for outstanding performance, with particular emphasis placed on the achievement of our research, clinical, regulatory and operational performance while also seeking to align the long-term interests of our management with those of our stockholders. We believe our compensation strategy is appropriate for a company at our stage of

development and as compared to other biotech and pharmaceutical companies with similar market capitalizations.

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Report of the Compensation Committee

No portion of this compensation committee report shall be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, through any general statement incorporating by reference in its entirety the proxy statement in which this report appears, except to the extent that the Company specifically incorporates this report or a portion of it by reference. In addition, this report shall not be deemed to be soliciting material or filed under either the Securities Act or the Exchange Act.

The Compensation Discussion and Analysis set forth above has been reviewed with management. Based on its review of, and discussion with management with respect to the Compensation Discussion and Analysis, the compensation committee has recommended to the board of directors that the Compensation Discussion and Analysis be included in this proxy statement.

COMPENSATION COMMITTEE

Mark Leuchtenberger (Chair)
Michael Gilman, Ph.D.

Table of Contents**Summary of Executive Compensation**

The following table sets forth summary information concerning the compensation paid or earned for services rendered to us in all capacities during the fiscal years ended December 31, 2008, 2007 and 2006 by our president and chief executive officer, chief financial officer, former chief executive officer, former president and former chief business officer. We refer to these individuals as our named executive officers.

Summary Compensation Table

| Name and Principal Position | Year | Salary (\$)(1) | Bonus (\$) | Stock Awards (\$)(4) | Option Awards (\$)(5) | Non-Equity | All Other Compensation (\$) | Total (\$) |
|---|------|-------------------|---------------|----------------------------|-----------------------------|--|-----------------------------------|---------------|
| | | | | | | Incentive Plan Compensation (\$)(6) | | |
| Dr. Gamzu <i>President and Chief Executive Officer(2)</i> | 2008 | \$ 121,154 | \$ | \$ | \$ 238,944 | \$ | \$ 2,769(7) | \$ 362,867 |
| Ms. Cobleigh Drapkin, <i>Chief Financial Officer</i> | 2008 | \$ 258,846 | \$ 25,000 | \$ 112,324 | \$ 314,572 | \$ 65,000 | \$ 4,355(7) | \$ 780,101 |
| | 2007 | \$ 245,385 | \$ 50,000 | \$ | \$ 288,813 | \$ 74,850 | \$ 10,404 | \$ 669,452 |
| | 2006 | \$ 75,115 | \$ | \$ | \$ 94,160 | \$ 75,240 | \$ 273,837 | \$ 518,352 |
| Mr. Schor, <i>Former Chief Business Officer(3)</i> | 2008 | \$ 261,562 | \$ | \$ 113,160 | \$ 303,389 | \$ 65,611 | \$ 6,600(7) | \$ 750,322 |
| | 2007 | \$ 253,959 | \$ | \$ | \$ 506,946 | \$ 72,465 | \$ 13,397 | \$ 846,767 |
| | 2006 | \$ 88,529 | \$ | \$ | \$ 180,052 | \$ 161,011 | \$ 478,019 | \$ 907,611 |
| Dr. Daniel G. Kauffman, <i>Former Chief Executive Officer(3)</i> | 2008 | \$ 239,433 | \$ | \$ | \$ 317,536 | \$ | \$ 511,218(8) | \$ 1,068,187 |
| | 2007 | \$ 384,786 | \$ | \$ | \$ 718,793 | \$ 204,613 | \$ 29,063 | \$ 1,337,252 |
| | 2006 | \$ 134,135 | \$ | \$ | \$ 272,929 | \$ 75,000 | \$ 1,126,800 | \$ 1,608,864 |
| Mr. Andrew C.G. Uprichard, <i>Former President(3)</i> | 2008 | \$ 158,092 | \$ | \$ | \$ (170,939) | \$ | \$ 318,268(9) | \$ 305,421 |
| | 2007 | \$ 342,794 | \$ | \$ | \$ 896,658 | \$ 146,148 | \$ 1,136 | \$ 1,386,736 |
| | 2006 | \$ 326,552 | \$ | \$ | \$ 715,812 | \$ 176,006 | \$ 3,002 | \$ 1,221,372 |

- (1) The amounts in the Salary column represent the annual base salary for each executive officer. The amounts in 2006 for Ms. Drapkin, Mr. Schor and Dr. Kauffman represent the amount earned from their employment start date of August 16, 2006 (the date of our merger with Predix Pharmaceuticals Holdings, Inc.).
- (2) The amounts for Dr. Gamzu represent the amounts earned in 2008 from the date of his employment as our interim chief executive officer in July 2008. Dr. Gamzu was appointed as our president and chief executive officer in March 2009.
- (3) The amounts included in this table for 2008 for Drs. Kauffman and Uprichard represent the amounts earned through the effective date of their resignation from the company of July 25, 2008 and May 21, 2008, respectively. Mr. Schor resigned from the company effective March 23, 2009.
- (4) The amounts in the Stock Awards column represent the dollar amount recognized as compensation expense for financial statement reporting purposes in 2008, calculated in accordance with SFAS 123R (disregarding the estimate of forfeitures related to service-based vesting conditions) for restricted stock units (RSUs) granted in 2008 and common stock awards in 2008 under the 2008 retention bonus plan. Due to their resignations in 2008,

Drs. Kauffman and Uprichard forfeited 37,500 and 32,333 of their unvested RSUs, respectively, in 2008. The fair value of the RSUs is based on the intrinsic value of the award on the date of grant. The fair value of the common stock awards is based upon a fixed percentage of the executive's salary as stated in the 2008 retention bonus plan.

- (5) The amounts in the "Option Awards" column represent the dollar amount recognized as compensation expense for financial statement reporting purposes in the fiscal year indicated, calculated in accordance with SFAS 123R (disregarding the estimate of forfeitures related to service-based vesting conditions) for stock options granted in 2008 and prior years. Due to their resignations in 2008, Drs. Kauffman and Uprichard forfeited 238,731 and 282,211 of their unvested options, respectively, in 2008. For a discussion of the assumptions underlying these valuations please see Note 9 to the Consolidated Financial Statements included in the Annual Report on Form 10-K for fiscal year 2008 and Note 10 to the Consolidated Financial Statements included in the Annual Report on Form 10-K for fiscal year 2007.

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- (6) The amounts in the *Non-Equity Incentive Plan Compensation* column for 2008 represent amounts earned during the year under our 2008 retention bonus plan. See *2008 Retention Bonus Plan* and *Cash Incentive Bonuses* as discussed on pages 15 and 17. The amounts for 2007 and 2006 represent amounts earned during these years under our annual bonus plan.
- (7) Included in *All Other Compensation* in 2008 for Dr. Gamzu, Ms. Drapkin and Mr. Schor is our matching contributions to their 401K plan account.
- (8) Included in *All Other Compensation* for Dr. Kauffman are amounts paid under his separation agreement with us and includes \$405,366 of severance payments, \$101,342 for the portion of Dr. Kauffman's 2008 bonus that was accrued at the time of his separation and \$4,510 of health insurance payments.
- (9) Included in *All Other Compensation* for Dr. Uprichard are \$311,668 of consulting fees earned under his separation agreement and \$6,600 for our matching contributions to his 401K plan account.

Grants of Plan-Based Awards during Fiscal Year 2008

The following table sets forth information concerning potential payouts under our cash incentive bonus plan, stock option grants and RSU grants made to each of the named executive officers during the fiscal year ended December 31, 2008:

| Name | Grant Date | Approval Date | Estimated Possible Payouts | | All other Stock Awards: Number of Shares of Stock or Units (#) | All other Option Awards: Securities Underlying Options (#) | Exercise or Base Price of Option Awards (\$/SH) | Grant Date Fair Value of Stock and Option Awards(5) |
|---------------------|------------|---------------|----------------------------|---------------|--|--|---|---|
| | | | Threshold Target (\$) | Maximum (\$) | | | | |
| Elkan Gamzu | 7/31/08 | 7/24/08 | | | | 300,000 | \$ 2.10 | \$ 379,500 |
| Kim Cobleigh | | | | | | | | |
| Drapkin | | | \$ 78,000 | \$ 97,500(1) | | | | |
| | 2/25/08 | 1/24/08 | | | 17,500(3) | | | \$ 55,125 |
| | 2/25/08 | 1/24/08 | | | | 40,000 | \$ 3.15 | \$ 75,040 |
| | 9/15/08 | 9/15/08 | \$ 130,000 | (2) | | | | |
| | 9/15/08 | 9/15/08 | | | 63,106(4) | | | \$ 65,000 |
| Chen Schor | | | \$ 78,733 | \$ 98,416(1) | | | | |
| | 2/25/08 | 1/24/08 | | | 17,500(3) | | | \$ 55,125 |
| | 2/25/08 | 1/24/08 | | | | 40,000 | \$ 3.15 | \$ 75,040 |
| | 9/15/08 | 9/15/08 | | | 63,700(4) | | | \$ 65,611 |
| | 9/15/08 | 9/15/08 | \$ 131,222 | (2) | | | | |
| Michael G. Kauffman | | | \$ 202,683 | \$ 253,354(1) | | | | |
| | 2/25/08 | 1/24/08 | | | 37,500(3) | | | \$ 118,125 |
| | 2/25/08 | 1/24/08 | | | | 75,000 | \$ 3.15 | \$ 140,700 |

Andrew C.G.
Uprichard

| | | | | | | | | |
|--|---------|---------|------------|---------------|-----------|--------|---------|------------|
| | | | \$ 144,768 | \$ 180,960(1) | | | | |
| | 2/25/08 | 1/24/08 | | | 32,333(3) | | | \$ 101,849 |
| | 2/25/08 | 1/24/08 | | | | 81,333 | \$ 3.15 | \$ 152,581 |

- (1) Included in these rows are the target and maximum payout levels for each executive under our annual cash incentive bonus program. There are no threshold amounts under our annual cash incentive bonus program. Under the terms of the letter agreement between us and Dr. Gamzu regarding his employment as our interim chief executive officer effective July 25, 2008, Dr. Gamzu was not eligible for an award under our annual cash incentive bonus program. No amounts were actually earned by our named executives under this plan in 2008.
- (2) Included in these rows are the target payout levels under our 2008 retention bonus plan. There are no threshold or maximum amounts under our 2008 retention bonus plan. The actual amount of retention bonuses earned by each named executive officer in 2008 is reported under the Non-Equity Incentive Plan Compensation column in the Summary Compensation Table.
- (3) Included in these rows are RSUs which vest in two equal annual installments on the first and second anniversaries of the grant date. Each RSU represents the contingent right to receive one share of common stock.
- (4) Included in these rows are grants of shares of common stock issued on December 31, 2008 equal to an aggregate of 25% of the executive's base pay as of such date under our 2008 retention bonus plan. Common shares were issued out of our 2008 Stock Option and Incentive Plan.

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- (5) Amounts in this column represent the aggregate grant date fair value computed in accordance with SFAS 123R. For a discussion of the assumptions underlying the valuation of stock options, please see Note 9 to the Consolidated Financial Statements included in the Annual Report on Form 10-K for fiscal year 2008. RSUs were valued based on the value of the underlying stock on the date of grant and the stock awards were valued based upon the dollar value of the award.

Each of the options in the foregoing table expires on the tenth anniversary of the grant date. Vesting of the options granted in 2008 occurs on a quarterly basis over a four-year period, except for the options granted to Dr. Gamzu which vested in nine equal monthly installments beginning July 31, 2008. Options and RSUs granted to Ms. Drapkin, Mr. Schor and Dr. Kauffman were granted under our Amended and Restated 2003 Stock Incentive Plan; options and RSUs granted to Dr. Uprichard were granted under our Amended and Restated 1992 Incentive Plan, and options granted to Dr. Gamzu were granted under our 2008 Stock Option and Incentive Plan. In accordance with the process for determination of fair market value under the plans noted above, the exercise price for each option is equal to the fair market value of our common stock on the date of grant. The fair market value of our common stock for purposes of determining the exercise price of stock options has been determined based on the closing market price on the grant date. All options and RSUs granted to Drs. Kauffman and Uprichard in 2008 were forfeited in 2008 due to their departures.

See Compensation Discussion and Analysis above for a complete description of the targets for payment of annual incentives, as well as performance criteria on which such payments were based.

Outstanding Equity Awards at Fiscal Year-End 2008

The following table provides information on all stock options and RSUs held by our named executive officers as of December 31, 2008. All outstanding equity awards quantified in the following table are based upon the number of shares of common stock underlying the equity award. Although certain of our named executive officers own shares of our common stock, the following table does not include such shares.

| Name | Number of Securities Underlying Unexercised Options (#) Exercisable | Option Awards | | Stock Awards | | |
|--------------|---|---|----------------------------|------------------------|---|--|
| | | Number of Securities Underlying Unexercised Options (#) Unexercisable | 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 (\$) |
| Elkan Gamzu | 199,998 | 100,002(2) | \$ 2.10 | 7/31/18 | | |
| Kim Cobleigh | | | | | | |
| Drapkin | 66,989(1) | 3,391(1)(3) | \$ 0.98 | 4/26/15 | 17,500(9) | \$ 18,025 |
| | 32,870(1) | 5,612(1)(4) | \$ 1.74 | 4/28/15 | | |
| | 28,125 | 21,875(5) | \$ 7.20 | 8/18/16 | | |
| | 15,654 | 20,126(6) | \$ 6.50 | 2/5/17 | | |
| | 7,500 | 32,500(7) | \$ 3.15 | 2/25/18 | | |
| Chen Schor | 16,073(1) | | \$ 2.18 | 12/15/13 | 17,500(9) | \$ 18,025 |

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| | | | | |
|--------------------------|-----------|-------------|---------|----------|
| | 114(1) | | \$ 2.18 | 1/29/14 |
| | 6,888(1) | | \$ 2.18 | 4/29/14 |
| | 57,398(1) | | \$ 0.98 | 12/10/14 |
| | 79,254(1) | 1,981(1)(8) | \$ 0.98 | 1/18/15 |
| | 23,707(1) | 4,255(1)(4) | \$ 1.74 | 4/28/15 |
| | 16,875 | 13,125(5) | \$ 7.20 | 8/18/16 |
| | 16,105 | 20,708(6) | \$ 6.50 | 2/5/17 |
| | 7,500 | 32,500(7) | \$ 3.15 | 2/25/18 |
| Michael G. Kauffman | None | None | | |
| Andrew C.G. Uprichard | None | None | | |

(1) Options were assumed in the merger with Predix Pharmaceuticals Holdings, Inc. on August 16, 2006.

(2) Remaining options vest in equal monthly installments through March 2009.

(3) Remaining options vest in equal monthly installments through February 2009.

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- (4) Remaining options vest in equal monthly installments through July 2009.
- (5) Remaining options vest in equal quarterly installments through August 2010.
- (6) Remaining options vest in equal quarterly installments through February 2011.
- (7) Remaining options vest in equal quarterly installments through February 2012.
- (8) Remaining options vest in equal monthly installments through January 2009.
- (9) Remaining RSUs vest in equal annual installments through February 2010.

Option Exercises and Stock Vested During Fiscal Year 2008

The following table provides information on stock option exercises and stock vesting in our fiscal year ended December 31, 2008 by our named executive officers.

| Name | Option Awards | | Stock Awards | |
|----------------------|---|---------------------------------|--|--------------------------------|
| | Number of Shares Acquired on Exercise (#) | Value Realized on Exercise (\$) | Number of Shares Acquired on Vesting (#) | Value Realized on Vesting (\$) |
| Kim Cobleigh Drapkin | | | 63,106 | \$ 65,000 |
| Chen Schor | | | 63,700 | \$ 65,611 |
| Michael G. Kauffman | 137,129 | \$ 91,507 | | |

Pension Benefits

We do not have any qualified or non-qualified defined benefit plans.

Non-Qualified Deferred Compensation

We do not have any non-qualified defined contribution plans or other deferred compensation plans.

Employment Agreements and Severance Benefits

We consider it in the best interests of our shareholders to foster the continuous at-will employment of key management personnel and to prevent their departure. We executed a letter agreement with Dr. Gamzu on July 25, 2008 upon his initial employment as interim chief executive officer that did not provide for termination or severance benefits. In connection with his March 2, 2009 appointment as our full-time president and chief executive officer, Dr. Gamzu executed an employment agreement with us on April 6, 2009. This employment agreement provides for at will employment for Dr. Gamzu, establishes his annual base salary, sets his target bonus under our annual bonus program at 50% of the higher of his then-current base salary and \$325,000, and provides for an initial stock option grant of 400,000 options. This stock option grant will vest over four years, with 25% vesting on the date that is three months after the date of grant and the remainder vesting in equal quarterly installments on the two year, three year and

four year anniversary date of the grant. Dr. Gamzu's initial annual base salary under the employment agreement is \$162,500, which Dr. Gamzu can increase to \$325,000 upon one month's notice. The employment agreement also sets forth Dr. Gamzu's eligibility to receive a special bonus and for the partial or full acceleration of his option award upon the occurrence of specified events.

Ms. Drapkin executed an amended and restated employment agreement with us on September 15, 2008 that superseded her prior employment agreement with us dated March 26, 2007. The employment agreement provides for at will employment for Ms. Drapkin, establishes her annual base salary at \$260,000, provides for a special quarterly bonus of \$12,500 per quarter over the one-year period starting September 30, 2008, and sets forth the terms of her participation in our 2008 retention bonus program, which is more specifically described under 2008 Retention Bonus Plan above.

Potential Payments Upon Termination or Change in Control

Upon Dr. Kauffman's departure in July 2008, he received a lump-sum payment equal to 12 months base salary (\$405,366), continued payments toward group health plan benefits for 12 months, and a lump-sum

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payment equal to the pro rata portion of his 2008 cash bonus under our annual bonus program (\$101,342). Following Dr. Uprichard's departure, on May 29, 2008, we entered into a Separation Agreement and Post-Employment Consulting Agreement with Dr. Uprichard. Under this agreement, subject to his continued compliance with the terms and conditions of the agreement, Dr. Uprichard would become entitled in 2009 to the termination benefits described in his previous employment agreement, including a lump-sum severance payment equal to 12 months base salary (\$361,900) and a lump-sum payment equal to the pro rata portion of his 2008 cash bonus under our annual bonus program (\$60,320). In addition, Dr. Uprichard was entitled to continued medical insurance payments for 12 months. Under this agreement, Dr. Uprichard provided consulting services to us (i) from June 1, 2008 until June 30, 2008, the date when our New Drug Application, or NDA, for Vasovist was resubmitted to the FDA, at a rate of \$30,000 per month, and (ii) from July 1, 2008 until December 22, 2008, the date of approval of the NDA for Vasovist by the FDA, at a rate of \$22,500 per month. Since December 23, 2008, Dr. Uprichard has been obligated to provide further consulting services for at least eight hours per week, at a rate of \$400 per hour until April 6, 2009, the date that we sold the commercial rights to Vasovist to Lantheus Medical Imaging, Inc. Under the agreement, Dr. Uprichard earned an aggregate of \$250,000 of bonus payments (out of a potential \$300,000) upon the achievement of certain milestones related to the approval and monetization of Vasovist.

Under our employment agreement with Dr. Gamzu, our president and chief executive officer, upon his voluntary resignation for good reason (as defined in his employment agreement) or his termination not for cause (as defined in his employment agreement), Dr. Gamzu is entitled to a lump sum payment of 12 months of the higher of (i) his then-current base salary and (ii) \$325,000, continued company contributions toward health care benefits for a maximum of 12 months, and the pro rata portion of his accrued bonus. In addition, upon a change of control (as defined in his employment agreement) and subsequent termination within 18 months, all stock options and other stock-based awards granted will immediately accelerate and become fully exercisable/vested as of the effective date of the termination. As of December 31, 2008, the last business day of our last fiscal year, Dr. Gamzu's prior letter agreement with us was still effective. The letter agreement did not provide for any termination or severance benefits.

The following summary tables set forth potential payments payable to our chief financial officer and former chief business officer upon termination of employment or a change in control of us under their respective employment agreements and our other compensation programs. The compensation committee may in its discretion revise, amend or add to the benefits if it deems advisable.

Under our employment agreement with Ms. Drapkin, our chief financial officer, upon her voluntary resignation for good reason (as defined in her employment agreement) or her termination not for cause (as defined in her employment agreement), Ms. Drapkin is entitled to a lump sum payment of 12 months of her then-current base salary, continued company contributions toward health care benefits for a maximum of 12 months, and the pro rata portion of her accrued bonus. In addition, upon a change of control (as defined in her employment agreement) and subsequent termination within 18 months following such change of control for stock options issued under the Amended and Restated 1992 Incentive Plan and 12 months and 18 months for stock options and RSUs, respectively, issued under the Amended and Restated 2003 Stock Incentive Plan, all stock options and other stock-based awards granted will immediately accelerate and become fully exercisable/vested as of the effective date of the termination. The following table describes the potential

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payments and benefits upon employment termination or change of control for Ms. Drapkin as if her employment terminated as of December 31, 2008, the last business day of our last fiscal year.

| Payments and Benefits | Voluntary Resignation for Good Reason | Termination by Company Not for Cause | Involuntary Termination in Connection with or Following Change of Control |
|------------------------------|--|---|--|
| Cash Severance | \$ 260,000 | \$ 260,000 | \$ 260,000 |
| Pro Rata Target Bonus | \$ 58,500 | \$ 58,500 | \$ 58,500 |
| Retention Bonus | \$ 130,000 | \$ 130,000 | \$ 130,000 |
| Stock Options and RSUs(1) | \$ | \$ | \$ 18,195 |
| Health Care Benefits | \$ 14,994 | \$ 14,994 | \$ 14,994 |
| Total | \$ 463,494 | \$ 463,494 | \$ 481,689 |

(1) Based on the closing price of our common stock of \$1.03 on December 31, 2008 on the NASDAQ Global Market.

Under our employment agreement in effect on December 31, 2008 with Mr. Schor, our former chief business officer, upon his voluntary resignation for good reason (as defined in his employment agreement) or his termination not for cause (as defined in his employment agreement), Mr. Schor was entitled to a lump sum payment of 12 months of his then-current base salary, continued company contributions toward health care benefits for a maximum of 12 months, and the pro rata portion of his accrued bonus. In addition, upon a change of control (as defined in his employment agreement) and subsequent termination within 18 months following such change of control for stock options issued under the Amended and Restated 1992 Incentive Plan and 12 months and 18 months for stock options and RSUs, respectively, issued under the Amended and Restated 2003 Stock Incentive Plan, all stock options and other stock-based awards granted would have immediately accelerated and become fully exercisable/vested as of the effective date of the termination. The following table describes the potential payments and benefits upon employment termination or change of control for Mr. Schor as if his employment terminated as of December 31, 2008, the last business day of our last fiscal year. No termination benefits were actually paid to Mr. Schor upon his resignation effective March 23, 2009.

| Payments and Benefits | Voluntary Resignation for Good Reason | Termination by Company Not for Cause | Involuntary Termination in Connection with or Following Change of Control |
|------------------------------|--|---|--|
| Cash Severance | \$ 262,444 | \$ 262,444 | \$ 262,444 |

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|---------------------------|----|---------|----|---------|----|---------|
| Pro Rata Target Bonus | \$ | 59,050 | \$ | 59,050 | \$ | 59,050 |
| Stock Options and RSUs(1) | \$ | | \$ | | \$ | 18,124 |
| Health Care Benefits | \$ | 14,994 | \$ | 14,994 | \$ | 14,994 |
| Total | \$ | 336,488 | \$ | 336,488 | \$ | 354,612 |

(1) Based on the closing price of our common stock of \$1.03 on December 31, 2008 on the NASDAQ Global Market.

Table of Contents**Summary of Director Compensation**

The following table provides information related to the compensation of our non-employee directors for our fiscal year ended December 31, 2008.

| Name | Fees Earned or Paid in Cash (\$) | Option Awards \$(3)(4) | Total (\$) |
|------------------------------|---|---------------------------------------|-----------------------|
| Patrick J. Fortune, Ph.D.(1) | \$ 8,750 | \$ (14,953) | \$ (6,203) |
| Frederick Frank | \$ 40,000 | \$ 40,086 | \$ 80,086 |
| Michael Gilman, Ph.D. | \$ 40,000 | \$ 46,304 | \$ 86,304 |
| Mark Leuchtenberger | \$ 37,500 | \$ 51,243 | \$ 88,743 |
| Robert J. Perez(2) | \$ 33,750 | \$ 36,362 | \$ 70,112 |
| Gregory D. Phelps | \$ 45,000 | \$ 23,058 | \$ 68,058 |
| Ian F. Smith, CPA | \$ 37,500 | \$ 40,086 | \$ 77,586 |

(1) Dr. Fortune resigned from the board of directors as of March 25, 2008.

(2) Mr. Perez resigned from the board of directors as of February 28, 2009.

(3) Amounts in this column represent the dollar amount recognized for financial statement reporting purposes for the fiscal year ended December 31, 2008 calculated in accordance with SFAS 123R (disregarding the estimate of forfeitures related to service-based vesting conditions) for stock options granted in 2008 and prior years. The grant date fair value of option grants in 2008 calculated in accordance with SFAS 123R was \$28,650 for each of Messrs. Frank, Phelps and Smith and \$11,460 for each of Dr. Michael Gilman and Messrs. Leuchtenberger and Perez. Dr. Fortune was not granted options in 2008. For a discussion of the assumptions underlying these valuations please see Note 9 to the Consolidated Financial Statements included in the Annual Report on Form 10-K for fiscal year 2008.

(4) The aggregate number of option awards outstanding for each director at December 31, 2008 was: Mr. Frank 50,612; Dr. Gilman 36,666; Mr. Leuchtenberger 56,665; Mr. Perez 40,555; Mr. Phelps 58,332 and Mr. Smith 50,703.

Narrative to Director Compensation Table

In connection with our efforts to attract and retain highly-qualified individuals to our Board of Directors, we maintain a cash and equity compensation policy for our non-employee members of our Board. For 2008, each of our non-employee members of our Board was entitled to the following compensation:

Board of Directors

| | |
|---------------------------------------|-----------|
| Annual retainer for Board membership: | \$ 20,000 |
| Additional retainer for Chairman: | \$ 10,000 |

Board Committees

| | |
|--|-----------|
| Annual retainer for Committee membership: | \$ 10,000 |
| Additional retainer for Audit Committee chair: | \$ 7,500 |
| Additional retainer for Compensation Committee and Nominating and Governance Committee chairs: | \$ 5,000 |

The equity awards under the compensation policy consist of initial and annual awards of stock options. Initial awards of stock options to purchase 25,000 shares of common stock will be granted upon election or re-election to the board. These options vest in three equal annual installments such that they become fully-vested on the earlier of (i) the third anniversary of the date of grant or (ii) the date of our third annual meeting following the date of grant. Annual awards of 10,000 stock options will be granted to directors during the years in which such director is not up for re-election to the board. These options will vest in full on the earlier of (i) the first anniversary date of the grant or (ii) the date of our next annual meeting, in each case provided

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that the optionee is still a director of our company on such date. All options will be granted at fair market value on the date of grant and will be granted at the first meeting of the board following our annual meeting of stockholders. Under this policy, a total of 105,000 options were granted to our non-employee board members in 2008.

In addition to the cash and equity compensation described above, all members of our board were reimbursed for reasonable out-of-pocket expenses incurred in attending meetings of the board of directors.

Equity Compensation Plan Information

We maintain the following four equity compensation plans under which our equity securities are authorized for issuance to our employees, directors and consultants: 2008 Stock Option and Incentive Plan, Amended and Restated 1992 Incentive Plan; Amended and Restated 1996 Director Stock Option Plan; and Amended and Restated 2003 Stock Incentive Plan. Upon approval of our 2008 Stock Option and Incentive Plan by stockholders on May 19, 2008, future grants under all other plans have been discontinued. We also maintain our 2006 Employee Stock Purchase Plan under which our employees may purchase shares of common stock at a discount from fair market value at specified dates. The following table represents information about these plans as of December 31, 2008:

| Plan Category | (A) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights | (B) Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights | (C) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (A)) |
|---|--|--|--|
| Equity compensation plans approved by security holders | 2,108,452 | \$ 6.62 | 5,968,844 |
| Equity compensation plans not approved by security holders(1) | 1,263,984 | \$ 2.39 | |
| Total | 3,372,436 | \$ 5.04 | 5,968,844 |

(1) Represents the Predix Pharmaceuticals Holdings, Inc. Amended and Restated 2003 Stock Incentive Plan assumed in our 2006 merger with Predix.

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REPORT OF THE AUDIT COMMITTEE

No portion of this audit committee report shall be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, through any general statement incorporating by reference in its entirety the proxy statement in which this report appears, except to the extent that the Company specifically incorporates this report or a portion of it by reference. In addition, this report shall not be deemed to be soliciting material or filed under either the Securities Act or the Exchange Act.

This report is submitted by the audit committee of the board of directors. The audit committee currently consists of Ian F. Smith, CPA (Chairman), Frederick Frank and Gregory D. Phelps. None of the members of the audit committee is an officer or employee of the Company, and the board of directors has determined that each member of the audit committee meets the independence requirements promulgated by NASDAQ and the Securities and Exchange Commission, including Rule 10A-3(b)(1) under the Exchange Act. Mr. Smith is an audit committee financial expert as is currently defined under SEC rules. The audit committee operates under a written charter adopted by the board of directors.

The audit committee oversees the Company's accounting and financial reporting processes on behalf of the board of directors. The Company's management has the primary responsibility for the financial statements, for maintaining effective internal control over financial reporting, and for assessing the effectiveness of internal control over financial reporting. In fulfilling its oversight responsibilities, the audit committee has reviewed and discussed with management the Company's consolidated financial statements for the fiscal year ended December 31, 2008, including a discussion of, among other things, the quality of the Company's accounting principles, the reasonableness of significant estimates and judgments, and the clarity of disclosures in the Company's financial statements.

The audit committee also reviewed with Ernst and Young LLP, the Company's independent registered public accounting firm, the results of their audit and discussed matters required to be discussed by the Statement on Auditing Standards No. 61 (*Communication with Audit Committees*), as currently in effect, other standards of the Public Company Accounting Oversight Board, rules of the Securities and Exchange Commission and other applicable regulations. The audit committee has received the written disclosures and the letter from Ernst and Young LLP required by applicable requirements of the Public Company Accounting Oversight Board regarding an independent accountant's communications with the audit committee concerning independence, and has discussed with Ernst and Young LLP their independence from management. The audit committee has reviewed permitted services under rules of the Securities and Exchange Commission as currently in effect, and has considered and discussed the compatibility of non-audit services provided by Ernst and Young LLP with that firm's independence.

The audit committee meets with the independent registered public accounting firm, with and without management present, to discuss the results of their examinations; their evaluations of the Company's internal control, including internal control over financial reporting; and the overall quality of the Company's financial reporting.

Based on its review of the financial statements and the aforementioned discussions, the audit committee concluded that it would be reasonable to recommend, and on that basis did recommend, to the board of directors that the audited financial statements be included in the Company's Annual Report on Form 10-K for the year ended December 31, 2008.

The audit committee has also evaluated the performance of Ernst and Young LLP, including, among other things, the amount of fees paid to Ernst & Young LLP for audit and non-audit services in 2008. Information about Ernst and Young LLP's fees for 2008 is discussed below in this proxy statement under Proposal 3 *Ratification of Selection of Independent Registered Public Accountants*. Based on its evaluation, the audit committee has recommended that the

Company retain Ernst and Young LLP to serve as the Company's independent registered public accounting firm for the 2009 fiscal year.

Respectfully submitted by the Audit Committee,

Ian F. Smith, CPA (Chair)

Frederick Frank

Gregory D. Phelps

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PROPOSAL 2

APPROVAL OF AMENDMENT TO OUR RESTATED CERTIFICATE OF INCORPORATION

Background

To ensure sufficient shares of common stock will be available for future issuance by the Company, the Board of Directors has approved, subject to stockholder approval, an amendment to our Restated Certificate of Incorporation to increase the number of shares of our common stock authorized for issuance from 100,000,000 to 200,000,000. You are being asked to consider and act upon this proposal to approve the proposed amendment to our Restated Certificate of Incorporation, which is attached as Appendix A to this proxy statement.

Under Delaware law, we may only issue shares of common stock to the extent such shares have been authorized for issuance under our Restated Certificate of Incorporation. Our Restated Certificate of Incorporation currently authorizes the issuance of up to 100,000,000 shares of common stock. As of April 10, 2009, we had 41,947,441 shares of common stock issued and outstanding. In addition, we have reserved 33,900,000 shares of common stock for issuance to the holders of our \$100 million aggregate principal amount of 3% Convertible Senior Notes due 2024 pursuant to an exchange offer announced on April 7, 2009 and expected to close on May 4, 2009. Moreover, as of April 10, 2009, 8,185,493 unissued shares were reserved under our committed equity financing facility, 9,042,077 unissued shares were reserved for issuance under our equity compensation plans pursuant to outstanding and yet to be issued equity awards and 400,000 unissued shares were reserved for issuance for outstanding warrants, leaving 6,524,989 shares of our common stock unissued and unreserved. Based on the closing price of our common stock on April 9, 2009 of \$0.33, the gross value of the 6,524,989 shares of our unissued and unreserved common stock is \$2.2 million.

Purpose and Effect of the Increase in the Amount of Our Authorized Common Stock

The principal purpose of this proposal is to authorize additional shares of common stock which will be available in the event the Board of Directors determines that it is necessary or appropriate to raise additional capital through the sale of equity securities, convertible debt securities or other equity-linked securities, to acquire another company or its assets, to establish strategic relationships with corporate partners, to provide equity incentives to employees and officers or for other corporate purposes.

The availability of additional shares of common stock is particularly important in the event that the Board of Directors needs to undertake any of the foregoing actions on an expedited basis and thus to avoid the time and expense of seeking stockholder approval in connection with the contemplated issuance of common stock. In that regard, based on our current financial position as described in the following paragraph, we will need to raise significant additional capital to fund our operations beyond August 2009 and we believe that any fundraising efforts will be dependent upon the availability of additional shares of common stock.

As of December 31, 2008, we had \$24.6 million of cash and cash equivalents to fund our future operations. We believe that our cash and cash equivalents, along with anticipated revenue that we expect to earn during the first half of 2009, will fund our operations only through the end of August 2009. In addition, on February 4, 2009, we received notice from the Listing Qualifications Panel of the NASDAQ Stock Market LLC, or NASDAQ, that it has determined to continue the listing of our common stock on the NASDAQ Global Market subject to our compliance with Marketplace Rule 4450(b)(1)(A), which requires us to maintain a market value of our common stock of at least \$50,000,000 for at least 10 consecutive days on or prior to May 11, 2009. As of April 10, 2009, we were not in compliance with the requirement for continued inclusion on NASDAQ. If we do not regain compliance with the rules

for continued listing on NASDAQ, our common stock will be delisted from NASDAQ. If our common stock is delisted from NASDAQ, the holders of our \$100 million aggregate principal amount of 3% Convertible Senior Notes could redeem their notes at face value, plus accrued and unpaid interest. We currently do not have sufficient funds to repurchase more than a nominal amount of the notes at face value if tendered by the holders. Accordingly, we recently commenced an exchange offer to repurchase all of our 3% Convertible Senior Notes in exchange for an aggregate of \$18 million in cash, 33,900,000 shares of our common stock and contingent value rights (entitling the

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tendering noteholders to a potential additional amount upon the occurrence of certain events as described in our Offer to Exchange and Consent Solicitation on file with the SEC), assuming the holders of our 3% Convertible Senior Notes tender all of their notes in the exchange offer. If the exchange offer is unsuccessful, all of our 3% Convertible Senior Notes would remain outstanding. However, even if the exchange offer is successful, we will still need to raise significant additional capital to fund our operations beyond August 2009 and we will have depleted substantially all of our currently existing unissued and unreserved common stock. If we are unable to obtain such additional capital, we will not be able to sustain our operations and would be required to cease our operations and/or seek bankruptcy protection.

The increase in authorized common stock will not have any immediate effect on the rights of existing stockholders. However, the Board or Directors will have the authority to issue authorized common stock without requiring future stockholder approval of such issuances, except as may be required by applicable law or regulatory agencies or by the NASDAQ Marketplace Rules or any other stock market or exchange on which our common stock may then be listed. To the extent that additional authorized shares are issued in the future, they may decrease the existing stockholders percentage equity ownership and, depending on the price at which they are issued, could be dilutive to the existing stockholders.

The increase in the authorized amount of shares of common stock and the subsequent issuance of such shares could have the effect of delaying or preventing a change of control of the Company without further action by the stockholders. Shares of authorized and unissued common stock could, within the limits imposed by applicable law, be issued in one or more transactions which would make a change of control of the Company more difficult, and therefore less likely. Any such issuance of additional stock could have the effect of diluting the earnings per share and book value per share of outstanding shares of common stock and such additional shares could be used to dilute the stock ownership or voting rights of a person seeking to obtain control of the Company.

We do not have any arrangements, commitments or understandings to issue any shares of our capital stock except for 33,900,000 shares of common stock reserved for issuance under our outstanding exchange offer to repurchase our \$100 million aggregate principal amount of 3% Convertible Senior Notes, 8,185,493 unissued shares reserved under our committed equity financing facility, 9,042,077 unissued shares reserved for issuance under our equity compensation plans pursuant to outstanding and yet to be issued equity awards and 400,000 unissued shares reserved for issuance for outstanding warrants.

The Board of Directors is not aware of any current attempt to take over or acquire the Company. While it may be deemed to have potential anti-takeover effects, the proposed amendment to increase the authorized common stock is not prompted by any specific effort or takeover threat currently perceived by management.

If the amendment to our Restated Certificate of Incorporation is approved there will be a total of 106,524,989 shares of our common stock which are authorized, unreserved and unissued.

We believe that the increase in the number of authorized shares of common stock is in the best interests of the Company and its stockholders based on our near-term need to raise additional capital to fund the operations of the Company beyond August 2009.

The affirmative vote of the holders of a majority of the outstanding shares of our common stock on the record date is required to approve the proposed amendment of our Restated Certificate of Incorporation. Abstentions have the same effect as a vote against the proposal.

THE BOARD OF DIRECTORS HAS APPROVED THE AMENDMENT OF OUR RESTATED CERTIFICATE OF INCORPORATION AS SET FORTH IN PROPOSAL TWO. THE BOARD

UNANIMOUSLY RECOMMENDS THAT YOU VOTE *FOR* THE APPROVAL OF PROPOSAL TWO.

Table of Contents**PROPOSAL 3****RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS**

The audit committee of the board of directors has retained the firm of Ernst & Young LLP, independent registered public accountants, to serve as independent registered public accountants for our 2009 fiscal year. The audit committee reviewed and discussed its selection of, and the performance of, Ernst & Young LLP for our 2009 fiscal year. As a matter of good corporate governance, the audit committee has determined to submit its selection to stockholders for ratification. If the selection of the registered public accountants is ratified, the audit committee in its discretion may select a different independent registered public accounting firm at any time during the year if it determines that such a change would be in the best interests of us and our stockholders.

The audit committee of the board of directors has implemented procedures under our audit committee pre-approval policy for audit and non-audit services to ensure that all audit and permitted non-audit services to be provided to us have been pre-approved by the audit committee. Specifically, the audit committee pre-approves the use of Ernst & Young LLP for specific audit and non-audit services, within approved monetary limits. If a proposed service has not been pre-approved pursuant to the pre-approval policy, then it must be specifically pre-approved by the audit committee before it may be provided by Ernst & Young LLP. Any preapproved services exceeding the pre-approved monetary limits require specific approval by the audit committee. The tax and other services provided by Ernst & Young LLP to us in 2008 were approved by the audit committee by means of specific pre-approvals or pursuant to the pre-approval policy. For additional information concerning the audit committee and its activities with Ernst & Young LLP, see [The Board of Directors and its Committees](#) and [Report of the Audit Committee](#).

Representatives of Ernst & Young LLP attended seven out of the eight meetings of the audit committee in 2008. We expect that a representative of Ernst & Young LLP will attend the annual meeting, and the representative will have an opportunity to make a statement if he or she so desires. The representative will also be available to respond to appropriate questions from stockholders.

Fees Billed by Ernst & Young LLP

The following table shows the aggregate fees for professional services rendered by Ernst & Young LLP to the Company during the fiscal years ended December 31, 2008 and December 31, 2007:

| | Year Ended | |
|-------------------|------------------------------|--------------------------|
| | December 31, 2008 | December 31, 2007 |
| Audit Fees(1) | \$ 357,400 | \$ 337,500 |
| Tax Fees(2) | 38,270 | 61,490 |
| All Other Fees(3) | | 28,550 |
| Total | \$ 395,670 | \$ 427,540 |

(1) Audit fees consist of fees for professional services associated with the annual consolidated financial statements audit, a review of the interim financial statements included in the quarterly reports, a review of internal controls

for financial reporting (Section 404), consents and assistance with and review of documents filed with the Securities and Exchange Commission.

- (2) Tax fees consist of fees for professional services rendered for assistance with federal, state, local and international tax compliance. The audit committee has determined that the provision of these services to us by Ernst & Young LLP is compatible with maintaining their independence.
- (3) All other fees in 2007 consist of non-audit related fees associated with complying with an information request from the Securities and Exchange Commission relating to our historical stock option practices.

**THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU
VOTE FOR THE RATIFICATION OF THE SELECTION OF ERNST & YOUNG LLP AS
THE COMPANY'S INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS FOR 2009.**

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SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our directors, executive officers and persons who own more than ten percent of a registered class of our equity securities to file reports of ownership and changes in ownership with the Securities and Exchange Commission. Such persons are required by regulations of the Securities and Exchange Commission to furnish us with copies of all such filings. Based solely on our review of copies of such filings we believe that all such persons complied on a timely basis with all Section 16(a) filing requirements during the fiscal year ended December 31, 2008.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Other than compensation agreements and other arrangements which are described in Compensation Discussion and Analysis, there has not been, and there is not currently proposed, any transaction or series of similar transactions to which we were or will be a party in which the amount involved exceeded or will exceed \$120,000 and in which any director, executive officer, holder of five percent or more of any class of our capital stock or any member of their immediate family had or will have a direct or indirect material interest.

In April 2007, our board of directors adopted a written related person transaction approval policy, which sets forth our policies and procedures for the review, approval or ratification of any transaction required to be reported in our filings with the Securities and Exchange Commission. Our policy with regard to related person transactions is that all future related person transactions between us and any related person (as defined in Item 404 of Regulation S-K) or their affiliates, in which the amount involved is equal to or greater than \$120,000, be reviewed by our chief financial officer and approved in advance by our audit committee.

STOCKHOLDER PROPOSALS

Proposals of stockholders intended for inclusion in the proxy statement to be furnished to all stockholders entitled to vote at the 2010 annual meeting of our stockholders, pursuant to Rule 14a-8 promulgated under the Exchange Act by the SEC, must be received at our principal executive offices no later than December 25, 2009. Stockholders who wish to make a proposal at the 2010 annual meeting other than one that will be included in our proxy statement must notify us between February 16, 2010 and March 18, 2010. If the date of 2010 annual meeting of our stockholders is moved more than 30 days before or 60 days after the anniversary of the 2009 meeting, then notice of a stockholder proposal to be timely must be received by our secretary not later than the close of business on the later of the 90th day prior to such annual meeting or the 15th day following the day on which public announcement of the day of such annual meeting is first made. In order to avoid controversy as to the date on which we received a proposal, it is suggested that proponents submit their proposals by Certified Mail Return Receipt Requested.

EXPENSES AND SOLICITATION

The cost of solicitation of proxies will be borne by us and, in addition to soliciting stockholders by mail through its regular employees, we may request banks, brokers and other custodians, nominees and fiduciaries to solicit their customers who have our stock registered in the names of a nominee and, if so, will reimburse such banks, brokers and other custodians, nominees and fiduciaries for their reasonable out-of-pocket costs. Solicitation by our officers and employees may also be made of some stockholders in person or by mail, telephone, e-mail or telegraph following the original solicitation. In addition, we have engaged the services of the Altman Group to assist in the solicitation of proxies for a fee of approximately \$7,000, plus reimbursement of reasonable out-of-pocket expenses.

HOUSEHOLDING OF PROXY MATERIALS

Our 2008 Annual Report, including audited financial statements for the fiscal year ended December 31, 2008, is being mailed to you along with this proxy statement. In order to reduce printing and postage costs, Broadridge Financial Solutions has undertaken an effort to deliver only one Annual Report and one proxy

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statement to multiple shareholders sharing an address. This delivery method, called householding, is not being used, however, if Broadridge has received contrary instructions from one or more of the stockholders sharing an address. If your household has received only one Annual Report and one proxy statement, we will deliver promptly a separate copy of the Annual Report and the proxy statement to any shareholder who sends a written request to EPIX Pharmaceuticals, Inc., 4 Maguire Road, Lexington, Massachusetts 02421, Attention: Secretary, (781) 761-7600. If your household is receiving multiple copies of our Annual Report or proxy statement and you wish to request delivery of a single copy, you may send a written request to EPIX Pharmaceuticals, Inc., 4 Maguire Road, Lexington, Massachusetts 02421, Attention: Secretary.

OTHER BUSINESS

The board of directors knows of no business that will be presented for consideration at the annual meeting other than those items stated above. If any other business should come before the annual meeting, votes may be cast pursuant to proxies in respect to any such business in the best judgment of the person or persons acting under the proxies.

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Appendix A

**FORM OF CERTIFICATE OF AMENDMENT
OF
RESTATED CERTIFICATE OF INCORPORATION
OF
EPIX PHARMACEUTICALS, INC.**

EPIX Pharmaceuticals, Inc. (the Corporation), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the DGCL), does hereby certify:

1. The name of the Corporation is EPIX Pharmaceuticals, Inc. The date of the filing of its original Certificate of Incorporation with the Secretary of State of the State of Delaware was November 28, 1988 (the Original Certificate). The name under which the Corporation filed the Original Certificate was Metacorp, Inc.
2. This Certificate of Amendment amends certain provisions of the Restated Certificate of Incorporation, and has been duly adopted by the Board of Directors of the Corporation acting in accordance with the provisions of Section 242 of the DGCL, and further adopted in accordance with the provisions of Sections 211 and 242 of the DGCL by the stockholders of the Corporation.
3. That upon the effectiveness of this Certificate of Amendment, the first paragraph of Article FOURTH of the Fourth Amended and Restated Certificate of Incorporation is hereby amended and restated in its entirety such that, as amended, said paragraph shall read in its entirety as follows:

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is Two Hundred One Million (201,000,000) consisting of (i) Two Hundred Million (200,000,000) shares of Common Stock, \$0.01 par value per share (the Common Stock) and (ii) One Million (1,000,000) shares of Preferred Stock, \$0.01 par value per share (the Preferred Stock).

IN WITNESS WHEREOF, EPIX Pharmaceuticals, Inc. has caused this Certificate of Amendment to be executed this day of , 20 .

EPIX PHARMACEUTICALS, INC.

By:

Name:
Title:

A-1

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**EPIX Pharmaceuticals, Inc.
Proxy for Annual Meeting of Stockholders
June 16, 2009**

SOLICITED BY THE BOARD OF DIRECTORS

The undersigned hereby appoints Elkan Gamzu, Ph.D. and Kim Cobleigh Drapkin, CPA together, and each of them singly, proxies, with full power of substitution to vote all shares of stock of EPIX Pharmaceuticals, Inc. (the Company) which the undersigned is entitled to vote at the Annual Meeting of Stockholders of EPIX Pharmaceuticals, Inc. to be held on Tuesday June 16, 2009, at 10:00 a.m., local time, at the offices of Goodwin Procter LLP, our outside legal counsel, located at Exchange Place, 53 State Street, Boston, Massachusetts 02109 and at any adjournments or postponements thereof, upon matters set forth in the Notice of Annual Meeting of Stockholders and Proxy Statement dated April 24, 2009, a copy of which has been received by the undersigned.

THIS PROXY, WHEN PROPERLY EXECUTED WILL BE VOTED IN THE MANNER DIRECTED BY THE UNDERSIGNED STOCKHOLDER(S). IF NO DIRECTION IS GIVEN, THIS PROXY WILL BE VOTED FOR ITEMS 1, 2 AND 3, AND IN ACCORDANCE WITH THE DISCRETION OF THE PROXIES ON ANY OTHER MATTERS AS MAY PROPERLY COME BEFORE THE ANNUAL MEETING.

SEE REVERSE SIDE

Electronic Voting Instructions

You can vote by Internet or telephone! Available 24 hours a day, 7 days a week! Instead of mailing your proxy, you may choose one of the two voting methods outlined below to vote your proxy.

VALIDATION DETAILS ARE LOCATED BELOW IN THE TITLE BAR

Proxies submitted by Internet or telephone must be received by 1:00 a.m., Eastern Time, on June 16, 2009.

Vote by Internet

Log on to the Internet and go to www.envisionreports.com/EPIX.

Follow the steps outlined on the secured website.

Vote by telephone

Call toll free 1-800-652-VOTE (8683) within the United States, Canada & Puerto Rico any time on a touch tone telephone. There is **NO CHARGE** to you for the call.

Follow the instructions provided by the recorded message.

IF YOU HAVE NOT VOTED VIA THE INTERNET OR TELEPHONE, FOLD ALONG THE PERFORATION, DETACH AND RETURN THE BOTTOM PORTION IN THE ENVELOPE PROVIDED

x **Please mark votes as in this example.**

The Board of Directors recommends a vote FOR items 1, 2 and 3.

1. To elect two members to the board of directors to serve for three-year terms as Class I Directors, each such director to serve for such term and until his respective successor has been duly elected and qualified, or until his earlier death, resignation or removal. **The Board recommends a vote FOR all nominees.**

NOMINEES: Michael Gilman, Ph.D. and Mark Leuchtenberger

| | | | | |
|----------------|-----------------|----------------|--|----------------|
| For All | Withhold | For All | To withhold authority to vote for any individual nominee, mark | For All |
| | For All | Except | Except and write the nominee's name on the line below. | |
| o | o | o | | |

