



**OPEXA THERAPEUTICS, INC.
2635 TECHNOLOGY FOREST BLVD.
THE WOODLANDS, TEXAS 77381**

September 14, 2010

To Our Shareholders:

You are cordially invited to attend the Annual Meeting of Shareholders of OpeXa Therapeutics, Inc. on Tuesday, October 19, 2010 at 10:00 a.m. Central Daylight Time. The meeting will be held at 2 Houston Center, 909 Fannin, Suite 2000, Houston, Texas 77010.

Information about the Annual Meeting, including matters on which shareholders will act, may be found in the Notice of Annual Meeting and Proxy Statement accompanying this letter. We look forward to greeting in person as many of our shareholders as possible.

It is important that your shares be represented and voted at the meeting. Whether or not you plan to attend the Annual Meeting, please complete, sign, date, and promptly return the accompanying proxy in the enclosed envelope or use one of the voting methods described in the attached materials. Returning the proxy does NOT deprive you of your right to attend the Annual Meeting. If you decide to attend the Annual Meeting and wish to change your proxy vote, you may do so automatically by voting in person at the meeting. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to attend and vote in person at the meeting, you must obtain from the record holder a legal proxy issued in your name.

Sincerely yours,

Neil K. Warma, President and Chief Executive Officer

If you need additional copies of this Proxy Statement or the enclosed proxy card, or if you have other questions about the proposals or how to vote your shares, you may contact our proxy solicitor:

**Advantage Proxy
(877) 870-8565 (toll free)**



**OPEXA THERAPEUTICS, INC.
2635 TECHNOLOGY FOREST BLVD.
THE WOODLANDS, TX 77381**

**NOTICE OF ANNUAL MEETING OF SHAREHOLDERS
TO BE HELD OCTOBER 19, 2010**

The Annual Meeting of shareholders of Opexa Therapeutics, Inc. will be held on Tuesday, October 19, 2010 at 10:00 a.m. Central Daylight Time, at 2 Houston Center, 909 Fannin, Suite 2000, Houston, Texas 77010. Our shareholders are being asked to vote to:

1. Elect David Hung, David E. Jordan, Michael S. Richman, Scott B. Seaman and Neil K. Warma to the Board of Directors to serve until the next annual meeting of shareholders or until their respective successors have been duly elected and qualified;
2. Approve the Opexa Therapeutics, Inc. 2010 Stock Incentive Plan;
3. Ratify the appointment of MaloneBailey, LLP as our independent auditors for the fiscal year ending December 31, 2010; and
4. Transact any other business properly brought before the Annual Meeting and any adjournment or postponement thereof.

These business items are described more fully in the Proxy Statement accompanying this Notice.

Only shareholders who owned common stock at the close of business on September 1, 2010 can vote at this meeting or any adjournments or postponements that may take place. All shareholders are cordially invited to attend the meeting in person. However, to assure your representation at the meeting, you are urged to mark, sign and return the enclosed proxy as promptly as possible in the postage-prepaid envelope for that purpose or use one of the voting methods described in the attached materials. Your stock will be voted in accordance with the instructions you have given. Any shareholder attending the meeting may vote in person even if he or she has previously returned a proxy. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to attend and vote in person at the meeting, you must obtain from the record holder a legal proxy issued in your name.

By Order of the Board of Directors,

Neil K. Warma, President and Chief Executive Officer

Dated: September 14, 2010

The Board of Directors solicits the enclosed proxy. Your vote is important no matter how large or small your holdings. To assure your representation at the meeting, please complete, sign, date and promptly mail the enclosed proxy card in the postage-paid envelope provided or use one of the voting methods described in the attached materials.

Important Notice Regarding the Availability of Proxy Materials for the Shareholder Meeting to be held on October 19, 2010: This Proxy Statement and our 2009 Annual Report on Form 10-K are available at: www.cstproxy.com/opexatherapeutics/2010

OPEXA THERAPEUTICS, INC.
PROXY STATEMENT
ANNUAL MEETING OF SHAREHOLDERS
TO BE HELD OCTOBER 19, 2010
INFORMATION CONCERNING SOLICITATION AND VOTING

General

The enclosed proxy is solicited on behalf of our Board of Directors (“Board”) for use at the annual meeting of shareholders to be held on Tuesday, October 19, 2010, at 10:00 a.m. Central Daylight Time (the “Annual Meeting”), or at any adjournment or postponement of this meeting, for the purposes set forth in this Proxy Statement and in the accompanying Notice of Annual Meeting of Shareholders. The Annual Meeting will be held at 2 Houston Center, 909 Fannin, Suite 2000, Houston, Texas 77010. We intend to mail this Proxy Statement and accompanying proxy card to shareholders on or about September 14, 2010. The Board of Directors of Opexa Therapeutics, Inc., a Texas corporation, prepared this Proxy Statement for the purpose of soliciting proxies for our Annual Meeting of Shareholders. The terms “we,” “our,” the “Company” or “Opexa,” refers to Opexa Therapeutics, Inc.

Availability of Annual Report on Form 10-K

Accompanying this Proxy Statement is our Annual Report on Form 10-K for the fiscal year ended December 31, 2009 as filed with the Securities and Exchange Commission (the “SEC”). We make available, free of charge through our website (www.opexatherapeutics.com), our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), as soon as reasonably practicable after such documents are electronically filed with or furnished to the SEC. These reports can be found under “SEC Filings” through the “Investor Relations” section of our website. We will provide to any shareholder without charge, upon the written request of that shareholder, a copy of our Annual Report on Form 10-K (without exhibits), including financial statements and financial statement schedules. Such requests should be addressed to Investor Relations, Opexa Therapeutics, Inc., 2635 Technology Forest Blvd., The Woodlands, Texas 77381.

Voting

Before the meeting, you may vote your shares if they are registered directly in your name with our transfer agent, Continental Stock Transfer & Trust Company, by completing, signing, dating and returning the enclosed proxy card (i) by mail in the postage paid envelope provided or (ii) by faxing your card to (281) 872-8585. Please follow the directions on your proxy card carefully.

If your shares are held in a brokerage account in the name of a bank, broker or other nominee (this is called “street name”), then you are the beneficial owner of the shares and these proxy materials are being forwarded to you by that organization. The organization holding your account is considered the shareholder of record for purposes of voting at the Annual Meeting. You have the right to direct your bank or broker on how to vote the shares in your account, and you may also be able to vote by telephone or via the Internet depending on the voting procedures used by your broker. You may receive a separate voting instruction form with this Proxy Statement, or you may need to contact your broker, bank or other nominee to determine whether you will be able to vote electronically using the telephone or Internet.

You may vote your shares at the meeting if you attend in person, even if you previously submitted a proxy card or voted by telephone or Internet. Whether or not you plan to attend the meeting, however, we

encourage you to vote your shares by proxy before the meeting. Please note that if your shares are held in “street name” and you wish to vote at the meeting, you will not be permitted to do so unless you first obtain a legal proxy issued in your name from the broker, bank or nominee that holds your shares.

Revocability of Proxies

Any proxy given pursuant to this solicitation may be revoked by the person giving it at any time before its use by delivering to the Secretary of Opexa, at the address of our executive offices noted above, written notice of revocation or a duly executed proxy bearing a later date or by attending the Annual Meeting and voting in person. Attendance at the Annual Meeting will not, by itself, revoke a proxy.

Quorum, Abstentions and Broker Non-Votes

Our common stock is the only type of security entitled to vote at the Annual Meeting. Only shareholders of record at the close of business on September 1, 2010 (the “Record Date”) will be entitled to notice of and to vote at the Annual Meeting. As of the Record Date, there were 18,453,004 shares of common stock outstanding and entitled to vote. Each holder of record of shares of common stock on the record date will be entitled to one vote for each share held on all matters to be voted upon at the Annual Meeting. Shares of common stock may not be voted cumulatively.

Proxies properly executed, duly returned to us and not revoked will be voted in accordance with the specifications made. Where no specifications are given, such proxies will be voted “FOR” each of the five director nominees, “FOR” the approval of our 2010 Stock Incentive Plan and “FOR” the ratification of our auditors. It is not expected that any matters other than those referred to in this Proxy Statement will be brought before the Annual Meeting. If, however, any matter not described in this Proxy Statement is properly presented for action at the Annual Meeting, the person named as proxy in the enclosed form of proxy will have discretionary authority to vote according to his own discretion.

The required quorum for the transaction of business at the Annual Meeting is a majority of the issued and outstanding shares of our common stock entitled to vote at the Annual Meeting, whether present in person or represented by proxy. Our bylaws provide that unless otherwise provided by law or by the Articles of Incorporation, all matters other than the election of directors shall be decided by the affirmative vote of a majority of the shares of stock represented in person or by proxy at the Annual Meeting. Shares of common stock represented by a properly signed and returned proxy will be treated as present at the Annual Meeting for purposes of determining a quorum, regardless of whether the proxy is marked as casting a vote or abstaining.

The term “broker non-vote” refers to shares held by a brokerage firm, bank or other nominee (for the benefit of its client) that are represented at the meeting, but with respect to which such broker or nominee is not instructed to vote on a particular proposal and does not have discretionary authority to vote on that proposal. Brokers and nominees do not have discretionary voting authority on certain non-routine matters and accordingly may not vote on such matters absent instructions from the beneficial holder. Discretionary items are proposals considered “routine” under the rules of the New York Stock Exchange (also applicable to NASDAQ-listed companies), such as the ratification of our independent registered public accounting firm. Non-routine items for which brokers and nominees do not have discretionary voting power include the election of directors and the proposal to approve our 2010 Stock Incentive Plan.

If you hold your shares in “street name” or through a broker it is important that you direct your broker how to vote your shares.

Vote Required

Proposal 1. Directors are elected by a plurality of the affirmative votes cast by those shares of common stock present in person, or represented by proxy, and entitled to vote at the Annual Meeting. This means the five nominees for directors receiving the highest number of affirmative votes will be elected. Proxies marked to “Withhold Authority” will not affect the election of a candidate who receives a plurality of votes. The election of directors is a matter on which a broker or other nominee is generally not empowered to vote using discretion, and therefore, broker non-votes may exist but will have no effect on the outcome of the election of candidates for directors. Shareholders may not cumulate votes in the election of directors. We urge you to provide any necessary voting instructions to your broker or nominee if you hold your shares in street name in order for your vote to be considered for this proposal.

Proposal 2. Approval of our 2010 Stock Incentive Plan requires a vote that satisfies two criteria: (i) the affirmative vote must constitute a majority of the voting power present or represented by proxy and voting at the Annual Meeting, and (ii) the affirmative vote must constitute a majority of the voting power required to constitute the quorum. For purposes of this proposal, abstentions and broker non-votes will not affect the outcome under clause (i), which recognizes only actual votes cast. However, abstentions and broker non-votes will affect the outcome under clause (ii) if the number of affirmative votes, though a majority of the votes represented and cast, does not constitute a majority of the voting power required to constitute a quorum. Proposal 2 is a matter on which a broker or other nominee is generally not empowered to vote using discretion, and therefore, abstentions and broker non-votes may exist with respect to this proposal. Accordingly, we urge you to provide any necessary voting instructions to your broker or nominee if you hold your shares in street name in order for your vote to be considered for this proposal.

Proposal 3. Ratification of the appointment of MaloneBailey, LLP as our independent registered public accounting firm also requires a vote that satisfies two criteria: (i) the affirmative vote must constitute a majority of the voting power present or represented by proxy and voting at the Annual Meeting, and (ii) the affirmative vote must constitute a majority of the voting power required to constitute the quorum. For purposes of this proposal, abstentions and broker non-votes will not affect the outcome under clause (i), which recognizes only actual votes cast. However, abstentions and broker non-votes will affect the outcome under clause (ii) if the number of affirmative votes, though a majority of the votes represented and cast, does not constitute a majority of the voting power required to constitute a quorum. The ratification of the appointment of the independent registered public accounting firm is a matter on which a broker or other nominee is generally empowered to vote; and therefore, no broker non-votes are expected to exist with respect to this proposal.

Solicitation

The cost of soliciting proxies will be borne by Opexa. In addition to soliciting shareholders by mail and through our regular employees, we will request that banks and brokers and other persons representing beneficial owners of the shares forward the proxy solicitation material to such beneficial owners and we may reimburse these parties for their reasonable out-of-pocket costs. We may use the services of our officers, directors and others to solicit proxies, personally or by telephone, facsimile or electronic mail, without additional compensation. We have retained Advantage Proxy to assist us in soliciting proxies using the means referred to above. We will pay the fees of Advantage Proxy, which we expect to be approximately \$3,000, plus reimbursement of out-of-pocket expenses.

If you need additional copies of this Proxy Statement or the enclosed proxy card, or if you have other questions about the proposals or how to vote your shares or to obtain directions to attend the meeting and vote in person, you may contact our proxy solicitor, Advantage Proxy, at (877) 870-8565 (toll free).

Shareholder Proposals

Proposals of shareholders that are intended to be presented at our 2011 Annual Meeting of Shareholders and the proxy materials for such meeting must comply with the requirements of SEC Rule 14a-8 and must be received by our Secretary no later than May 17, 2011, in order to be included in the Proxy Statement and proxy materials relating to that meeting. Moreover, with respect to any proposal by a shareholder not seeking to have the proposal included in the proxy statement but seeking to have the proposal considered at our next annual meeting, such shareholder must provide written notice of such proposal to our Secretary at our principal executive offices by July 31, 2011. If the shareholder fails to give notice by this date, then the persons who are appointed as proxies may exercise their discretionary voting authority with respect to such proposals, even if the shareholders have not been advised of the proposal. In addition, shareholders must comply in all respects with the rules and regulations of the SEC then in effect and the procedural requirements of our bylaws.

Dissenter's Rights

Neither Texas law nor our articles of incorporation or bylaws provide our shareholders with dissenters' rights in connection with the matters described in this Proxy Statement.

**PROPOSAL 1
ELECTION OF DIRECTORS**

The Board of Directors currently consists of five members, each with a term expiring at the 2010 Annual Meeting. The Nominating Committee of the Board has recommended, and the Board has nominated, the five incumbent directors for election at the 2010 Annual Meeting. The shares represented by the enclosed proxy will be voted for the election as directors of the five nominees named below to serve until the 2011 Annual Meeting or until their successors have been duly elected and qualified. All of the nominees have indicated to us that they will be available to serve as directors. If any of the nominees becomes unavailable for any reason or if a vacancy should occur before the election (which events are not anticipated), the shares represented by the enclosed proxy may be voted for such other person or persons recommended by the Board of Directors as may be determined by the holders of the proxy. There are no family relationships among our executive officers and directors.

Director Nominees

Individuals nominated for election are:

Name	Age	Position
David Hung	53	Director
David E. Jordan	48	Director
Michael S. Richman	49	Director
Scott B. Seaman	55	Director
Neil K. Warma	47	President, Chief Executive Officer, Acting Chief Financial Officer and Director

David Hung, M.D. has served as a Director since May 2006. Dr. Hung has served as the president, chief executive officer and as a director of Medivation, Inc. since December 2004. Dr. Hung also has served as the president and chief executive officer, and member of the board of directors, of Medivation, Inc.’s subsidiary, Medivation Neurology, Inc., since its inception in September 2003. From 1998 until 2001, Dr. Hung was employed by ProDuct Health, Inc., a privately held medical device company, as Chief Scientific Officer (1998-1999), and as president and chief executive officer (1999-2001). From December 2001 to January 2003, Dr. Hung served as a consultant to Cytoc Health Corporation. Dr. Hung received his M.D. from the University of California at San Francisco, and his A.B. in biology and organic chemistry from Harvard College. As the chief executive officer of a public biopharmaceutical company actively engaged in clinical drug development, Dr. Hung offers extensive experience in numerous aspects of managing a pre-commercialization drug development company, including strategic planning, clinical development, and strategic partnering.

David E. Jordan has served as a Director since August 2008. Mr. Jordan has served as executive board member for Cytomedix, Inc. since October 2008. Mr. Jordan previously served as vice president with Morgan Stanley in its Wealth Management group where he was responsible for equity portfolio management for high net worth individuals since 2003. Prior to Morgan Stanley, Mr. Jordan served as vice president and chief financial officer of Genometrix, Inc., a private genomics/life sciences company focused on high-throughput microarray applications from March 2000 to September 2002. Mr. Jordan was a principal with Fayez Sarofim & Co. prior to joining Genometrix. Mr. Jordan earned a MBA from Kellogg School of Management at Northwestern University in 1989 and a BBA from the University of Texas/Austin in 1984. He currently serves as a director of Cytomedix, Inc. and PLx Pharma, Inc. Mr. Jordan is a Chartered Financial Analyst and Certified Public Accountant. He has extensive experience in various aspects of corporate finance and accounting for public companies including capital formation and deployment.

Michael S. Richman has served as a Director since June 2006. Mr. Richman has served as president and chief executive officer of Amplimmune, Inc. since July 2008. Mr. Richman served as president and chief operating officer of Amplimmune, Inc. from May 2007 to July 2008. From April 2002 to May 2007,

Mr. Richman served as executive vice president and chief operating officer of MacroGenics, Inc. Mr. Richman joined MacroGenics, Inc in 2002 with approximately 20 years experience in corporate business development within the biotechnology industry. Mr. Richman served as a director of Cougar Biotechnology from June 2006 to July 2009. Mr. Richman obtained his B.S. in Genetics/Molecular Biology at the University of California at Davis and his MSBA in International Business at San Francisco State University. He has extensive experience in business development and strategic planning for life science companies, as well as executive leadership and management experience.

Scott B. Seaman has served as a Director of since April 2006. Mr. Seaman has served for over five years as the executive director and treasurer of the Albert and Margaret Alkek Foundation of Houston, Texas, a private foundation primarily supporting institutions in the Texas Medical Center in Houston, Texas. Since January 1996 to present, Mr. Seaman has served as the chief financial officer of Chaswil Ltd., an investment management company. Since September 1986, Mr. Seaman has served as secretary and treasurer of M & A Properties Inc., a ranching and real estate concern. In April 2009, Mr. Seaman became the Managing Member of ICT Development LLC which is the Managing Member of ICT Holdings LLC, an energy services supplier. From January 2003 to April 2009, Mr. Seaman served as chairman and from July 2004 to April 2009, as president of ICT Management Inc., the general partner of Impact Composite Technology Ltd., a composite industry supplier. Since October 2007, Mr. Seaman has served on the board of GeneExcel, Inc., a privately held biotechnology company. Since May 2004, Mr. Seaman has served as a Member of the Investment Committee of Global Hedged Equity Fund LP, a hedge fund. Mr. Seaman received a bachelor's degree in business administration from Bowling Green State University and is a certified public accountant. Mr. Seaman has extensive experience in overall financial management and corporate development, combined with operational and corporate governance experience.

Neil K. Warma has served as President and Chief Executive Officer since June 2008, as Director since September 2008 and as Acting Chief Financial Officer since March 2009. From July 2004 to September 2007, Mr. Warma served as president and chief executive officer of Viron Therapeutics Inc., a privately-held clinical stage biopharmaceutical company. From 2000 to 2003 Mr. Warma was co-founder and president of MedExact USA, Inc., an Internet company providing clinical information and services to physicians and pharmaceutical companies. From 1992 to 2000, Mr. Warma held senior positions of increasing responsibility at Novartis Pharmaceuticals (previously Ciba-Geigy Ltd.) at its corporate headquarters in Basel, Switzerland. While at Novartis, Mr. Warma served as the Head of International Pharma Policy & Advocacy and in senior management within global marketing where he worked on the international launch of a gastrointestinal product. Mr. Warma obtained an honors degree specializing in Neuroscience from the University of Toronto and an International M.B.A. from the Schulich School of Management at York University in Toronto. As our President and Chief Executive Officer, Mr. Warma is directly involved in all aspects of our operations. He has extensive experience in corporate business development within the biopharmaceutical industry, in addition to executive leadership and management experience.

The Board of Directors recommends that shareholders vote “FOR” the election to the Board of each of the above nominees.

Board and Shareholder Meetings

Members of the Board are encouraged to attend our Annual Meeting of shareholders; however, attendance is not mandatory. Five directors attended the 2009 annual meeting of shareholders. For the fiscal year ended December 31, 2009, the Board held 19 meetings, and each incumbent director nominee attended at least 75% of the total number of meetings held by the Board and all committees on which such director served during the period he was a director in 2009, except with respect to Mr. Seaman and Dr. Hung. For approximately a three-month period during early 2009, our Board held weekly conference calls to receive reports from management and monitor the streamlining of our operations that was initiated in late 2008. While Mr. Seaman and Dr. Hung each received frequent updates and was in regular contact with our CEO and other Board members during this period of time, their schedules did not allow participation in each of these weekly calls. Although the

frequency of these calls during this three-month period caused their overall meeting attendance percentage to fall below the 75% threshold, Mr. Seaman and Dr. Hung each attended 100% of all Board and applicable committee meetings held during the remainder of 2009.

Director Independence

The Board has determined that Dr. Hung and Messrs Jorden, Richman and Seaman are each an independent director within the meaning of NASDAQ listing standards, which directors constitute a majority of the Board. The Board has determined that each member of the Board’s Audit, Compensation and Nominating and Corporate Governance Committees is independent (or similarly designated) based on the Board’s application of the standards of NASDAQ, the rules and regulations promulgated by the SEC or the Internal Revenue Service, as appropriate for such committee membership.

Committees of the Board of Directors

We currently have a standing Audit Committee, Compensation Committee, and Nominating and Corporate Governance Committee. The Board has adopted written charters for each of the committees, and copies of the charters are available on our website at www.opexatherapeutics.com. Please note that the information contained on our website is not incorporated by reference in, or considered to be a part of, this document.

The current members of these committees are as follows:

<u>Director</u>	<u>Independent</u>	<u>Audit Committee</u>	<u>Compensation Committee</u>	<u>Nominating and Corporate Governance Committee</u>
David Hung	X		X	X
David E. Jorden	X	X		X
Michael S. Richman	X	X	X	
Scott B. Seaman	X	X	X	X

Audit Committee

The Audit Committee of the Board currently consists of Messrs. Jorden, Richman and Seaman, each of whom is an independent, non-employee director. The Audit Committee selects, on behalf of our Board, an independent public accounting firm to audit our financial statements, discuss with the independent auditors their independence, review and discuss the audited financial statements with the independent auditors and management, recommend to our Board whether the audited financials should be included in our annual reports to be filed with the SEC, and oversee management’s identification, evaluation, and mitigation of major risks to Opexa. The Audit Committee operates pursuant to a written charter. During the last fiscal year, the Audit Committee held four meetings.

All of the members of the Audit Committee are non-employee directors who: (1) met the criteria for independence as required by NASDAQ listing standards and as set forth in Rule 10A-3(b)(1) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”); (2) did not participate in preparation of our financial statements during the past three years; and (3) are able to read and understand fundamental financial statements, including a balance sheet, income statement, and cash flow statement. The Board has determined that Messrs. Jorden and Seaman each, individually, qualify as an “audit committee financial expert” as defined in SEC regulations and also possesses the financial sophistication and requisite experience as required under NASDAQ listing standards.

Compensation Committee

The Compensation Committee of the Board currently consists of Dr. Hung and Messrs. Richman and Seaman, each of whom is an independent director. The Compensation Committee reviews and approves (1) the annual salaries and other compensation of our executive officers and (2) individual stock and stock option grants. The Compensation Committee also provides assistance and recommendations with respect to our compensation policies and practices, and assists with the administration of our compensation plans. In evaluating executive officer compensation, the Compensation Committee may retain the services of compensation consultants and considers recommendations from the Chief Executive Officer with respect to compensation of the other executive officers. The Compensation Committee also periodically reviews compensation for non-employee directors. The Committee engaged in discussions throughout the year without formally meeting, to build a consensus on various related matters, which were communicated to and decided upon by the Board.

Nominating and Corporate Governance Committee

The Nominating and Corporate Governance Committee of the Board currently consists of Dr. Hung and Messrs. Jordan and Seaman, each of whom was determined by the Board to be an independent director. The Nominating and Corporate Governance Committee assists our Board in fulfilling its responsibilities by: identifying and approving individuals qualified to serve as members of our Board, selecting director nominees for our annual meetings of shareholders, evaluating the performance of our Board, and developing and recommending to our Board corporate governance guidelines and oversight procedures with respect to corporate governance and ethical conduct. In identifying and evaluating candidates, the committee takes into consideration the criteria approved by the Board and such other factors as it deems appropriate. We do not have a formal diversity policy, and the committee considers a broad range of factors in evaluating prospective director nominees. These factors may include judgment, skill, diversity, experience with businesses and other organizations of comparable size, the interplay of the candidate's experience with the experience of other Board members, and the extent to which the candidate would be a desirable addition to the Board and any committees of the Board. The committee will consider properly submitted shareholder nominations for candidates for the Board. Following verification of the shareholder status of persons proposing candidates, recommendations will be aggregated and considered by the committee. If any materials are provided by a shareholder in connection with the nomination of a director candidate, such materials will be forwarded to the committee. The Committee engaged in discussions throughout the year without formally meeting, to build a consensus on various related matters, which were communicated to and decided upon by the Board.

Risk Oversight

A fundamental part of risk management is not only understanding the risks a company faces and what steps management is taking to manage those risks, but also understanding what level of risk is appropriate for each company. Our Board is actively involved in oversight of risks that could affect Opexa. The full Board of Directors has retained the responsibility for general oversight of risks, but the Audit Committee primarily oversees those risks that may directly or indirectly impact our financial statements. The Board's role in the risk oversight process includes receiving reports from members of management and the Audit Committee on areas of material risk to Opexa, including operational, financial, legal and regulatory, and strategic risks which enable it to better understand our risk identification, management and mitigation strategies.

Board Leadership Structure

The Board evaluates its leadership structure on an ongoing basis according to what the Board considers to be best for Opexa at any given point in time. Because we are a development stage company, we do not currently have a separate role for Chairman of the Board. Our Chief Executive Officer, in consultation with the Board, sets our strategic direction, and he manages the day to day leadership and performance of Opexa. Given Opexa's current size and stage of development, the Board believes this leadership structure is appropriate for Opexa.

2009 Director Compensation

The following table presents summary information for the year ended December 31, 2009 regarding the compensation of the non-employee members of our Board of Directors. Mr. Randall resigned from the Board effective February 19, 2009, and Mr. McWilliams did not stand for re-election at the expiration of his term of office effective November 11, 2009.

Name	Fees Earned or Paid in Cash	Option Awards ⁽¹⁾⁽²⁾	Total
David Hung	—	\$15,199 ⁽⁷⁾⁽⁸⁾	\$15,199
David E. Jordan	\$15,000 ⁽³⁾⁽⁴⁾	\$18,340 ⁽⁷⁾⁽⁸⁾	\$33,340
David B. McWilliams	\$ 9,000 ⁽⁵⁾	\$15,199 ⁽⁷⁾⁽⁸⁾	\$24,199
Lorin J. Randall	\$ 4,600 ⁽⁶⁾	—	\$ 4,600
Michael S. Richman	— ⁽³⁾	\$24,887 ⁽⁸⁾	\$24,887
Scott B. Seaman	— ⁽³⁾	\$28,097 ⁽⁷⁾⁽⁸⁾	\$28,097

- (1) Amounts in this column represent the aggregate grant date fair value of awards computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718. See Note 10 to our financial statements included in our Annual Report on Form 10-K for assumptions underlying the valuation of equity awards.
- (2) As of December 31, 2009, our non-employee directors and former directors held options to purchase the following aggregate number of shares of our common stock: Dr. Hung, 61,000; Mr. Jordan, 42,880; Mr. McWilliams, 268,326; Mr. Richman, 103,650; and Mr. Seaman, 111,150.
- (3) Messrs. Jordan, Richman and Seaman elected to exchange Board compensation fees due as of December 31, 2008 for stock options. On February 6, 2009, each named director was issued an option to purchase one share of common stock for each dollar due, fully vested and exercisable for a term of ten years, at an exercise price of \$0.47 per share, the market value on the date of grant.
- (4) Compensation for services as chair of the Audit Committee for the fourth quarter 2009 and paid in January 2010.
- (5) Payment of deferred 2008 Board compensation fees in 2009.
- (6) Payment of fourth quarter 2008 and first quarter 2009 Board compensation fees paid in 2009.
- (7) Dr. Hung and Messrs. Jordan, McWilliams and Seaman elected to exchange Board compensation fees due for the period January 1, 2009 to June 30, 2009 for stock options. On February 6, 2009, each named director was issued an option to purchase 8,000 shares of common stock, fully vested on June 30, 2009 and exercisable for a term of ten years, at an exercise price of \$0.47 per share, the market value on the date of grant.
- (8) Dr. Hung and Messrs. Jordan, McWilliams, Richman and Seaman elected to exchange Board compensation fees due for the period July 1, 2009 to December 31, 2009 for stock options. On August 26, 2009, each named director was issued an option to purchase 8,000 shares of common stock, fully vested on December 31, 2009 and exercisable for a term of ten years, at an exercise price of \$1.47 per share, the market value on the date of grant.

The following table presents information regarding stock options granted in 2009 pursuant to our 2004 Compensatory Stock Option Plan to the non-employee members of our Board of Directors.

<u>Name</u>	<u>Grant Date</u>	<u>Number of Securities Underlying Options</u>	<u>Exercise Price of Option Awards</u>	<u>Grant Date Fair Value of Options⁽¹⁾</u>
David Hung	02/06/09	8,000	\$0.47	\$ 3,667
	08/26/09	8,000	\$1.47	\$11,532
David E. Jordan	02/06/09	6,880	\$0.47	\$ 3,141
	02/06/09	8,000	\$0.47	\$ 3,667
	08/26/09	8,000	\$1.47	\$11,532
David B. McWilliams	02/06/09	8,000	\$0.47	\$ 3,667
	08/26/09	8,000	\$1.47	\$11,532
Michael S. Richman	02/06/09	29,250	\$0.47	\$13,355
	08/26/09	8,000	\$1.47	\$11,532
Scott B. Seaman	02/06/09	28,250	\$0.47	\$12,898
	02/06/09	8,000	\$0.47	\$ 3,667
	08/26/09	8,000	\$1.47	\$11,532

(1) Amounts in this column represent the aggregate grant date fair value of awards computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718. See Note 10 to our financial statements included in our Annual Report on Form 10-K for assumptions underlying the valuation of equity awards.

Standard Compensation Arrangements

Employee directors do not receive any compensation for services as a member of our Board. We reimburse our directors for travel and lodging expenses in connection with their attendance at board and committee meetings. As compensation for their services on our Board, our non-employee directors are periodically issued options to purchase shares of Opexa common stock. Each option is granted with an exercise price equal to the fair market value of Opexa's common stock on the date of grant and is issued either fully vested or with a vesting schedule over a period of time up to one year. In addition, we pay a quarterly retainer of \$15,000 in cash to the chair of our Audit Committee.

Communications to the Board of Directors

The Board of Directors has adopted the following policy for shareholders who wish to communicate any concern directly with the Board of Directors. Shareholders may mail or deliver their communication to our principal executive offices, addressed as follows:

Addressee (*)
c/o Secretary
Opexa Therapeutics, Inc.
2635 Technology Forest Blvd.
The Woodlands, TX 77381

*Addressees: Board of Directors; Audit Committee of the Board of Directors; Nominating and Corporate Governance Committee of the Board of Directors; Compensation Committee of the Board of Directors; name of individual director.

Copies of written communications received at such address will be forwarded to the addressee as soon as practicable.

AUDIT COMMITTEE REPORT

The Audit Committee of the Board currently consists of Messrs. Jorden, Richman and Seaman, all of whom are independent, non-employee directors.

The Audit Committee operates under a written charter adopted by the Board of Directors, which is evaluated annually. The Audit Committee selects, evaluates and, where deemed appropriate, replaces the Company's independent auditors. The Audit Committee also pre-approves all audit services, engagement fees and terms, and all permitted non-audit engagements, except for certain de minimus amounts.

Management is responsible for the Company's internal controls and the financial reporting process. The Company's independent auditors are responsible for performing an independent audit of Opexa's consolidated financial statements in accordance with auditing standards generally accepted in the United States of America and issuing a report on Opexa's consolidated financial statements. The Audit Committee's responsibility is to monitor and oversee these processes.

In this context, the Audit Committee has reviewed the Company's audited financial statements for fiscal 2009 and has met and held discussions with management and MaloneBailey, LLP, the Company's independent auditors. Management represented to the Audit Committee that the Company's consolidated financial statements for fiscal 2009 were prepared in accordance with accounting principles generally accepted in the United States of America, and the Audit Committee discussed the consolidated financial statements with the independent auditors. The Audit Committee also discussed with MaloneBailey, LLP the matters required to be discussed by the Statement on Auditing Standards No. 61, as amended, as adopted by the Public Company Accounting Oversight Board (PCAOB) in Rule 3200T.

MaloneBailey, LLP also provided to the Audit Committee the written disclosures and the letter required by applicable requirements of the PCAOB regarding the independent accountant's communications with the Audit Committee concerning independence, and the Audit Committee discussed with MaloneBailey, LLP the accounting firm's independence.

Based upon the Audit Committee's discussion with management and MaloneBailey, LLP, and the Audit Committee's review of the representation of management and the report of MaloneBailey, LLP to the Audit Committee, the Audit Committee recommended to the Board of Directors that the audited consolidated financial statements be included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2009 filed with the SEC.

**Submitted by the Audit Committee of the
Board of Directors of Opexa Therapeutics, Inc.:**
David E. Jorden, Michael S. Richman, Scott B. Seaman

PROPOSAL 2
APPROVAL OF THE OPEXA THERAPEUTICS, INC. 2010 STOCK INCENTIVE PLAN

We are asking our shareholders to approve our 2010 Stock Incentive Plan (the “2010 Plan”) at the Annual Meeting. On September 2, 2010, the Board approved the 2010 Plan, subject to shareholder approval. The 2010 Plan is the successor to and continuation of our 2004 Compensatory Stock Option Plan (the “2004 Plan”). All outstanding stock awards granted under the 2004 Plan will continue to be subject to the terms and conditions as set forth in the agreements evidencing such stock awards and the terms of the 2004 Plan, but no additional awards will be granted under the 2004 Plan if this Proposal 2 is approved.

If our shareholders approve the 2010 Plan, the total number of shares of our common stock reserved for issuance under the 2010 Plan will consist of 2,500,000 shares plus the number of shares subject to stock options outstanding under the 2004 Plan that are forfeited or terminate prior to exercise and would otherwise be returned to the share reserves under the 2004 Plan and any reserved shares not issued or subject to outstanding grants, up to a maximum of 2,066,800 shares.

As of September 1, 2010, options to purchase 1,787,351 shares were outstanding under the 2004 Plan, 233,200 shares of our common stock had been issued pursuant to awards thereunder, and we had 279,449 shares available for issuance and not subject to awards outstanding under the 2004 Plan. Our 2004 Plan is currently our only equity compensation plan under which we may make equity awards. After carefully forecasting our anticipated growth rate for the next few years, we believe that the total of 2,500,000 shares will be sufficient for at least three years’ worth of equity grants under our current compensation program. We anticipate returning to shareholders for additional shares in 2013, but may elect to do so sooner if our growth plan accelerates. The 2,500,000 shares to be reserved for the 2010 Plan constitutes approximately 7.9% of the 31.7 million shares of Opexa common stock on a fully diluted basis.

Why You Should Vote for the 2010 Plan

Stock Options Are an Important Part of Our Compensation Philosophy

The 2010 Plan is critical to our ongoing effort to build shareholder value. As discussed in the section entitled Compensation Discussion and Analysis, equity incentive awards are central to our compensation program. Our Compensation Committee and Board believe that our ability to grant stock options to new and existing employees has helped us attract, retain, and motivate key talent. Since the potential value of stock options is realized only if our share price increases, this form of compensation provides a strong incentive for employees to work to grow the business and build shareholder value, and is most attractive to employees who share the entrepreneurial spirit that has made our company a success.

The 2010 Plan will also provide us with continued flexibility in designing equity incentives in an environment where a number of companies have moved from traditional option grants to other stock awards, including restricted stock awards, stock appreciation rights, restricted stock unit awards, performance stock awards and performance cash awards. Accordingly, the 2010 Plan will allow us to utilize a broad array of equity incentives in order to secure and retain the services of our employees, consultants and directors, and to provide incentives for such persons to exert maximum efforts for our success.

Our 2004 Plan is Running Low on Shares

Grants of equity awards to our employees, consultants, executive officers and directors are currently made from our 2004 Plan. After carefully forecasting, we anticipate that the 2004 Plan will not have any remaining shares in its share reserve by December 31, 2010, and we will not be able to issue equity to our employees, consultants, executive officers and directors unless our shareholders approve a new stock plan. While we could increase cash compensation if we are unable to grant equity incentives, we anticipate that we will have

difficultly attracting, retaining, and motivating our employees, consultants, executive officers and directors if we are unable to make equity grants to them. Stock options are a more effective executive compensation vehicle than cash at a growth-oriented, entrepreneurial company because they deliver high potential value with a smaller impact on current income and cash flow. Therefore, we are asking our shareholders to approve the 2010 Plan.

The 2010 Plan Combines Compensation and Governance Best Practices

The 2010 Plan is the successor to and continuation of the 2004 Plan. We included provisions in the 2010 Plan that are designed to protect our shareholders' interests and to reflect corporate governance best practices including:

- *Continued broad-based eligibility for equity awards.* We grant stock options to substantially all of our employees. By doing so, we link employee interests with shareholder interests throughout the organization and motivate our employees to act as owners of the business.
- *Shareholder approval is required for additional shares.* The 2010 Plan does not contain an annual "evergreen" provision. The 2010 Plan authorizes a fixed number of shares, so that shareholder approval is required to issue any additional shares.
- *Repricing is not allowed without prior shareholder approval.* The 2010 Plan prohibits the downward repricing of stock options or stock appreciation rights without prior shareholder approval.
- *Submission of 2010 Plan amendments to shareholders.* The 2010 Plan requires shareholder approval for amendments to the 2010 Plan to the extent required by applicable laws, regulations or rules.

Description of the 2010 Stock Incentive Plan

The material features of the 2010 Plan are outlined below. This summary is qualified in its entirety by reference to the complete text of the 2010 Plan. Shareholders are urged to read the actual text of the 2010 Plan in its entirety, which is filed with this Proxy Statement as *Annex A* and is available at <http://www.sec.gov>.

Background and Purpose

The terms of the 2010 Plan provide for the grant of stock options, restricted stock, stock appreciation rights, restricted stock units and performance awards that may be settled in cash, stock or other property.

The purpose of the 2010 Plan is to provide a means by which employees, directors, and consultants may be given an opportunity to purchase our common stock to assist us in securing and retaining the services of such persons, to secure and retain the services of persons capable of filling such positions, and to provide incentives for such persons to exert maximum efforts for our success.

Shares Available for Awards

If this Proposal 2 is approved, the total number of shares of our common stock reserved for issuance under the 2010 Plan (the "Share Reserve"), will consist of:

- 2,500,000 shares; plus
- the additional number of shares subject to stock options outstanding under the 2004 Plan that are forfeited or terminate prior to exercise and would otherwise be returned to the share reserve under the 2004 Plan and any reserved shares not issued or subject to outstanding grants, up to a maximum of 2,066,800 shares.

As of September 1, 2010, options to purchase 1,787,351 shares were outstanding under our 2004 Plan, and 233,200 shares of our common stock had been issued pursuant to awards thereunder. No types of awards other than stock options were outstanding under the 2004 Plan. The weighted average exercise price of all

options outstanding is approximately \$2.54 and the weighted average remaining term of such options is approximately 7.2 years as of September 1, 2010. A total of 18,453,004 shares of our common stock were outstanding as of September 1, 2010.

Shares subject to awards granted under the 2010 Plan that are forfeited or terminate before being exercised or settled, or are not delivered to the participant because such award is settled in cash, will again become available for issuance under the 2010 Plan. Shares withheld to satisfy the grant, exercise price or tax withholding obligation related to an award will again become available for issuance under the 2010 Stock Plan. However, shares that have actually been issued will not again become available unless forfeited. If any shares of common stock issued pursuant to a stock award are forfeited back to us because of the failure to meet a contingency or condition required to vest such shares in the participant, then the shares which are forfeited will revert to and again become available for issuance under the 2010 Plan. No more than 4,566,800 shares may be delivered upon the exercise of incentive stock options granted under the 2010 Plan plus, to the extent allowable under applicable law, any shares that again become available for issuance under the 2010 Plan.

No participant in the 2010 Plan can receive option grants, restricted shares, stock appreciation rights or stock units totaling more than an aggregate of 1,000,000 shares in any calendar year, except in the participant's first year of employment in which the participant may receive equity awards totaling up to 2,000,000 shares. No participant in the 2010 Plan may be paid more than an aggregate of \$2.5 million in cash during any calendar year with respect to equity awards that are payable in cash.

Eligibility

Incentive stock options may be granted under the 2010 Plan only to our employees (including executive officers) and employees of our parent or subsidiary. Our employees (including executive officers), consultants and directors, and the employees (including executive officers) and consultants of our affiliates are eligible to receive all other types of awards under the 2010 Plan. All of our ten employees as of September 1, 2010, directors and consultants are eligible to participate in the 2010 Plan.

Administration

The 2010 Plan is administered by our Board, which may in turn delegate authority to administer the plan to a committee. Our Board intends to delegate to our Compensation Committee the administration of the 2010 Plan. Subject to the terms of the 2010 Plan, our Board or Compensation Committee, as applicable, will determine recipients, the numbers and types of stock awards to be granted and the terms and conditions of the stock awards, including the period of their exercisability and vesting. Subject to the limitations set forth below, our Board or Compensation Committee, as applicable, will also determine the exercise price of options granted under the 2010 Plan.

Repricing

The 2010 Plan expressly provides that, without the approval of the shareholders, the Board or Compensation Committee shall not have the authority to reduce the exercise price of any outstanding stock options or stock appreciation rights under the plan, or cancel any outstanding underwater stock options or stock appreciation rights in exchange for cash or new stock awards under the 2010 Plan.

Stock Options

Stock options will be granted pursuant to stock option agreements. The exercise price for an option cannot be less than 100% of the fair market value of the common stock subject to the option on the date of grant. Options granted under the 2010 Plan will vest at the rate specified in the option agreement. Incentive stock options granted to any holder of more than 10% of the voting shares of our company must have an exercise price of at least 110% of the fair market value of our common stock on the date of grant.

The term of stock options granted under the 2010 Plan may not exceed ten years (five years in the case of an incentive stock option granted to any holder of more than 10% of our voting shares). Each stock option agreement will set forth any limitations on the right of the optionholder to exercise the stock option following termination of service with us or any affiliate of ours. Options granted to non-employee directors may be exercised for up to 12 months after the non-employee director's service relationship with us, or any affiliate of ours, ceases for any reason, but in no event after its expiration date.

Acceptable forms of consideration for the purchase of our common stock issued under the 2010 Plan will be determined by our Board or Compensation Committee, as applicable, and may include cash, common stock previously owned by the optionholder, payment through a broker assisted cashless exercise, or other legal consideration approved by our Board or Compensation Committee, as applicable.

Generally, an optionholder may not transfer a stock option other than by will or the laws of descent and distribution, unless otherwise permitted under the terms of the applicable stock option agreement.

ISO Limitations

The aggregate fair market value, determined at the time of grant, of shares of our common stock with respect to which incentive stock options ("ISOs") may be exercisable for the first time by an optionholder during any calendar year under all of our stock plans may not exceed \$100,000. The options or portions of options that exceed this limit are treated as nonstatutory stock options ("NSOs"). The aggregate maximum number of shares of common stock that may be issued pursuant to the exercise of ISOs shall be no more than 4,566,800 shares plus, to the extent allowable under applicable law, any shares that again become available for issuance under the 2010 Plan. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any affiliate.

Restricted Stock Awards

Restricted stock awards will be granted pursuant to restricted stock award agreements. A restricted stock award may be granted in consideration for the recipient's services performed for us or an affiliate of ours. Shares of our common stock acquired under a restricted stock award may be subject to forfeiture to us in accordance with a vesting schedule to be determined by our Board or Compensation Committee, as applicable. Rights to acquire shares of our common stock under a restricted stock award may be transferred only upon such terms and conditions as are set forth in the restricted stock award agreement.

Stock Appreciation Rights

Stock appreciation rights typically will provide for payments to the recipient based upon increases in the price of our common stock over the exercise price of the stock appreciation right. The exercise price of a stock appreciation right will be determined by our Board or Compensation Committee, as applicable, which shall not be less than the fair market value of our common stock on the date of grant. Our Board or Compensation Committee may elect to pay stock appreciation rights in cash or in common stock or in a combination of cash and common stock.

Restricted Stock Unit Awards

Restricted stock unit awards will be granted pursuant to restricted stock unit award agreements. We will settle a restricted stock unit award by delivery of shares of our common stock, by cash, or by a combination of cash and stock as deemed appropriate by our Board or Compensation Committee, as applicable, and set forth in the restricted stock unit award agreement. Dividend equivalents may be credited in respect of shares of our common stock covered by a restricted stock unit award. Restricted stock unit awards may be subject to vesting in accordance with a vesting schedule to be determined by our Board or Compensation Committee, as applicable.

Except as otherwise provided in the applicable restricted stock unit award agreement, restricted stock units that have not vested will be forfeited upon the participant's termination of continuous service for any reason.

Performance Awards

The 2010 Plan provides that Awards may be granted, issued, vested or retained based upon the attainment during a certain period of time of certain performance goals. The length of any performance period, the performance goals to be achieved during the performance period, and the measure of whether and to what degree such performance goals have been attained will generally be determined by our Board or Compensation Committee, as applicable.

Performance goals under the 2010 Plan shall be determined by our Board or Compensation Committee, as applicable, based on or related to one or more of the following performance criteria:

- cash flow;
- earnings per share;
- earnings before interest, taxes and amortization;
- return on equity;
- total shareholder return;
- share price performance;
- return on capital;
- return on assets or net assets;
- revenue;
- income or net income;
- operating income or net operating income;
- operating profit or net operating profit;
- operating margin or profit margin;
- return on operating revenue;
- return on invested capital;
- market segment shares;
- costs;
- expenses;
- regulatory body approval for commercialization of a product; or
- implementation or completion of critical projects.

Changes to Capital Structure

In the event that there is a specified type of change in our capital structure, such as a stock split or stock dividend, the class and number of shares reserved under the 2010 Plan (including share limits) and the class and number of shares and exercise price or strike price, if applicable, of all outstanding stock awards will be appropriately and equitably adjusted.

Corporate Transactions

In the event of certain corporate transactions, all outstanding stock awards under the 2010 Plan may be assumed, continued or substituted for by any surviving entity. If the surviving entity elects not to assume, continue or substitute for such awards, the vesting or exercisability of such stock awards may be accelerated in full and then terminated, if and to the extent not exercised at or prior to the effective time of the corporate transaction, or we may terminate the stock awards upon payment of their intrinsic value in cash or cash equivalents.

Plan Amendments

Our Board will have the authority to amend or terminate the 2010 Plan. However, in general, no amendment or termination of the plan may materially impair any rights under awards already granted to a participant unless agreed to by the affected participant. We will obtain shareholder approval of any amendment to the 2010 Plan if required by applicable law.

Plan Termination

Unless sooner terminated by the Board, the 2010 Plan will automatically terminate on September 1, 2020, the day before the tenth anniversary of the date the 2010 Plan was adopted by the Board.

U.S. Federal Income Tax Consequences

The information set forth below is a summary only and does not purport to be complete. The information is based upon current federal income tax rules and therefore is subject to change when those rules change. Because the tax consequences to any recipient may depend on his or her particular situation, each recipient should consult the recipient's tax adviser regarding the federal, state, local, and other tax consequences of the grant or exercise of an award or the disposition of stock acquired as a result of an award. The 2010 Plan is not qualified under the provisions of Section 401(a) of the Internal Revenue Code (the "Code"), and is not subject to any of the provisions of the Employee Retirement Income Security Act of 1974. Our ability to realize the benefit of any tax deductions described below depends on our generation of taxable income.

Nonstatutory Stock Options

Generally, there is no taxation upon the grant of an NSO where the option is granted with an exercise price equal to the fair market value of the underlying stock on the grant date. On exercise, an optionee will recognize ordinary income equal to the excess, if any, of the fair market value on the date of exercise of the stock over the exercise price. If the optionee is employed by us or one of our affiliates, that income will be subject to withholding tax. The optionee's tax basis in those shares will be equal to their fair market value on the date of exercise of the option, and the optionee's capital gain holding period for those shares will begin on that date.

Subject to the requirement of reasonableness, the provisions of Section 162(m) of the Code and the satisfaction of a tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the optionee.

Incentive Stock Options

The 2010 Plan provides for the grant of stock options that qualify as "incentive stock options," as defined in Section 422 of the Code. Under the Code, an optionee generally is not subject to ordinary income tax upon the grant or exercise of an ISO. If the optionee holds a share received on exercise of an ISO for more than two years from the date the option was granted and more than one year from the date the option was exercised, which is referred to as the required holding period, the difference, if any, between the amount realized on a sale or other taxable disposition of that share and the holder's tax basis in that share will be long-term capital gain or loss.

If, however, an optionee disposes of a share acquired on exercise of an ISO before the end of the required holding period, which is referred to as a disqualifying disposition, the optionee generally will recognize ordinary income in the year of the disqualifying disposition equal to the excess, if any, of the fair market value of the share on the date the ISO was exercised over the exercise price. However, if the sales proceeds are less than the fair market value of the share on the date of exercise of the option, the amount of ordinary income recognized by the optionee will not exceed the gain, if any, realized on the sale. If the amount realized on a disqualifying disposition exceeds the fair market value of the share on the date of exercise of the option, that excess will be short-term or long-term capital gain, depending on whether the holding period for the share exceeds one year.

For purposes of the alternative minimum tax, the amount by which the fair market value of a share of stock acquired on exercise of an ISO exceeds the exercise price of that option generally will be an adjustment included in the optionee's alternative minimum taxable income for the year in which the option is exercised. In computing alternative minimum taxable income, the tax basis of a share acquired on exercise of an ISO is increased by the amount of the adjustment taken into account with respect to that share for alternative minimum tax purposes in the year the option is exercised.

We are not allowed an income tax deduction with respect to the grant or exercise of an ISO or the disposition of a share acquired on exercise of an ISO after the required holding period. If there is a disqualifying disposition of a share, however, we are allowed a deduction in an amount equal to the ordinary income includible in income by the optionee, subject to Section 162(m) of the Code and provided that amount constitutes an ordinary and necessary business expense for us and is reasonable in amount, and either the employee includes that amount in income or we timely satisfy our reporting requirements with respect to that amount.

Restricted Stock Awards

Generally, the recipient of a restricted stock award will recognize ordinary income at the time the stock is received equal to the excess, if any, of the fair market value of the stock received over any amount paid by the recipient in exchange for the stock. If, however, the stock is not vested when it is received (for example, if the employee is required to work for a period of time in order to have the right to sell the stock), the recipient generally will not recognize income until the stock becomes vested, at which time the recipient will recognize ordinary income equal to the excess, if any, of the fair market value of the stock on the date it becomes vested over any amount paid by the recipient in exchange for the stock. A recipient may, however, file an election with the Internal Revenue Service, within 30 days of his or her receipt of the stock award, to recognize ordinary income, as of the date the recipient receives the award, equal to the excess, if any, of the fair market value of the stock on the date the award is granted over any amount paid by the recipient in exchange for the stock.

The recipient's basis for the determination of gain or loss upon the subsequent disposition of shares acquired from stock awards will be the amount paid for such shares plus any ordinary income recognized either when the stock is received or when the stock becomes vested.

Subject to the requirement of reasonableness, the provisions of Section 162(m) of the Code and the satisfaction of a tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the stock award.

Stock Appreciation Rights

Generally, there is no taxation upon the grant of a stock appreciation right where the stock appreciation right is granted with an exercise price not less than the fair market value of the underlying stock on the grant date. On exercise, the recipient of a stock appreciation right will recognize ordinary income equal to the amount of cash or the value of the shares of common stock we distribute to the recipient. If the recipient is employed by us or one of our affiliates, that income will be subject to withholding tax. The recipient's tax basis in the shares received, if any, will be equal to their fair market value on the date of exercise of the stock appreciation right, and the recipient's capital gain holding period for those shares will begin on that date.

Subject to the requirement of reasonableness, the provisions of Section 162(m) of the Code and the satisfaction of any tax reporting obligations, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the stock appreciation right.

Restricted Stock Units

Generally, the recipient of a stock unit structured to conform to the requirements of Section 409A of the Code or an exception to Section 409A of the Code will recognize ordinary income at the time the stock is delivered equal to the excess, if any, of the fair market value of the shares of our common stock received over any amount paid by the recipient in exchange for the shares of our common stock.

The recipient's basis for the determination of gain or loss upon the subsequent disposition of shares acquired from stock units will be the amount, if any, paid for such shares plus any ordinary income recognized when the stock is delivered.

Subject to the requirement of reasonableness, the provisions of Section 162(m) of the Code and the satisfaction of a tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the stock award.

Section 162 Limitations

Compensation of persons who are "covered employees" is subject to the tax deduction limits of Section 162(m) of the Code. Awards that qualify as "performance-based compensation" are exempt from Section 162(m), thereby permitting us to claim the full federal tax deduction otherwise allowed for such compensation. The 2010 Plan is intended to enable the Board or Compensation Committee, as applicable, to grant awards that will be exempt from the deduction limits of Section 162(m).

New Plan Benefits

Our Board and Compensation Committee have not made any determination with respect to future awards under the 2010 Plan, and any allocation of such awards will be made only in accordance with the provisions of the 2010 Plan. Because awards under the Plan are subject to the discretion of the Board or Compensation Committee, as applicable, awards and benefits under the 2010 Plan for the current or any future year are not determinable. Future option exercise prices under the 2010 Plan are not determinable because they will be based upon the fair market value of our Common Stock on the date of grant. No options, restricted stock units, restricted stock awards, stock appreciation rights, performance awards or other awards have yet been made under the 2010 Plan.

In fiscal 2009, our Named Executive Officers received option grants under the 2004 Plan as set forth in this Proxy Statement in the table entitled "2009 Grants of Plan Based Awards" under the caption "Executive Compensation and Other Information." In fiscal 2009, our non-employee directors received option grants under the 2004 Plan as set forth under the heading "2009 Director Compensation."

The 2010 Plan will become effective if, and when, this Proposal 2 is approved by our shareholders. The Board approved the 2010 Plan on September 2, 2010, subject to shareholder approval of the 2010 Plan.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table sets forth information, as of December 31, 2009, with respect to our compensation plans under which common stock is authorized for issuance. We issue awards to officers, directors, employees and consultants under our shareholder-approved 2004 Plan. We believe that the exercise price for all of the options set forth below reflects at least 100% of fair market value on the dates of grant for the options at issue.

Equity Compensation Plan Information

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (A)	Weighted Average Exercise Price of Outstanding Options, Warrants and Rights (B)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column A) (C)
Equity Compensation Plans Approved by Shareholders	1,923,376	\$3.70	270,650
Equity Compensation Plans Not Approved by Shareholders	<u>—</u>	<u>—</u>	<u>—</u>
Total	<u>1,923,376</u>	<u>\$3.70</u>	<u>270,650</u>

The Board of Directors recommends a vote “FOR” the approval of the Opexa Therapeutics, Inc. 2010 Stock Incentive Plan.

PROPOSAL 3
RATIFICATION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee selected MaloneBailey, LLP as an independent registered public accounting firm to audit our financial statements for the year ending December 31, 2010 and requests that the shareholders ratify such selection. In the event the shareholders fail to ratify the appointment, the Audit Committee of the Board of Directors will consider it as a direction to select other auditors for the subsequent year. Even if the selection is ratified, the Board at its discretion may direct the appointment of a different independent accounting firm at any time during the subsequent year if the Board determines that such a change would be in the best interests of Opexa and our shareholders.

We are asking shareholders to ratify the selection of MaloneBailey, LLP as our registered independent public accounting firm for the fiscal year ending December 31, 2010. A representative of MaloneBailey, LLP is expected to be present at the Annual Meeting, will have an opportunity to make a statement if the representative desires but is not expected to do so, and is expected to be available to respond to appropriate questions.

Audit Fees

The following table presents the estimated aggregate fees billed by MaloneBailey, LLP for services performed during our last two fiscal years.

	Years Ended December 31,	
	2009	2008
Audit fees ⁽¹⁾	\$75,375	\$67,415
Tax fees ⁽²⁾	—	5,600
All other fees ⁽³⁾	7,125	11,785
	\$82,500	\$84,800

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- (1) Audit fees include professional services rendered for (i) the audit of our annual financial statements for the fiscal years ended December 31, 2009 and 2008, (ii) the reviews of the financial statements included in our quarterly reports on Form 10-Q for such years and (iii) the issuance of consents and other matters relating to registration statements we filed.
- (2) Tax fees include professional services relating to preparation of the annual tax return.
- (3) Other fees include professional services for review of various filings and issuance of consents.

Policy on Audit Committee Pre-Approval and Permissible Non-Audit Services of Independent Auditors

The Board’s policy is to pre-approve all audit and permissible non-audit services provided by the independent auditors. These services may include audit services, audit-related services, tax services and other services. Pre-approval is generally provided for up to one year and any pre-approval is detailed as to the particular service or category of services and is generally subject to a specific budget. The independent auditors and management are required to periodically report to the Board regarding the extent of services provided by the independent auditors in accordance with this pre-approval, and the fees for the services performed to date. The Board of Directors may also pre-approve particular services on a case-by-case basis. The Audit Committee pre-approved 100% of the tax services and other services provided by our independent auditors during the last two fiscal years.

The Board of Directors recommends a vote “FOR” the ratification of the selection of MaloneBailey, LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2010.

EXECUTIVE OFFICERS

Our executive officers are elected by the Board of Directors and serve at the discretion of the Board. Our executive officers are as follows:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Neil K. Warma	47	President, Chief Executive Officer, Acting Chief Financial Officer and Director
Donna R. Rill	56	Senior Vice President of Operations
Jaye L. Thompson, Ph.D.	44	Senior Vice President of Clinical Development and Regulatory Affairs

The following biographical information is for Ms. Rill and Dr. Thompson (see Proposal 1 for biographical information for Mr. Warma):

Donna R. Rill has served as Senior Vice President of Operations since January 2009. From November 2004 until January 2009, she served as Vice President of Operations. From April 2003 to November 2004, she was the director of quality systems and process development at Opexa Pharmaceuticals, Inc. From November 1997 to April 2003, she was the director of translational research for the Center for Cell & Gene Therapy at Baylor College of Medicine. Ms. Rill has worked to design and qualify GMP Cell & Gene Therapy Laboratories, GMP Vector Production facilities, and Translational Research Labs at St. Jude Children’s Research Hospital, Texas Children’s Hospital, and Baylor College of Medicine. Ms. Rill received her B.S. in Medical Technology from the University of Tennessee, Memphis.

Jaye L. Thompson, Ph.D., has served as Senior Vice President of Clinical Development and Regulatory Affairs since November 2009. From April 2006 to September 2009, Dr. Thompson served as Senior Vice President of Regulatory and Emerging Technologies for inVentiv Clinical Solutions, LLC, a subsidiary of inVentiv Health, Inc., a publicly traded company providing a wide range of services to the pharmaceutical industries. inVentiv Health acquired SYNERGOS, Inc., the company founded in 1991 by Dr. Thompson. SYNERGOS was a contract research organization helping companies move through the clinical and regulatory hurdles of product development. Dr. Thompson received a doctorate and master degree in Biostatistics from the University of Texas Health Science Center, School of Public Health, and a B.S. in Applied Mathematics from Texas A&M University.

EXECUTIVE COMPENSATION AND OTHER INFORMATION

Compensation Discussion and Analysis

Objectives of Our Executive Compensation Program

The Compensation Committee of our Board administers our executive compensation program. The Compensation Committee is composed entirely of independent directors.

The general philosophy of our executive compensation program is to align executive compensation with Opexa’s business objectives and the long-term interests of our shareholders. To that end, the Compensation Committee believes executive compensation packages we provide to our executives, including the Named Executive Officers, should include both cash and stock-based compensation that reward performance as measured against established goals. In addition, we strive to provide compensation that is competitive with other biopharmaceutical and biotechnology companies and that will allow us to attract, motivate, and retain qualified executives with superior talent and abilities.

Our executive compensation is designed to reward achievement of our corporate goals. In 2009, our corporate goals included, but were not limited to: (i) advancement of our clinical development program; (ii) advancing our research and development programs; (iii) obtaining additional financing as needed; (iv) strengthening our balance sheet and (v) assembling a world class management team. This focus allows us to reward our executives for their roles in creating value for our shareholders.

The Role of the Compensation Committee

The Compensation Committee has the primary authority to determine our compensation philosophy and to establish compensation for our executive officers. The Compensation Committee oversees our compensation and benefit plans and policies; administers our stock option plan; reviews the compensation components provided to our officers, employees, and consultants; grants options to purchase common stock to our officers, employees, and consultants; and reviews and makes recommendations to the Board regarding all forms of compensation to be provided to the members of the Board.

The Compensation Committee generally sets the initial compensation of each executive. The Compensation Committee annually reviews and in some cases adjusts compensation for executives. Although, the Chief Executive Officer provides recommendations to the Compensation Committee regarding the compensation of the other executive officers, the Compensation Committee has full authority over all compensation matters relating to executive officers.

Elements of Executive Compensation

Although the Compensation Committee has not adopted any formal guidelines for allocating total compensation between equity compensation and cash compensation, it strives to maintain a strong link between executive incentives and the creation of shareholder value. Therefore, we emphasize incentive compensation in the form of stock options rather than base salary.

Executive compensation consists of the following elements:

Base Salary. Base salaries for our executives are generally established based on the scope of their responsibilities, taking into account what the Compensation Committee believes to be, based on its general business experience, competitive market compensation paid by other companies for similar positions and recognizing cost of living considerations. Prior to making its recommendations and determinations, the Compensation Committee reviews each executive's:

- historical pay levels;
- past performance; and
- expected future contributions.

The Compensation Committee does not use any particular indices or formulae to arrive at each executive's recommended pay level. Evaluations of past performance are made on a strictly qualitative basis, and may include such factors as leadership performance, contribution to the officer group, overall performance, continuous improvements, and other appropriate measures. In making decisions as to the base salaries of our executive officers, the Compensation Committee does not engage in benchmarking by using specific compensation data about other companies as a reference point.

Annual Cash Incentive Bonus. As described below under "Executive Employment Agreements," each of the employment agreements we have entered into with our Named Executive Officers provides the officer with the opportunity to earn a cash bonus up to a stated percentage of his or her base salary based upon objectives and milestones to be agreed upon annually by our Board and Chief Executive Officer.

Equity Awards. We also use long-term incentives in the form of stock options. Employees and executive officers generally receive stock option grants at the commencement of employment and periodically receive additional stock option grants, typically on an annual basis. We believe that stock options are instrumental in aligning the long-term interests of our employees and executive officers with those of the shareholders because such individuals realize gains only if the stock price increases. Stock options also help to balance the overall executive compensation program, with base salary providing short-term compensation and stock options rewarding executives for long-term increases in shareholder value.

Options are generally granted through our 2004 Plan that authorizes us to grant options to purchase shares of common stock to our employees, directors, and consultants. The Compensation Committee reviews and approves stock option awards to executive officers in amounts that are based upon a review and assessment of:

- individual performance;
- each executive's existing long-term incentives; and
- retention considerations.

Periodic stock option grants are made at the discretion of the Compensation Committee to eligible employees and, in appropriate circumstances, the Compensation Committee considers the recommendations of members of management, such as the Chief Executive Officer. In determining the amount of any equity award, the Compensation Committee gives subjective consideration to our Named Executive Officers' contributions towards the achievement of our goals. In 2009, each Named Executive Officer was awarded stock options in the amounts indicated in the section entitled "2009 Grants of Plan Based Awards." Stock options are granted with an exercise price equal to the fair market value of our common stock on the day of grant and typically vest ratably over a three-year period.

Severance Arrangements. As described below under "Executive Employment Agreements," two of the employment agreements we have entered into with our Named Executive Officers provide the officer with certain severance protection arrangements in the event the officer's employment is terminated by the Board without cause. In such event, the officer will receive a severance payment equal to a stated number of months of base salary, subject to certain conditions and the execution and delivery of a general release and waiver of claims in our favor. We believe the provisions of these severance arrangements are consistent with the principal objectives of our compensation programs, appropriate for the level of service provided by each executive, and provide an important "safety net" that allows the executive to focus on our business and pursue the course of action that is in the best interests of our shareholders by alleviating some potential concerns regarding their personal financial well-being in the event of a termination.

Section 162(m) Policy

Section 162(m) of the Code limits the tax deductibility by public companies of compensation in excess of \$1 million paid to certain executive officers. These officers include any employee who, as of the close of the taxable year, is the principal executive officer, and any employee whose total compensation for the taxable year is required to be reported to shareholders under the Exchange Act by reason of such employee being among the three highest compensated officers for that taxable year, other than the principal executive officer or the principal financial officer. However, compensation which qualifies as "performance-based" is excluded from the \$1 million limit if, among other requirements, the compensation is payable only upon attainment of pre-established, objective performance goals under a plan approved by the corporation's shareholders.

It is our policy to qualify, to the extent reasonable, our executive officers' compensation for deductibility under applicable tax law. However, we intend to retain the flexibility necessary to provide total cash compensation in line with competitive practice, our compensation philosophy, and our best interests. Therefore, we may from time to time pay compensation to our executive officers that may not be deductible.

Executive Officer Compensation

The following table sets forth certain information concerning compensation earned by or paid to certain persons who we refer to as our “Named Executive Officers” for services provided for the fiscal year ended December 31, 2009. Our Named Executive Officers include persons who (i) served as our principal executive officer or acted in a similar capacity during 2009, (ii) were serving at fiscal year-end as our two most highly compensated executive officers, other than the principal executive officer, whose total compensation exceeded \$100,000, and (iii) up to two additional individuals for whom disclosure would have been provided as a most highly compensated executive officer, but for the fact that the individual was not serving as an executive officer at fiscal year-end.

2009 Summary Compensation Table

<u>Name and Principal Position</u>	<u>Year</u>	<u>Salary</u>	<u>Bonus</u>	<u>Other Compensation</u>	<u>Options Awards⁽¹⁾</u>	<u>Total</u>
Neil K. Warma ⁽²⁾	2009	\$312,083	\$142,500	—	\$235,117	\$689,700
<i>President, Chief Executive Officer,</i>	2008	\$195,100	—	\$62,487 ⁽³⁾	\$ 72,869	\$330,456
<i>Acting Chief Financial Officer</i>						
Donna R. Rill	2009	\$197,963	—	—	\$113,870 ⁽⁴⁾	\$311,833
<i>Senior Vice President of Operations</i>	2008	\$141,886	—	—	\$110,402	\$252,288
Jaye L. Thompson, Ph.D. ⁽⁵⁾	2009	\$ 23,590	—	—	\$101,440	\$125,030
<i>Senior Vice President of Clinical</i>	2008	—	—	—	—	—
<i>Development and Regulatory</i>						
<i>Affairs</i>						

- (1) Amounts in this column represent the aggregate grant date fair value of awards computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718. See Note 10 to our financial statements included in our Annual Report on Form 10-K for assumptions underlying the valuation of equity awards.
- (2) Mr. Warma joined Opexa as an executive officer in June 2008.
- (3) Other compensation includes costs of moving and temporary housing in connection with Mr. Warma’s relocation to accept employment with Opexa.
- (4) Includes Ms. Rill’s accrued salary increase from 2008 totaling \$8,396 that was exchanged in February 2009 for a fully vested stock option to purchase 8,396 shares of Opexa common stock at an exercise price of \$0.47 per share, the market value on the date of grant.
- (5) Dr. Thompson joined Opexa as an executive officer in November 2009.

Executive Employment Agreements

We entered into a three-year employment agreement on June 16, 2008 with Neil K. Warma pursuant to which he serves as our President and Chief Executive Officer. Pursuant to the agreement, Mr. Warma is paid \$285,000 for the first 12-month period, \$335,000 for the second 12-month period and \$385,000 for the third 12-month period. In addition, Mr. Warma is entitled to the following: (i) an annual cash bonus of up to 50% of his base salary based upon milestones to be agreed upon; (ii) a one-time payment of \$50,000 cash and 25,000 shares of our common stock to be issued if and when the closing bid price of our common stock equals or exceeds \$4.00 for 20 consecutive trading days; and (iii) a 10-year stock option to purchase 250,000 shares of common stock with an exercise price of \$1.01 per share that vests 50,000 shares immediately and the balance quarterly in equal amounts over three years. In addition, we provided Mr. Warma with relocation assistance and our standard benefits and insurance coverage as generally provided to our management, as well as contractual indemnification rights by reason of his service as an officer and employee. If his employment is terminated by

the Board without cause, as defined in the agreement, Mr. Warma will receive a severance payment equal to 12 months of his base salary plus a payment equal to 30% of base salary in lieu of any potential bonus, in addition any earned but unpaid bonus. In addition, vesting of stock options will accelerate in full. We will also reimburse Mr. Warma for COBRA expenses for a 12-month period, subject to a cap equal to Opexa's standard contribution to employee health benefits. Upon the effectiveness of a change in control, as defined in the agreement, Mr. Warma will receive 18 months of salary and COBRA reimbursement and a payment equal to 45% of base salary in lieu of any potential bonus, in addition to any earned but unpaid bonus. In addition, all vesting of options will accelerate in full. Any payment or benefit Mr. Warma might receive upon a change of control which would constitute a "parachute payment" under Section 280G of the Internal Revenue Code will be reduced so as not to trigger excise tax under Section 4999 of such Code. Mr. Warma's agreement also provides that for a 12-month period following his termination of employment, he will not engage or participate in any competitive business or solicit or recruit any of Opexa's employees. The severance and change of control benefits are subject to Mr. Warma executing and delivering a general release and waiver of claims in favor of Opexa. The agreement automatically renews for 12-month periods.

We entered into a one-year employment agreement with Donna R. Rill on May 9, 2008, effective for the period April 1, 2008 through March 31, 2009, at an annual salary of \$151,114 pursuant to which Ms. Rill served as Vice President of Operations. On January 16, 2009, Ms. Rill was promoted to Senior Vice President at an annual salary of \$200,000. Following termination of the March 31, 2009 employment agreement, we entered into a new one-year employment agreement with Ms. Rill on April 14, 2009, effective for the period April 1, 2009 through March 31, 2010 at an annual salary of \$200,000. On April 21, 2010, we entered into an amended and restated employment agreement with Ms. Rill. Pursuant to the agreement, Ms. Rill will be compensated at the rate of \$200,000 per annum and is eligible to receive an annual discretionary bonus of up to 20% of her base salary per 12-month period, based on the achievement of objectives as determined by Opexa's Board and Chief Executive Officer. In addition, Ms. Rill receives our standard benefits and insurance coverage as generally provided to our management, as well as contractual indemnification rights by reason of her service as an officer and employee. The employment agreement may be terminated at any time voluntarily by her or without cause by the Board. If her employment is terminated by the Board without cause, as defined in the agreement, Ms. Rill will receive a severance payment equal to six months of her base salary and vesting for any unvested stock options will accelerate by six additional months. The severance benefits are subject to Ms. Rill having been continuously employed through the termination event, executing and delivering a general release and waiver of claims in favor of Opexa, not being in breach of the employment agreement or Opexa's proprietary information and inventions agreement, and not engaging in any activity which is competitive with Opexa during the term of the employment agreement or while receiving the severance benefits. The timing of any payments to Ms. Rill under the employment agreement are subject to applicable requirements of Section 409A of the Code and the related Treasury Regulations.

We entered into a one-year employment agreement with Jaye L. Thompson, Ph.D. on November 16, 2009, effective for the period of November 16, 2009 through December 31, 2010, at an annual salary of \$200,000 pursuant to which Dr. Thompson serves as Senior Vice President of Clinical Development and Regulatory Affairs. Dr. Thompson is eligible to receive an annual discretionary bonus of up to 20% of her base salary per 12-month period, based upon the achievement of objectives as determined by Opexa's Board and Chief Executive Officer, with the first measurement period ending on or about December 31, 2010. Pursuant to her employment agreement, Dr. Thompson received a 10-year stock option to purchase 50,000 shares of common stock at an exercise price of \$2.05 per share vesting quarterly in equal amounts over three years. In addition, Dr. Thompson receives our standard benefits and insurance coverage as generally provided to our management. The employment agreement may be terminated at any time voluntarily by her or without cause by the Board.

2009 Grants of Plan Based Awards

The following table presents information regarding stock options granted in 2009 pursuant to our 2004 Compensatory Stock Option Plan to the Named Executive Officers.

<u>Name</u>	<u>Grant Date</u>	<u>Number of Securities Underlying Options</u>	<u>Exercise Price of Option Awards</u>	<u>Grant Date Fair Value of Options⁽¹⁾</u>
Neil K. Warma	01/16/09	150,000 ⁽²⁾	\$0.22	\$ 32,237
	11/30/09	100,000 ⁽³⁾	\$2.05	\$202,880
Donna R. Rill	01/16/09	40,000 ⁽²⁾	\$0.22	\$ 8,597
	02/06/09	8,396 ⁽⁴⁾	\$0.47	\$ 3,833
	11/30/09	50,000 ⁽³⁾	\$2.05	\$101,440
Jaye L. Thompson	11/30/09	50,000 ⁽³⁾	\$2.05	\$101,440

(1) Amounts in this column represent the aggregate grant date fair value of awards computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718. See Note 10 to our financial statements included in our Annual Report on Form 10-K for assumptions underlying the valuation of equity awards.

(2) One-half of the shares vested on the date of grant and the remaining one-half vested on December 31, 2009.

(3) The shares vest quarterly over a three-year period from the grant date.

(4) Fully vested at grant.

2009 Outstanding Equity Awards at Fiscal Year-End

The following table presents information regarding outstanding equity awards at December 31, 2009 for each of the Named Executive Officers.

Name	Option Awards		Option Exercise Price	Option Expiration Date
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable		
Neil K. Warma	166,669	83,331 ⁽¹⁾	\$1.01	06/16/18
	150,000	—	\$0.22	01/16/19
	—	100,000 ⁽¹⁾	\$2.05	11/30/19
Donna R. Rill	6,000	—	\$7.00	12/05/10
	23,380	—	\$5.00	04/20/16
	21,333	10,667 ⁽²⁾	\$5.47	06/18/17
	3,000	—	\$1.09	05/16/18
	19,250	13,750 ⁽¹⁾	\$1.17	06/26/18
	40,000	—	\$0.22	01/16/19
	8,396	—	\$0.47	02/06/19
Jaye L. Thompson	—	50,000 ⁽¹⁾	\$2.05	11/30/19
	—	50,000 ⁽¹⁾	\$2.05	11/30/19

(1) The shares vest quarterly over a three-year period from the grant date.

(2) The shares vested on June 18, 2010.

Certain Relationships and Related Transactions

The Audit Committee of our Board is responsible for oversight and review of any related person transactions. We have no related person transactions that require disclosure under this section.

SECURITY OWNERSHIP OF PRINCIPAL SHAREHOLDERS AND MANAGEMENT

Beneficial Ownership

The following table sets forth, as of September 1, 2010, the number and percentage of outstanding shares of our common stock beneficially owned by: (a) each person who is known by us to be the beneficial owner of more than 5% of our outstanding shares of common stock; (b) each of our directors and nominees; (c) the Named Executive Officers; and (d) all current directors and executive officers, as a group. As of September 1, 2010 there were 18,453,004 shares of common stock issued and outstanding.

Beneficial ownership has been determined in accordance with Rule 13d-3 under the Exchange Act. Under this rule, certain shares may be deemed to be beneficially owned by more than one person (if, for example, persons share the power to vote or the power to dispose of the shares). In addition, shares are deemed to be beneficially owned by a person if the person has the right to acquire shares (for example, upon exercise of an option or warrant) within 60 days of the date as of which the information is provided. In computing the percentage ownership of any person, the amount of shares is deemed to include the amount of shares beneficially owned by such person by reason of such acquisition rights. As a result, the percentage of outstanding shares of any person as shown in the following table does not necessarily reflect the person's actual voting power at any particular date.

To our knowledge, except as indicated in the footnotes to this table and pursuant to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them.

Beneficial Ownership Table

Name and Address of Beneficial Owner ⁽¹⁾	Number of Shares Owned	Percentage of Class
Beneficial Owners of more than 5%:		
Albert and Margaret Alkek Foundation ⁽²⁾	1,890,830 ⁽³⁾	9.9%
Austin W. Marxe ⁽⁴⁾	1,610,800 ⁽⁵⁾	8.3%
David M. Greenhouse ⁽⁴⁾	1,610,800 ⁽⁵⁾	8.3%
Charles E. Sheedy ⁽⁶⁾	1,462,159 ⁽⁷⁾	7.7%
LBI Group, Inc. ⁽⁸⁾	1,461,754 ⁽⁹⁾	7.6%
Alkek & Williams Ventures LTD. ⁽¹⁰⁾	1,427,323 ⁽¹¹⁾	7.5%
DLD Family Investments, LLC ⁽¹²⁾	983,374 ⁽¹³⁾	5.2%
Officers and Directors:		
Scott B. Seaman ⁽¹⁰⁾	1,626,146 ⁽¹⁴⁾	8.5%
David E. Jordan	1,560,942 ⁽¹⁵⁾	8.2%
Neil K. Warma	420,752 ⁽¹⁶⁾	2.2%
Donna R. Rill	151,636 ⁽¹⁷⁾	*
Michael S. Richman	112,595 ⁽¹⁸⁾	*
David Hung	87,518 ⁽¹⁹⁾	*
Jaye L. Thompson	16,813 ⁽²⁰⁾	*
All directors and executive officers as a group (7 persons)**	3,976,400 ⁽²¹⁾	19.3%

* Less than 1%.

** Includes only current directors and officers serving in such capacity on the Record Date.

(1) Unless otherwise indicated in the footnotes, the mailing address of the beneficial owner is c/o Opexa Therapeutics, Inc., 2635 Technology Forest Blvd., The Woodlands, Texas 77381.

- (2) This information is based on the Schedule 13D/A filed with the SEC on December 16, 2009, by Albert and Margaret Alkek Foundation (the “Foundation”), Alkek & Williams Ventures, Ltd. (“Ventures”), Scott Seaman, DLD Family Investments, LLC (“DLD Family”), and the other reporting persons named therein (the “Foundation 13D”) and other information available to us. The Foundation acts through an investment committee of its board of directors, which includes Mr. Daniel Arnold, Mr. Joe Bailey, Mr. Scott Seaman and Ms. Randa Duncan Williams. Mr. Seaman is the executive director of the Foundation and chairman of the investment committee. The investment committee has sole voting and investment power over all of the shares of common stock beneficially owned by the Foundation. However, pursuant to the Foundation 13D, neither the executive director nor any member of the investment committee may act individually to vote or sell shares of common stock held by the Foundation; therefore, the Foundation has concluded that no individual committee member is deemed to beneficially own, within the meaning of Rule 13d-3 of the Exchange Act, any shares of common stock held by the Foundation solely by virtue of the fact that he or she is a member of the investment committee. Additionally, pursuant to the Foundation 13D, the Foundation has concluded that because Mr. Seaman, in his capacity as executive director or chairman of the investment committee, cannot act in such capacity to vote or sell shares of common stock held by the Foundation without the approval of the investment committee, he is not deemed to beneficially own, within the meaning of Rule 13d-3 of the Exchange Act, any shares of common stock held by the Foundation by virtue of his position as executive director or chairman of the investment committee. The mailing address of the beneficial owner is 1100 Louisiana, Suite 5250, Houston, Texas 77002.
- (3) Consisting of: (i) 1,432,965 shares of common stock; (ii) 49,700 shares of common stock underlying the Series E warrants; (iii) 158,165 shares of common stock underlying the Series F warrant; and (iv) 250,000 shares of common stock underlying the Series G warrants. Excludes: (i) 250,000 shares of common stock underlying the April 2006 warrants and (ii) 200,300 shares of common stock underlying the Series E warrants because the Foundation is contractually prohibited from exercising any of these warrants to the extent that it would beneficially own in excess of 9.999% of the total number of issued and outstanding shares of common stock after such exercise. Pursuant to the Foundation 13D, the Foundation and other reporting persons named therein may be deemed to constitute a group for purposes of Section 13(d) or Section 13(g) of the Exchange Act. However, the Foundation, Ventures, Chaswil, Ltd. and Mr. Seaman expressly disclaim (i) that, for purposes of Section 13(d) or Section 13(g) of the Exchange Act, they are a member of a group with respect to securities of Opexa held by DLD Family, Mr. Arnold, Mr. Bailey or Ms. Williams and (ii) that they have agreed to act together with DLD Family, Mr. Arnold, Mr. Bailey or Ms. Williams as a group other than as described in the Foundation 13D. Therefore, this does not include the following securities: (i) 604,593 shares of common stock held by DLD Family; (ii) 110,000 shares of common stock underlying the April 2006 warrants held by DLD Family; (iii) 100,000 shares of common stock underlying Series E warrants held by DLD Family; (iv) 68,781 shares of common stock underlying Series F warrants; (v) 100,000 shares of common stock underlying the Series G warrants; (vi) 26,667 shares of common stock held by Mr. Arnold; (vii) 10,000 shares of common stock underlying the April 2006 warrants held by Mr. Arnold; (viii) 5,000 shares of common stock underlying the April 2006 Warrant held by Mr. Bailey; (ix) 50,000 shares of common stock held by Mr. Bailey; (x) 840,814 shares of common stock held by Ventures; (xi) 125,000 shares of common stock underlying the April 2006 warrants held by Ventures; (xii) 200,000 shares of common stock underlying Series E warrants held by Ventures; (xiii) 61,509 shares of common stock underlying Series F warrants held by Ventures; (xiv) 200,000 shares of common stock underlying the Series G warrants; (xv) 43,655 shares of common stock held by Mr. Seaman; (xvi) 7,500 shares of common stock underlying the April 2006 warrants held by Mr. Seaman; (xvii) 10,000 shares of common stock underlying Series E warrants held by Mr. Seaman; (xviii) 17,573 shares of common stock underlying Series F warrants held by Mr. Seaman; and (xix) 120,095 shares of common stock underlying currently exercisable stock options held by Mr. Seaman.
- (4) Austin W. Marxe and David M. Greenhouse are the controlling principals of AWM Investment Company, Inc. (“AWM”), the general partner of and investment advisor to Special Situations Cayman Fund, L.P. (“Cayman”). AWM serves as the investment advisor to Special Situations Fund III QP, L.P. (“SSFQP”), Special Situations Private Equity Fund, L.P. (“SSPE”), and Special Situations Life Sciences Fund, L.P. (“Life Sciences”). Cayman, SSFQP, SSPE, and Life Sciences are collectively referred to as the “Funds.” AWM and Messrs. Marxe and Greenhouse are either the general partner or members of entities which are

the general partner of the Funds. Messrs. Marx and Greenhouse exercise joint voting and dispositive power over all of the shares of common stock and warrants owned by the Funds. The information in this footnote is primarily based on a Schedule 13G filed with the SEC on February 12, 2010. The mailing address of Messrs. Marx and Greenhouse is 527 Madison Ave., Suite 2600, New York, New York 10022.

- (5) Consisting of: (i) 750,000 shares of common stock; (ii) 485,800 shares of common stock underlying the April 2006 warrants held by the Funds; and (iii) 375,000 shares of common stock underlying the December 2009 Series A and Series B warrants held by the Funds.
- (6) Charles E. Sheedy exercises sole voting and dispositive power over all of the shares of common stock beneficially owned. The information in this footnote is primarily based on information reported on the Schedule 13G/A filed with the SEC on July 23, 2009 by Charles E. Sheedy and other information available to us. The mailing address of the beneficial owner is 909 Fannin Street, Suite 2907, Houston, Texas 77010.
- (7) Consisting of: (i) 858,423 shares of common stock; (ii) 50,000 shares of common stock underlying the April 2006 warrants; (iii) 150,000 shares of common stock underlying Series E warrants; (iv) 353,736 shares of common stock underlying Series F warrants; and (v) 50,000 shares of common stock underlying the Series G warrants.
- (8) Lehman Brothers Holdings Inc. exercises sole voting and dispositive power over all of the shares of common stock beneficially owned by LBI Group Inc. The information in this footnote is primarily based on information reported on the Schedule 13G filed with the SEC on August 19, 2008 by LBI Group Inc. The mailing address of the beneficial owner is 399 Park Avenue, New York, New York 10022.
- (9) Consisting of: (i) 675,675 shares of common stock and (ii) 786,079 shares of common stock underlying Series F warrants.
- (10) Chaswil, Ltd. is the investment manager of Ventures and holds voting power and investment power with respect to Company securities held by Ventures pursuant to a written agreement. Scott B. Seaman is a principal of Chaswil, Ltd. and has shared voting power and shared investment power over all of the shares of common stock beneficially owned by Ventures. The information in this footnote is primarily based on the Foundation 13D and other information provided to us. The mailing address of the beneficial owner is 1100 Louisiana, Suite 5250, Houston, Texas 77002.
- (11) Consisting of: (i) 840,814 shares of common stock; (ii) 125,000 shares of common stock underlying the April 2006 warrants; (iii) 200,000 shares of common stock underlying Series E warrants; (iv) 61,509 shares of common stock underlying Series F warrants; and (v) 200,000 shares of common stock underlying the Series G warrants.
- (12) Randa Duncan Williams is the principal of DLD Family and she may be deemed to exercise voting and investment power with respect to such shares. The information in this footnote is primarily based on the Foundation 13D and other information provided to us. The mailing address of the beneficial owner is P.O. Box 4735, Houston, Texas 77210-4735.
- (13) Consisting of: (i) 604,593 shares of common stock; (ii) 110,000 shares of common stock underlying the April 2006 warrants; (iii) 100,000 shares of common stock underlying Series E warrants; (iv) 68,781 shares of common stock underlying Series F warrants; and (v) 100,000 shares of common stock underlying Series G warrants.
- (14) Consisting of: (i) 120,095 shares underlying stock options; (ii) 840,814 shares of common stock held by Ventures; (iii) 125,000 shares of common stock underlying the April 2006 warrants held by Ventures; (iv) 200,000 shares of common stock underlying Series E warrants held by Ventures; (v) 61,509 shares of common stock underlying Series F Warrants held by Ventures; (vi) 200,000 shares of common stock underlying the Series G warrants held by Ventures; (vii) 7,500 shares of common stock underlying the April 2006 warrants; (viii) 10,000 shares of common stock underlying Series E warrants; (ix) 17,573 shares of common stock underlying Series F warrants; and (x) 43,655 shares of common stock. (See footnotes 10 and 11 for additional discussion of the information set forth in clauses (ii) through (vi) of the preceding sentence.) Pursuant to the Foundation 13D, this does not include the following shares which Mr. Seaman has determined he does not have beneficial ownership of or has disclaimed beneficial ownership:

- (i) 1,432,965 shares of common stock held by the Foundation; (ii) 250,000 shares of common stock underlying the April 2006 warrants held by the Foundation; (iii) 250,000 shares of common stock underlying Series E warrants held by the Foundation; (iv) 158,165 shares of common stock underlying Series F warrants held by the Foundation; and (v) 250,000 shares of common stock underlying Series G warrants held by the Foundation. (See footnotes 2 and 3 for additional discussion of the information set forth in clauses (i) through (v) of the preceding sentence.) The mailing address of the beneficial owner is 1100 Louisiana, Suite 5250, Houston, Texas 77002.
- (15) Consisting of: (i) 890,000 shares of common stock (ii) 60,000 shares of common stock underlying the April 2006 warrants; (iii) 145,000 shares of common stock underlying Series E warrants; (iv) 314,117 shares of common stock underlying Series F warrants; (v) 100,000 shares of common stock underlying the Series G Warrants; and (vii) 51,825 shares of common stock underlying currently exercisable stock options.
- (16) Consisting of: (i) 32,234 shares of common stock; (ii) 3,515 shares of common stock underlying Series F warrants; (iii) 10,000 shares of common stock underlying the Series G Warrants; and (iv) 375,003 shares of common stock underlying currently exercisable stock options.
- (17) Consisting of: (i) 1,610 shares of common stock and (ii) 150,026 shares of common stock underlying currently exercisable stock options.
- (18) Consisting of: 112,595 shares of common stock underlying currently exercisable stock options.
- (19) Consisting of: (i) 17,573 shares of common stock underlying Series F warrants and (ii) 69,945 shares of common stock underlying currently exercisable stock options.
- (20) Consisting of (i) 4,313 shares of common stock and (ii) 12,500 shares of common stock underlying currently exercisable stock options.
- (21) Consisting of: (a) the following held by Mr. Seaman or for which Mr. Seaman may be deemed to have voting and investment power: (i) 120,095 shares of common stock underlying currently exercisable stock options; (ii) 840,814 shares of common stock held by Ventures; (iii) 125,000 shares of common stock underlying April 2006 warrants held by Ventures; (iv) 200,000 shares of common stock underlying Series E warrants held by Ventures; (v) 61,509 shares of common stock underlying Series F warrants held by Ventures; (vi) 200,000 shares of common stock underlying the Series G warrants held by Ventures; (vii) 7,500 shares of common stock underlying the April 2006 warrants; (viii) 10,000 shares of common stock underlying Series E warrants; (ix) 17,573 shares of common stock underlying Series F warrants; and (x) 43,655 shares of common stock; (b) the following held by Mr. Jorden: (i) 890,000 shares of common stock; (ii) 60,000 shares of common stock underlying the April 2006 warrants; (iii) 145,000 shares of common stock underlying Series E warrants; (iv) 314,117 shares of common stock underlying Series F warrants; (v) 100,000 shares underlying Series G warrants; and (vi) 51,825 shares of common stock underlying currently exercisable stock options; (c) the following held by Mr. Warma: (i) 32,234 shares of common stock; (ii) 3,515 shares underlying Series F warrants; (iii) 10,000 shares underlying Series G warrants; and (iv) 375,003 shares of common stock underlying currently exercisable stock options; (d) 1,610 shares of common stock and 150,026 shares of common stock underlying currently exercisable stock options held by Ms. Rill; (e) 112,595 shares underlying currently exercisable stock options held by Mr. Richman; (f) the following held by Dr. Hung: (i) 17,573 shares of common stock underlying Series F warrants; and (ii) 69,945 shares of common stock underlying currently exercisable stock options; and (g) 4,313 shares of common stock and 12,500 shares of common stock underlying currently exercisable stock options held by Dr. Thompson.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our directors and executive officers, and persons who own more than 10% of a registered class of our equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership. These reporting persons are required by SEC regulations to furnish us with copies of all such reports they file. To our knowledge, based solely on our review of the copies of such reports furnished to us and written representations from certain insiders that no other reports were required, we believe all of the reporting persons complied with all Section 16(a) filing requirements applicable to them with respect to transactions during the fiscal year ended December 31, 2009.

HOUSEHOLDING

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

A number of brokers with account holders who are our shareholders may be “householding” our proxy materials. If householding is in effect, a single proxy statement will be delivered to multiple shareholders sharing an address unless contrary instructions have been received from the affected shareholders. Once you have received notice from your broker that they will be “householding” communications to your address, “householding” will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in “householding” and would prefer to receive a separate copy of the proxy statement and annual report, please notify your broker. Shareholders who currently receive multiple copies of the proxy statement and/or annual report at their address and would like to request “householding” of their communications should contact their broker. We will deliver a separate set of proxy materials promptly upon written or oral request from a shareholder. Please direct any such requests to Investor Relations, Opexa Therapeutics, Inc., 2635 Technology Forest Blvd., The Woodlands, Texas 77381, or call Investor Relations at (281) 272-9331.

OTHER BUSINESS

The Board knows of no other business to come before the Annual Meeting. However, if any other matters are properly brought before the Annual Meeting, the person named in the accompanying form of proxy or his or their substitutes will vote in their discretion on those matters.

By Order of the Board of Directors

Neil K. Warma
President and Chief Executive Officer

September 14, 2010
The Woodlands, Texas

WHETHER OR NOT YOU PLAN TO ATTEND THE ANNUAL MEETING, PLEASE COMPLETE, SIGN, DATE, AND PROMPTLY RETURN THE ACCOMPANYING PROXY IN THE ENCLOSED ENVELOPE OR USE ONE OF THE VOTING METHODS DESCRIBED IN THE ATTACHED MATERIALS. YOU MAY REVOKE YOUR PROXY AT ANY TIME PRIOR TO THE ANNUAL MEETING. IF YOU DECIDE TO ATTEND THE ANNUAL MEETING AND WISH TO CHANGE YOUR PROXY VOTE, YOU MAY DO SO AUTOMATICALLY BY VOTING IN PERSON AT THE MEETING. IF YOUR SHARES ARE HELD OF RECORD BY A BROKER, BANK OR OTHER NOMINEE AND YOU WISH TO ATTEND AND VOTE IN PERSON AT THE MEETING, YOU MUST OBTAIN FROM THE RECORD HOLDER A LEGAL PROXY ISSUED IN YOUR NAME.

THANK YOU FOR YOUR ATTENTION TO THIS MATTER. YOUR PROMPT RESPONSE WILL GREATLY FACILITATE ARRANGEMENTS FOR THE ANNUAL MEETING.

If you need additional copies of this Proxy Statement or the enclosed proxy card, or if you have other questions about the proposals or how to vote your shares, you may contact our proxy solicitor:

ADVANTAGE PROXY
(877) 870-8565 (toll free)

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K**

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

For the fiscal year ended December 31, 2009

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number: 001-33004



Opexa Therapeutics, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Texas

76-0333165

(State or Other Jurisdiction of
Incorporation or Organization)

(IRS Employer
Identification No.)

2635 N. Crescent Ridge Drive, The Woodlands, Texas

77381

(Address of Principal Executive Offices)

(Zip Code)

Registrant's Telephone Number, Including Area Code: (281) 272-9331

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, \$.01 par value per share	The NASDAQ Stock Market LLC
Series E Common Stock Purchase Warrants	The NASDAQ Stock Market LLC

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

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

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

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

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

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

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

Large accelerated
filer

Accelerated
filer

Non-accelerated filer

Smaller reporting
company

(Do not check if a smaller reporting
company)

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2009 based upon the closing price as of such date was \$5,030,578.

As of March 1, 2010, 15,527,322 shares of the registrant's common stock, par value \$0.01 per share, were outstanding.

Table of Contents

	Page
PART I	2
Item 1. Business	2
Item 1A. Risk Factors	9
Item 1B. Unresolved Staff Comments	24
Item 2. Properties	24
Item 3. Legal Proceedings	24
Item 4. RESERVED	24
PART II	25
Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	25
Item 6. Selected Financial Data	26
Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations	26
Item 7A. Quantitative and Qualitative Disclosures About Market Risk	29
Item 8. Financial Statements and Supplementary Data	29
Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure	29
Item 9A(T). Controls and Procedures	29
Item 9B. Other Information	30
PART III	31
Item 10. Directors, Executive Officers and Corporate Governance	31
Item 11. Executive Compensation	33
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	38
Item 13. Certain Relationships and Related Transactions, and Director Independence	42
Item 14. Principal Accountant Fees and Services	43
PART IV	44
Item 15. Exhibits and Financial Statement Schedules	44

Forward Looking Statements

Statements contained in this report, other than statements of historical fact, constitute “forward-looking statements.” The words “expects,” “believes,” “anticipates,” “estimates,” “may,” “could,” “intends,” and similar expressions are intended to identify forward-looking statements. In particular, these forward-looking statements may be found, among other places, under the headings “Business,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” These forward-looking statements do not constitute guarantees of future performance. Investors are cautioned that statements which are not strictly historical statements, including, without limitation, statements regarding current or future financial payments, returns, royalties, performance and position, management’s strategy, plans and objectives for future operations, plans and objectives for product development, plans and objectives for present and future clinical trials and results of such trials, plans and objectives for regulatory approval, litigation, intellectual property, product development, manufacturing plans and performance, and management’s initiatives and strategies, constitute forward-looking statements. Such forward-looking statements are subject to a number of risks and uncertainties that could cause actual results to differ materially from those anticipated. These risks and uncertainties include, but are not limited to, those risks discussed in “Risk Factors,” as well as, without limitation, risks associated with: the success of third party development and commercialization efforts with respect to products covered by intellectual property rights transferred by the Company, the success of third party patent prosecution efforts with respect to such products, the ability of the Company to enter into and benefit from a partnering arrangement for the Company’s product candidate, Tovaxin[®], on reasonably satisfactory terms (if at all), and the Company’s dependence (if partnered) on the resources and abilities of any partner for the further development of Tovaxin, the Company’s ability to compete with larger, better financed pharmaceutical and biotechnology companies, new approaches to the treatment of its targeted diseases, the Company’s expectation of incurring continued losses, the Company’s uncertainty of developing a marketable product, the Company’s ability to raise additional capital to continue its treatment development programs, the success of the Company’s clinical trials, the Company’s ability to develop and commercialize products, the Company’s ability to obtain required regulatory approvals, the Company’s compliance with all Food and Drug Administration regulations, the Company’s ability to obtain, maintain and protect intellectual property rights for its products, the risk of litigation regarding the Company’s intellectual property rights, the Company’s limited manufacturing capabilities, the Company’s dependence on third-party manufacturers and value added resellers, the Company’s ability to hire and retain skilled personnel, the Company’s volatile stock price, and other risks detailed in its filings with the Securities and Exchange Commission. These forward-looking statements speak only as of the date of this report. The Company assumes no obligation or undertaking to update or revise any forward-looking statements contained herein to reflect any changes in its expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based. You should, however, review additional disclosures the Company makes in the reports it files with the SEC.

PART I

Item 1. Business.

Overview

Unless otherwise indicated, we use “Opexa,” “the Company,” “we,” “our” and “us” in this annual report to refer to the businesses of Opexa Therapeutics, Inc.

We are a biopharmaceutical company developing personalized cellular therapies with the potential to treat major illnesses, including multiple sclerosis (MS). These therapies are based on our proprietary T-cell technology. The information discussed related to our product candidates is preliminary and investigative. Our product candidates are not approved by the Food and Drug Administration (FDA).

Our lead product candidate, Tovaxin[®], is a personalized T-cell therapeutic vaccine licensed from Baylor College of Medicine, which is in clinical development for the treatment of MS.

Opexa was incorporated in Texas in March 1991. Our principal executive offices are located at 2635 N. Crescent Ridge Drive, The Woodlands, Texas 77381, and our telephone number is (281) 272-9331.

T-Cell Therapy

MS is the result of a person’s own T-cells attacking the myelin sheath that coats the nerve cells of the central nervous system (CNS). Tovaxin consists of attenuated patient-specific myelin reactive T-cells (MRTCs) against peptides from one or more of the primary proteins on the surface of the myelin sheath (myelin basic protein (MBP), proteolipid protein (PLP) and myelin oligodendrocyte glycoprotein (MOG)). Patient-specific MRTCs are expanded in culture with specific peptides identified by our proprietary assay of the patient’s peripheral blood. The cells are then attenuated, or weakened, by gamma irradiation, and returned to the patient as a subcutaneous injection. Although further testing is necessary, results from our initial human trials appear to indicate that these attenuated T-cells cause an immune response directed at the autoreactive T-cells in the patient’s body, resulting in a reduction in the level of harmful T-cells. In 2008, we completed an FDA cleared Phase IIb clinical trial of Tovaxin which enrolled 150-patients. The trial was entitled, A Multicenter, Randomized, Double-Blind, Placebo-Controlled Study of Subcutaneous Tovaxin in Subjects with Clinically Isolated Syndrome or Relapsing Remitting Multiple Sclerosis (Tovaxin for Early Relapsing-Remitting MS, “TERMS”).

The TERMS study was a Phase IIb multi-center, randomized, double blind, placebo-controlled trial in 150 patients with Relapsing-Remitting Multiple Sclerosis (RRMS) or high risk Clinically Isolated Syndrome (CIS). The study involved 2:1 randomization with 100 patients receiving Tovaxin and 50 receiving placebo. According to the study protocol, patients received a total of five subcutaneous injections at weeks 0, 4, 8, 12 and 24. Top-line data from the TERMS trial is as follows:

- Annualized relapse rate (ARR) for Tovaxin-treated patients was 0.214 as compared to 0.339 for placebo-treated patients, which represented a 37% decrease in ARR for Tovaxin as compared to placebo in the general population.
- For patients who had more active disease as indicated by a prospective subgroup of patients with an ARR>1 in the year prior to the study, Tovaxin demonstrated a 55% reduction in ARR as compared to placebo; and an 87% reduction in relapse rate was observed in Tovaxin patients in this population compared to placebo during the 24 week period following the administration of the full course of treatment (p=0.039).
- Patients who had an ARR>1 at study entry demonstrated a statistically significant improvement in disability score as measured by the Expanded Disability Status Scale (EDSS) (p =0.045) for patients

treated with Tovaxin as compared to those receiving placebo. The EDSS score is a measure of disability ranging from 0-10. In addition, 28.1% of the Tovaxin patients showed an improvement in EDSS of at least one point as compared to 5.6% in the placebo group.

- Patients who had an ARR>1 at study entry and were treated with Tovaxin experienced an 88% reduction in brain atrophy and a 59% reduction in absolute T-2 lesion volume as compared to placebo.
- Tovaxin was safe and well tolerated with no serious adverse events related to Tovaxin treatment. The most common adverse event was injection site irritation which was generally mild and transient.

Further analysis of the TERMS clinical study of 150 patients with RRMS evaluated those patients with an annualized relapse rate of greater than or equal to one at study entry ($ARR \geq 1$). More than 83% of the Tovaxin-treated group (n=85) remained relapse free at one year and the annualized relapse rate after treatment decreased to 0.20, a 42% reduction compared to placebo. The results of this expanded analysis confirm those found in the previously-reported per-protocol analysis of patients in the TERMS study with $ARR > 1$. This *post-hoc* analysis, which represents 86% of the total patient population in the TERMS study, was conducted to evaluate Tovaxin treatment among study patients with the same baseline disease activity that is being targeted for inclusion in future clinical studies. Along with a marked reduction in relapses, 73% of the Tovaxin-treated patients with $ARR \geq 1$ showed stabilization or improvement in MS disability, including 16.5% with a sustained improvement in their EDSS score of at least one full point. On MRI, the Tovaxin-treated group also demonstrated a reduction in brain atrophy and fewer inflammatory brain lesions that progressed to “black holes,” as compared to the placebo-treated group. Treatment with Tovaxin was well tolerated, with no serious adverse events reported in any Tovaxin-treated patient.

Tovaxin is a personalized T-cell vaccine based on a patient’s individual immunologic profile. Detailed immunology data analysis from the TERMS trial indicate that Tovaxin can successfully induce changes in T-cell reactivity to all three targeted myelin antigens implicated in the autoimmune attacks causing neurologic damage in MS. These changes appear epitope-specific, are sustained for six months or more, and match each patient’s Tovaxin formulation. Tovaxin is not broadly immunosuppressive, an important feature of its favorable safety profile.

Other Opportunities

Our proprietary T-cell technology has enabled us to develop intellectual property and a comprehensive sample database that may enable discovery of novel biomarkers and other relevant peptides to be used to treat MS patients.

Stem Cell Therapy

In August 2009, we entered into an exclusive agreement with Novartis for the further development of our novel stem cell technology. This technology, which has generated preliminary data showing the potential to generate monocyte derived islet cells from peripheral blood mononuclear cells, was in early preclinical development at Opexa. Under the terms of the agreement, Novartis acquired the stem cell technology from us and Novartis will have full responsibility for funding and carrying out all research, development and commercialization activities. To date we have received \$3.5 million from Novartis of which \$3 million was attributable to an upfront cash payment and \$0.5 million resulted from the completion of the first of two technology transfer milestones. We are eligible to receive an additional \$0.5 million technology transfer fee upon the completion of the second technology transfer milestone. We are also eligible to receive certain clinical and commercial milestone payments as well as royalty payments from the sale of any products resulting from the use of the technology and we retain an option on certain manufacturing rights.

Our T-Cell Platform

Multiple Sclerosis—Background

In the U.S., approximately 400,000 people suffer from MS, a chronic progressive autoimmune disease of the CNS that is caused by myelin autoreactive T-cells progressively eroding the myelin that surrounds and insulates nerve fibers of the brain and spinal cord resulting in varying amounts of disability. Globally, there are approximately 2.5 million MS patients representing a drug market of approximately \$9 billion in 2008. The U.S. market accounted for slightly more than 65 percent of global MS drug sales in 2008. The MS drug market is forecasted to reach as much as \$16 billion by 2016.

MS remains a challenging autoimmune disease to treat because the pathophysiologic mechanisms are diverse, and the chronic, unpredictable course of the disease makes it difficult to determine whether the favorable effects of short-term treatment will be sustained. Therapies that are easy to use and can safely prevent or stop the progression of disease represent the greatest unmet need in MS.

In recent years, the understanding of MS pathogenesis has evolved to comprise an initial, T-cell-mediated inflammatory activity followed by selective demyelination (erosion of the myelin coating of the nerve fibers) and then neurodegeneration. The discovery of disease-relevant immune responses has accelerated the development of targeted therapeutic products for the treatment of the early stages of MS.

Some subjects, who have the appropriate genetic background, have increased susceptibility for the *in vivo* activation and expansion of myelin autoreactive T-cells. These myelin autoreactive T-cells may remain dormant, but at some point they are activated in the periphery, thus enabling them to cross the blood-brain barrier (BBB) and infiltrate the healthy tissue of the brain and spinal cord. The cascade of pathogenic events leads to demyelination of axons, which causes nerve impulse transmissions to diffuse into the tissue resulting in disability to the subject.

Current Therapy for Multiple Sclerosis

Current MS disease modifying drugs on the market are mostly palliative and generally work by modulation or suppression of the immune system. These therapies for MS are dominated by three forms of interferon that when used as therapies, require frequent subcutaneous or intramuscular injections (Avonex[®], Betaseron[®] and Rebif[®]). Copaxone[®] is an immunomodulator that is administered daily. Novantrone[®] (mitoxanthrone) is an immunosuppressive drug that can only be given four times per year with a lifetime limit of 8 to 12 doses. All of the current therapies only claim to slow the progression of MS and present significant patient compliance challenges because of the dosing schedule, limited decrease in relapse rate and side effects profile. The interferon formulations produce severe flu-like symptoms, injection site reactions, infection and neutralizing antibodies (ranging from 5% to 45%) that limit the efficacy of treatment. Copaxone[®] causes significant injection site reactions; while Novantrone[®] causes infections, bone marrow suppression, nausea, hair thinning, bladder infections, and mouth sores. These drugs must be administered daily to weekly. Tysabri[®], a selective adhesion molecule inhibitor (an alpha 4 integrin antagonist), represents another class of MS drugs that works by preventing immune system cells from crossing the BBB and from moving into the CNS. Tysabri[®] requires a once per month infusion and has been reintroduced to the market after being originally withdrawn in 2005 based on safety concerns over several patient deaths due to a virally mediated brain inflammation.

Tovaxin for Multiple Sclerosis

We believe that Tovaxin works selectively on the myelin autoreactive T-cells by harnessing the body's natural immune defense system and feedback mechanisms to deplete these T-cells and induce favorable immune regulatory responses by rebalancing the immune system. Tovaxin is manufactured by taking the MRTCs from the blood, expanding them to a therapeutic dose *ex-vivo*, and attenuating them with gamma irradiation to prevent DNA replication. These attenuated MRTCs are then injected subcutaneously into the body in therapeutic

dosages. The body recognizes specific T-cell receptor molecules of these MRTCs as foreign and mounts an immune response reaction against them, not only destroying the injected attenuated MRTCs, but also the circulating, myelin autoreactive T-cells carrying the peptide-specific T-cell receptor molecules. In addition, T-cell activation molecules on the surface of the activated MRTCs used as vaccine induce favorable immune regulatory responses, which promote anti-inflammatory responses. Because the therapy uses an individual's own cells, the only directly identifiable side effect, observed thus far, is injection site reactions which typically are minor and generally clear within 24 hours.

We believe that this technology platform may have applications in other T-cell mediated autoimmune diseases such as Crohn's disease, psoriasis, rheumatoid arthritis and Type 1 diabetes.

Tovaxin Manufacturing

We manufacture Tovaxin in our own current Good Manufacturing Practice ("cGMP") facility. The technology used to produce Tovaxin is similar to that of traditional microbial vaccine technology, where the pathogen (or the attenuated derivative) is used to derive the protective antigens necessary to induce protective immune responses.

Personalized Therapy

Tovaxin is a personalized autologous immunotherapy that is not only manufactured for every individual patient but also is tailored to match each patient's evolving disease profile. In preparing Tovaxin for a patient, the patient-specific MRTCs causing the disease are isolated from the blood and expanded in culture with specific peptides identified by assaying peripheral blood mononuclear cell (PBMC) reactivity against 109 peptides derived from MBP, MOG and PLP in the presence of antigen-presenting cells and growth factors. MRTCs are expanded in culture to therapeutic levels and cryopreserved. Prior to use, the MRTCs are expanded, formulated, and attenuated (by irradiation) to render them unable to replicate but viable for therapy. These attenuated T-cells are administered in a defined schedule of five subcutaneous injections. Patients will be treated with a new vaccine series (five subcutaneous injections) each year based on their altered disease profile or epitope shift.

Tovaxin Safety and Tolerability

It is believed that Tovaxin treatment selectively targets and depletes the pathogenic T-cell population. It is not a general immune suppressant and, accordingly, is not associated with the serious side effects seen by those MS treatments that function by systemically suppressing the immune system. In clinical trials conducted to date, there have been no serious adverse events associated with Tovaxin treatment. We believe that this favorable safety profile may be an important advantage as patient compliance represents a significant challenge due to serious side effects associated with many currently available and in development MS treatments.

Clinical Development of Tovaxin

During 2009, we continued to analyze the data from the TERMS Phase IIb study, which was completed in 2008, and we evaluated options for the further clinical development of Tovaxin. We have been engaged in certain activities with respect to such further clinical development, with a key aspect of our strategy with respect to Tovaxin being to possibly seek a collaboration with a partner. The nature and extent of the further clinical development of Tovaxin may thus be substantially influenced by a potential strategic partner, if applicable, and will in any event depend upon access to resources such as necessary capital.

Licenses, Patents and Proprietary Rights

We believe that proprietary protection of our technologies is critical to the development of our business. We will continue to protect our intellectual property through patents and other appropriate means. We rely upon

trade-secret protection for certain confidential and proprietary information and take active measures to control access to that information. We currently have non-disclosure agreements with all of our employees, consultants, vendors, advisory board members and contract research organizations.

The initial T-cell vaccination technology was originally discovered by Dr. Jingwu Zang of Baylor College of Medicine in Houston, Texas. Baylor granted Opexa an exclusive, worldwide right and license to use, develop, make, have made, market, sell, offer to sell and otherwise commercially exploit the technology, licensed patent pending products and licensed patent products. Opexa has since expanded the patent portfolio related to Tovaxin and T-cell technology with additional applications, from which several patents have issued. There is also substantial proprietary know-how surrounding the Tovaxin development and manufacturing processes that remains a trade secret. Consequently, we consider barriers to entry in this field, relative to Tovaxin, to be high.

Our patent portfolio tracks our scientific development programs in autoimmune disease treatments, with an initial focus on MS. We believe that our scientific platform is adaptable in that any disease with known specific antigens, such as Rheumatoid Arthritis, may be a candidate for treatment, and we believe that our patent strategy is readily extendable to encompass these additional indications. As the MS clinical trials for Tovaxin have progressed, new patent applications have been filed to reflect the specificity and variety of antigens that have been discovered.

Competition

The development of therapeutic agents for human disease is intensely competitive. Major pharmaceutical companies currently offer a number of pharmaceutical products to treat MS and other diseases for which our technologies may be applicable. Many pharmaceutical and biotechnology companies are investigating new drugs and therapeutic approaches for the same purposes, which may achieve new efficacy profiles, extend the therapeutic window for such products, alter the prognosis of these diseases, or prevent their onset. We believe that our products, when and if successfully developed, will compete with these products principally on the basis of improved and extended efficacy and safety and their overall economic benefit to the health care system. We expect competition to increase. We believe that our most significant competitors will be fully integrated pharmaceutical companies and more established biotechnology companies. Smaller companies may also be significant competitors, particularly through collaborative arrangements with large pharmaceutical or biotechnology companies. Some of our primary competitors in the current treatment of, and in the development of treatments for, MS include Biogen-Idec, Elan, Merck-Serono, Teva, Bayer/Schering AG and Novartis.

Sales and Marketing

We may choose to partner with large biotech or pharmaceutical companies for sales and marketing, if and when applicable, or alternatively develop our own sales force to market our MS cell therapy products in the U.S. Given the concentration of MS treatment among a relatively small number of specialized neurologists in the U.S., we believe that a modest size sales force would be sufficient to market the MS products in the U.S.

We would consider partnering with large biotech and pharmaceutical companies, if and when applicable, to assist with marketing and sales of our MS T-cell therapy products outside the U.S.

Government Regulation

Our research and development activities and the future manufacturing and marketing of our potential products are, and will be, subject to regulation for safety and efficacy by a number of governmental authorities in the U.S. and other countries.

In the U.S., pharmaceuticals, biologicals and medical devices are subject to FDA regulation. The Federal Food, Drug and Cosmetic Act, as amended, and the Public Health Service Act, as amended, the regulations promulgated thereunder, and other federal and state statutes and regulations govern, among other things, the

testing in human subjects, manufacture, safety, efficacy, labeling, storage, export, record keeping, approval, marketing, advertising and promotion of our potential products. Product development and approval within this regulatory framework takes a number of years and involves significant uncertainty combined with the expenditure of substantial resources.

FDA Approval

We will need to obtain FDA approval of any therapeutic product we plan to market and sell. The FDA will only grant marketing approval if it determines that a product is both safe and effective. The testing and approval process will require substantial time, effort and expense. The steps required before our potential products may be marketed in the U.S. include:

Preclinical Laboratory and Animal Tests. Preclinical tests include laboratory evaluation of the product candidate and animal studies in specific disease models to assess the potential safety and efficacy of the product candidate and our formulation as well as the quality and consistency of the manufacturing process.

Submission to the FDA of an Investigational New Drug Application, or IND, Which Must Become Effective Before U.S. Human Clinical Trials May Commence. The results of the preclinical tests are submitted to the FDA, and the IND becomes effective 30 days following its receipt by the FDA, as long as there are no questions, requests for delay or objections from the FDA. The sponsor of an IND must keep the FDA informed during the duration of clinical studies through required amendments and reports, including adverse event reports.

Adequate and Well-Controlled Human Clinical Trials to Establish the Safety and Efficacy of the Product Candidate. Clinical trials, which test the safety and efficacy of the product in humans, are conducted in accordance with protocols that detail the objectives of the studies, the parameters to be used to monitor safety and the efficacy criteria to be evaluated. Any product candidate administered in a U.S. clinical trial must be manufactured in accordance with cGMP. Each protocol is submitted to the FDA as part of the IND.

The protocol for each clinical study must be approved by an independent Institutional Review Board, or IRB, at the institution at which the study is conducted, and the informed consent of all participants must be obtained. The IRB will consider, among other things, the existing information on the product candidate, ethical factors, the safety of human subjects, the potential benefits of the therapy and the possible liability of the institution.

Clinical development is traditionally conducted in three sequential phases, which may overlap:

- In Phase I, product candidates are typically introduced into healthy human subjects or into selected patient populations (i.e., patients with a serious disease or condition under study, under physician supervision) to test for adverse reactions, dosage tolerance, absorption and distribution, metabolism, excretion and clinical pharmacology.
- Phase II involves studies in a limited population of patients with the disease or condition under study to (i) determine the efficacy of the product candidates for specific targeted indications and populations, (ii) determine optimal dosage and dosage tolerance and (iii) identify possible and common adverse effects and safety risks. (Phase II may be divided into Phase IIa and Phase IIb studies to address these issues.) When a dose is chosen and a candidate product is found to have preliminary evidence of effectiveness, and to have an acceptable safety profile in Phase II evaluations, Phase III trials begin.
- Phase III trials are undertaken to develop additional safety and effectiveness information from an expanded patient population, generally at multiple study sites. This information obtained is used to develop a better understanding of the risks and benefits of the product candidate, and to determine appropriate labeling for use.

Based on clinical trial progress and results, the FDA may request changes or may require discontinuance of the trials at any time if significant safety issues arise.

Submission to the FDA of Marketing Authorization Applications and FDA Review. The results of the preclinical studies and clinical studies are submitted to the FDA as part of marketing approval authorization applications such as New Drug Applications (NDAs) or Biologics License Applications (BLAs). The FDA will evaluate such applications for the demonstration of safety and effectiveness. A BLA is required for biological products subject to licensure under the Public Health Service Act and must show that the product is safe, pure and potent. In addition to preclinical and clinical data, the BLA must contain other elements such as manufacturing materials, stability data, samples and labeling. FDA approval of a BLA is required prior to commercial sale or shipment of a biologic. A BLA may only be approved once the FDA examines the product and inspects the manufacturing establishment to assure conformity to the BLA and all applicable regulations and standards for biologics.

The time for approval may vary widely depending on the specific product and disease to be treated, and a number of factors, including the risk/benefit profile identified in clinical trials, the availability of alternative treatments, and the severity of the disease. Additional animal studies or clinical trials may be requested during the FDA review period, which might add substantially to the review time.

The FDA's marketing approval for a product is limited to the treatment of a specific disease or condition in specified populations in certain clinical circumstances, as described on the approved labeling. The approved use is known as the "indication." After the FDA approves a product for the initial indication, further clinical trials may be required to gain approval for the use of the product for additional indications. The FDA may also require post-marketing testing (Phase IV studies) and surveillance to monitor for adverse effects, which could involve significant expense. The FDA may also elect to grant only conditional approval.

Interaction with the FDA During the Application and Review Process. Generally, early interaction and ongoing communication with the FDA can facilitate the testing and approval process by helping to clarify FDA expectations, obtain FDA guidance and directions, and resolve disputed issues. In addition, expectations can be formalized in a "Special Protocol Assessment," in which the FDA provides official evaluation and guidance on proposed protocols for pivotal Phase III clinical trials. An SPA documents the FDA's agreement that the design and plan analysis of the Phase III study adequately addresses objectives in support of a regulatory submission such as a BLA.

Ongoing Compliance Requirements

Even after product approval, there are a number of ongoing FDA regulatory requirements, including:

- Registration and listing;
- Regulatory submissions relating to changes in an NDA or BLA (such as the manufacturing process or labeling) and annual reports;
- Adverse event reporting;
- Compliance with advertising and promotion restrictions that relate to drugs and biologics;
- Compliance with GMP and biological product standards (subject to FDA inspection of facilities to determine compliance); and
- Compliance with "Good Tissue Practice" regulations, as applicable. (As defined by regulation, "human cell, tissue and cellular and tissue-based products" (HCT/P), which are subject to additional regulatory requirement, include stem cells that are progenitors of blood cells; however, the FDA makes no explicit statement in the regulations regarding the inclusion of other types of stem cells.)

Other Regulations

In addition to safety regulations enforced by the FDA, we are also subject to regulations under the Occupational Safety and Health Act, the Environmental Protection Act, the Toxic Substances Control Act and

other present and potential future foreign, federal, state and local regulations. For instance, product manufacturing establishments located in certain states also may be subject to separate regulatory and licensing requirements.

Outside the U.S., we will be subject to regulations that govern the import of drug products from the U.S. or other manufacturing sites and foreign regulatory requirements governing human clinical trials and marketing approval for our products. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursements vary widely from country to country. In particular, the European Union is revising its regulatory approach to high tech products, and representatives from the U.S., Japan and the European Union are in the process of harmonizing and making more uniform the regulations for the registration of pharmaceutical products in these three markets.

Research and Development

Research and development expenses for the years ended December 31, 2009 and 2008 were approximately \$2.1 million and \$8.4 million, respectively, mainly reflecting the costs of Phase IIb clinical trials for Tovaxin.

Organizational History

We are a development-stage company and have a limited operating history. Our predecessor company for financial reporting purposes was formed on January 22, 2003 to acquire rights to an adult stem cell technology. In November 2004, we acquired Opexa Pharmaceuticals, Inc. and its MS treatment technology. In 2009, Novartis Pharmaceuticals acquired our stem cell technology. Currently, we remain focused on developing our T-cell technology for MS. To date, we have not generated any commercial revenues from our operations. As we continue to execute our business plan, we expect our development and operating expenses to increase.

Employees

As of March 1, 2010, we had 10 full-time employees. We believe that our relations with our employees are good. None of our employees is represented by a union or covered by a collective bargaining agreement.

Available Information

We are subject to the information and reporting requirements of the Securities Exchange Act of 1934, or the Exchange Act, under which we file periodic reports, proxy and information statements and other information with the United States Securities and Exchange Commission, or SEC. Copies of the reports, proxy statements and other information may be examined without charge at the Public Reference Room of the SEC, 100 F Street, N.E., Room 1580, Washington, D.C. 20549, or on the Internet at <http://www.sec.gov>. Copies of all or a portion of such materials can be obtained from the Public Reference Room of the SEC upon payment of prescribed fees. Please call the SEC at 1-800-SEC-0330 for further information about the Public Reference Room.

Financial and other information about Opexa is available on our website (www.opexatherapeutics.com). Information on our website is not incorporated by reference into this report. We make available on our website, free of charge, copies of our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after filing such material electronically or otherwise furnishing it to the SEC. Copies are available in print to any Opexa stockholder upon request in writing to Attention: Investor Relations, Opexa Therapeutics, Inc., 2635 N. Crescent Ridge Drive, The Woodlands, TX 77381.

Item 1A. Risk Factors.

Investing in our common stock and warrants involves a high degree of risk. You should consider the following risk factors, as well as other information contained or incorporated by reference in this report, before deciding to invest in our common stock or warrants. The following factors affect our business and the industry in

which we operate. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known or which we currently consider immaterial may also have an adverse effect on our business. If any of the matters discussed in the following risk factors were to occur, our business, financial condition, results of operations, cash flows, or prospects could be materially adversely affected, the market price of our common stock or warrants could decline and you could lose all or part of your investment.

Risks Related to Our Business

Our business is at an early stage of development. We are largely dependent on the success of our lead product candidate, Tovaxin, and we cannot be certain that Tovaxin will receive regulatory approval or be successfully commercialized.

Our business is at an early stage of development. We do not have any product candidates in late-stage clinical trials nor do we have any products on the market. We are still in the early stages of identifying and conducting research on potential products. We have only one product candidate, Tovaxin, which has progressed to the stage of being studied in human clinical trials in the United States. This product candidate, and any other potential products, will require regulatory approval prior to marketing in the United States and other countries. Obtaining such approval requires significant research and development and preclinical and clinical testing. We may not be able to develop any products, to obtain regulatory approvals, to continue clinical development of Tovaxin, to enter clinical trials for any other product candidates, or to commercialize any products. Tovaxin, and any other potential products, may prove to have undesirable and unintended side effects or other characteristics adversely affecting their safety, efficacy or cost-effectiveness that could prevent or limit their use. Any product using any of our technology may fail to provide the intended therapeutic benefits or to achieve therapeutic benefits equal to or better than the standard of treatment at the time of testing or production.

We have a history of operating losses and do not expect to be profitable in the near future.

We have not generated any profits since our entry into the biotechnology business and we have incurred significant operating losses. We expect to incur additional operating losses for the foreseeable future. We have not received, and we do not expect to receive for at least the next several years, any revenues from the commercialization of any potential products. We do not have any sources of revenues and may not have any in the foreseeable future.

Our ability to obtain necessary funding is uncertain.

We anticipate that we will need to raise substantial additional working capital to continue our operations beyond 2010. As we have no external sources of debt or equity capital committed for funding, we must rely upon best efforts third-party debt or equity funding and we can provide no assurance that we will be successful in any funding effort. The timing and degree of any future capital requirements will depend on many factors, including:

- our ability to establish, enforce and maintain strategic arrangements for research, development, clinical testing, manufacturing and marketing;
- the accuracy of the assumptions underlying our estimates for capital needs in 2010 and beyond;
- scientific progress in our research and development programs;
- the magnitude and scope of our research and development programs;
- our progress with preclinical development and clinical trials;
- the time and costs involved in obtaining regulatory approvals;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims; and
- the number and type of product candidates that we pursue.

If we raise additional funds through collaborations or licensing arrangements with third parties, we may need to relinquish some rights to our product candidate Tovaxin, including commercialization rights, which may harm our ability to generate revenues and achieve or sustain profitability. If we raise additional funds by issuing equity securities, stockholders may experience substantial dilution. Debt financing, if available, may involve restrictive covenants that may impede our ability to operate our business. Any debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders.

If sufficient capital is not available we may not be able to continue operations as proposed, requiring us to modify our business plan, curtail various aspects of our operations or cease operations.

Our independent auditor's report in respect of our 2008 fiscal year expressed substantial doubt about our ability to continue as a going concern, which may make raising capital more difficult.

The report of our independent auditors in respect of the 2008 fiscal year expressed substantial doubt about our ability to continue as a going concern. Specifically, it indicated an absence of obvious or reasonably assured sources of future funding that will be required by us to maintain ongoing operations. Subsequent to our 2008 fiscal year end, the going concern qualification to our financial statements was removed from our quarterly report on Form 10-Q for the quarter ended June 30, 2009, as proceeds from a private offering in May 2009 and a corporate transaction in August 2009 were projected to provide sufficient cash resources through December 2009. Based upon a registered direct offering of shares of our common stock and warrants to acquire our common stock in December 2009, we are currently projected to have sufficient cash reserves beyond December 2010. Although we have been successfully funded to date by attracting investors in our equity and convertible debt securities, there is no assurance that our capital raising efforts will be able to attract the capital needed to sustain our operations beyond that date. The conditions leading to the delivery of a report from our auditors expressing substantial doubt about our ability to continue as a going concern in respect of our 2008 financial year could return, and thus the existence of this prior report as well as the prospect of a similar future report may make it more difficult for us to raise funds. If we are unable to obtain additional funding for operations, we may not be able to continue operations as proposed, requiring us to modify our business plan, curtail various aspects of our operations or cease operations. In such event, investors may lose a portion or all of their investment.

We will depend on strategic collaborations with third parties to develop and commercialize product candidates, such as Tovaxin, and we may not have control over a number of key elements relating to the development and commercialization of any such product candidate.

A key aspect of our strategy, including with respect to Tovaxin, is to seek collaboration with a partner, such as a large pharmaceutical organization, that is willing to conduct later-stage clinical trials and further develop and commercialize a selected product candidate. To date, we have not entered into any such collaborative arrangement with respect to Tovaxin.

By entering into such as strategic collaboration, we may rely on our partner for financial resources and for development, regulatory and commercialization expertise. Our partner may fail to develop or effectively commercialize our product candidate because they:

- do not have sufficient resources or decide not to devote the necessary resources due to internal constraints such as limited cash or human resources;
- decide to pursue a competitive potential product developed outside of the collaboration;
- cannot obtain the necessary regulatory approvals;
- determine that the market opportunity is not attractive; or
- cannot manufacture the necessary materials in sufficient quantities from multiple sources or at a reasonable cost.

We may not be able to enter into a collaboration including with respect to Tovaxin, on acceptable terms, if at all. We face competition in our search for partners from other organizations worldwide, many of whom are larger and are able to offer more attractive deals in terms of financial commitments, contribution of human resources, or development, manufacturing, regulatory or commercial expertise and support.

If we are not successful in attracting a partner and entering into a collaboration on acceptable terms, we may not be able to complete development of, or commercialize any product candidate, including Tovaxin. In such event, our ability to generate revenues and achieve or sustain profitability would be significantly hindered and we may not be able to continue operations as proposed, requiring us to modify our business plan, curtail various aspects of our operations or cease operations.

We will need regulatory approvals for any product candidate, including Tovaxin, prior to introduction to the market, which will require successful testing in clinical trials. Clinical trials are subject to extensive regulatory requirements, and are very expensive, time-consuming and difficult to design and implement. Any product candidate, such as Tovaxin, may fail to achieve necessary safety and efficacy endpoints during clinical trials in which case we will be unable to generate revenue from the commercialization and sale of our products.

Human clinical trials are very expensive and difficult to design and implement, in part because they are subject to rigorous FDA requirements, and must otherwise comply with federal, state and local requirements and policies of the medical institutions where they are conducted. The clinical trial process is also time-consuming. We estimate that further clinical trials of our lead product candidate, Tovaxin, will take at least several additional years to complete. Furthermore, failure can occur at any stage of the trials, and we could encounter problems that cause us to abandon or repeat clinical trials. The commencement and completion of clinical trials may be delayed by several factors, including:

- FDA or IRB objection to proposed protocols;
- discussions or disagreement with the FDA over the adequacy of trial design to potentially demonstrate effectiveness, and subsequent design modifications;
- unforeseen safety issues;
- determination of dosing issues and related adjustments;
- lack of effectiveness during clinical trials;
- slower than expected rates of patient recruitment;
- product quality problems (e.g., sterility or purity)
- challenges to patient monitoring and data collection during or after treatment (for example, patients' failure to return for follow-up visits); and
- failure of medical investigators to follow our clinical protocols.

In addition, we or the FDA (based on its authority over clinical studies) may delay a proposed investigation or suspend clinical trials in progress at any time if it appears that the study may pose significant risks to the study participants or other serious deficiencies are identified. Prior to approval of our product the FDA must determine that the data demonstrate safety and effectiveness. The large majority of drug candidates that begin human clinical trials fail to demonstrate the desired safety and efficacy characteristics.

Furthermore, changes in regulatory requirements and guidance may occur and we may need to amend clinical trial protocols, or otherwise modify our intended course of clinical development, to reflect these changes, which may impact the costs, timing or successful completion of a clinical trial. In light of widely publicized events concerning the safety risk of certain drug products, regulatory authorities, members of Congress, the U.S.

Government Accountability Office, medical professionals and the general public have raised concerns about potential drug safety issues. These events have resulted in the withdrawal of drug products, revisions to drug labeling that further limit use of the drug products and establishment of risk management programs that may, for instance, restrict distribution of drug products. The increased attention to drug safety issues may result in a more cautious approach by the FDA to clinical trials. Data from clinical trials may receive greater scrutiny with respect to safety, which may make the FDA or other regulatory authorities more likely to terminate clinical trials before completion or require longer or additional clinical trials that may result in substantial additional expense and a delay or failure in obtaining approval or approval for a more limited indication than originally sought.

Even if we obtain regulatory approvals for any product candidate, such as Tovaxin, that approval may be subject to limitations on the indicated uses for which it may be marketed. Our ability to generate revenues from the commercialization and sale of any potential products will be limited by any failure to obtain necessary regulatory approvals.

We will rely on third parties to conduct our clinical trials and perform data collection and analysis, which may result in costs and delays that may hamper our ability to successfully develop and commercialize any product candidate, including Tovaxin.

Although we have participated in the design and management of our past clinical trials, we do not have the ability to conduct clinical trials directly for any product candidate, including Tovaxin. We will need to rely on contract research organizations, medical institutions, clinical investigators and contract laboratories to conduct our clinical trials and to perform data collection and analysis.

Our clinical trials may be delayed, suspended or terminated if:

- any third party upon whom we rely does not successfully carry out its contractual duties or regulatory obligations or meet expected deadlines;
- any such third party needs to be replaced; or
- the quality or accuracy of the data obtained by the third party is compromised due to its failure to adhere to clinical protocols or regulatory requirements or for other reasons.

Failure to perform by any third party upon whom we rely may increase our development costs, delay our ability to obtain regulatory approval and prevent the commercialization of any product candidate, including Tovaxin. While we believe that there are numerous alternative sources to provide these services, we might not be able to enter into replacement arrangements without delays or additional expenditures if we were to seek such alternative sources.

If we fail to identify and license or acquire other product candidates, we will not be able to expand our business over the long term.

Given that we have limited internal discovery capabilities, our business over the long term is substantially dependent on our ability to license or acquire product candidates and further develop them for commercialization. The success of this strategy depends upon our ability to identify, select and acquire the right product candidates. We have limited experience identifying, negotiating and implementing economically viable product candidate acquisitions or licenses, which is a lengthy and complex process. Also, the market for licensing and acquiring product candidates is intensely competitive, and many of our competitors have greater resources than we do. We may not have the requisite capital resources to consummate product candidate acquisitions or licenses that we identify to fulfill our strategy.

Moreover, any product candidate acquisition that we do complete will involve numerous risks, including:

- difficulties in integrating the development program for the acquired product candidate into our existing operations;
- diversion of financial and management resources from existing operations;

- risks of entering new potential markets or technologies;
- inability to generate sufficient funding to offset acquisition costs; and
- delays that may result from our having to perform unanticipated preclinical trials or other tests on the product candidate.

We are dependent upon our management team and a small number of employees.

Our business strategy is dependent upon the skills and knowledge of our management team. If any critical employee leaves, we may be unable on a timely basis to hire suitable replacements to effectively operate our business. We also operate with a very small number of employees and thus have little or no backup capability for their activities. The loss of the services of any member of our management team or the loss of a number of other employees could have a material adverse effect on our business and results of operations.

If we fail to meet our obligations under our license agreements, we may lose our rights to key technologies on which our business depends.

Our business depends on licenses from third parties. These third party license agreements impose obligations on us, such as payment obligations and obligations diligently to pursue development of commercial products under the licensed patents. If a licensor believes that we have failed to meet our obligations under a license agreement, the licensor could seek to limit or terminate our license rights, which could lead to costly and time-consuming litigation and, potentially, a loss of the licensed rights. During the period of any such litigation, our ability to carry out the development and commercialization of potential products could be significantly and negatively affected. If our license rights were restricted or ultimately lost, our ability to continue our business based on the affected technology platform could be adversely affected.

Our current research and manufacturing facility is not large enough to manufacture product candidates, such as Tovaxin, for clinical trials or, if such clinical trials are successful, commercial applications.

We conduct our research and development in a 10,200 square foot facility in The Woodlands, Texas, which includes an approximately 800 square foot suite of three rooms for the manufacture of T-cell therapies. Our current facility should have the capacity to support a U.S. pivotal Phase III trial for the development of Tovaxin for MS. It is not sufficient, however, to support potential European clinical studies, if required, or the commercial launch of Tovaxin. In this case, we would need to expand our manufacturing staff and facility, obtain a new facility or contract with corporate collaborators or other third parties to assist with future drug production and commercialization.

In the event that we decide to establish a commercial-scale manufacturing facility, we will require substantial additional funds and will be required to hire and train significant numbers of employees and comply with applicable regulations, which are extensive. We do not have funds available for building a manufacturing facility, and we may not be able to build a manufacturing facility that both meets regulatory requirements and is sufficient for our commercial-scale manufacturing.

We may arrange with third parties for the manufacture of our future products. However, our third-party sourcing strategy may not result in a cost-effective means for manufacturing our future products. If we employ third-party manufacturers, we will not control many aspects of the manufacturing process, including compliance by these third parties with cGMP and other regulatory requirements. We further may not be able to obtain adequate supplies from third-party manufacturers in a timely fashion for development or commercialization purposes, and commercial quantities of products may not be available from contract manufacturers at acceptable costs.

If any product we may eventually have is not accepted by the market or if users of any such product are unable to obtain adequate coverage of and reimbursement for such product from government and other third-party payors, our revenues and profitability will suffer.

Our ability to successfully commercialize any product we may eventually have will depend in significant part on the extent to which appropriate coverage of and reimbursement for such product and any related treatments are obtained from governmental authorities, private health insurers and other organizations, such as health maintenance organizations, or HMOs. Third-party payors are increasingly challenging the prices charged for medical products and services. We cannot provide any assurances that third-party payors will consider any product we may eventually have cost-effective or provide coverage of and reimbursement for such product, in whole or in part.

Uncertainty exists as to the coverage and reimbursement status of newly approved medical products and services and newly approved indications for existing products. Third-party payors may conclude that any product we may eventually have is less safe, less clinically effective, or less cost-effective than existing products, and third-party payors may not approve such product for coverage and reimbursement. If we are unable to obtain adequate coverage of and reimbursement for any product we may eventually have from third-party payors, physicians may limit how much or under what circumstances they will prescribe or administer them. Such reduction or limitation in the use of any such product would cause sales to suffer. Even if third-party payors make reimbursement available, payment levels may not be sufficient to make the sale of any such product profitable.

In addition, the trend towards managed health care in the United States and the concurrent growth of organizations such as HMOs, which could control or significantly influence the purchase of medical services and products, may result in inadequate coverage of and reimbursement for any product we may eventually have. Many third-party payors, including in particular HMOs, are pursuing various ways to reduce pharmaceutical costs, including, for instance, the use of formularies. The market for any product we may eventually have depends on access to such formularies, which are lists of medications for which third-party payors provide reimbursement. These formularies are increasingly restricted, and pharmaceutical companies face significant competition in their efforts to place their products on formularies of HMOs and other third-party payors. This increased competition has led to a downward pricing pressure in the industry. The cost containment measures that third-party payors are instituting could have a material adverse effect on our ability to operate profitably.

Any product candidate that we develop, such as Tovaxin, if approved for sale, may not gain acceptance among physicians, patients and the medical community, thereby limiting our potential to generate revenues.

Even if a product candidate, such as Tovaxin, is approved for commercial sale by the FDA or other regulatory authorities, the degree of market acceptance of any approved product candidate by physicians, healthcare professionals and third-party payors, and our profitability and growth, will depend on a number of factors, including:

- demonstration of efficacy;
- relative convenience and ease of administration;
- the prevalence and severity of any adverse side effects;
- availability and cost of alternative treatments, including cheaper generic drugs;
- pricing and cost effectiveness, which may be subject to regulatory control;
- effectiveness of our or any of our partners' sales and marketing strategies;
- the product labeling or product insert required by the FDA or regulatory authority in other countries; and
- the availability of adequate third-party insurance coverage or reimbursement.

If any product candidate that we develop does not provide a treatment regimen that is as beneficial as the current standard of care or otherwise does not provide patient benefit, that product candidate, if approved for commercial sale by the FDA or other regulatory authorities, likely will not achieve market acceptance and our ability to generate revenues from that product candidate would be substantially reduced.

We have incurred, and expect to continue to incur, increased costs and risks as a result of being a public company.

As a public company, we are required to comply with the Sarbanes-Oxley Act of 2002, or SOX, as well as rules and regulations implemented by the SEC and The NASDAQ Stock Market (NASDAQ). Changes in the laws and regulations affecting public companies, including the provisions of SOX and rules adopted by the SEC and by NASDAQ, have resulted in, and will continue to result in, increased costs to us as we respond to their requirements. Given the risks inherent in the design and operation of internal controls over financial reporting, the effectiveness of our internal controls over financial reporting is uncertain. If our internal controls are not designed or operating effectively, we may not be able to issue an evaluation of our internal control over financial reporting as required or we or our independent registered public accounting firm may determine that our internal control over financial reporting was not effective. In addition, our registered public accounting firm may either disclaim an opinion as it relates to management's assessment of the effectiveness of our internal controls or may issue an adverse opinion on the effectiveness of our internal controls over financial reporting. Investors may lose confidence in the reliability of our financial statements, which could cause the market price of our common stock to decline and which could affect our ability to run our business as we otherwise would like to. New rules could also make it more difficult or more costly for us to obtain certain types of insurance, including directors' and officers' liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the coverage that is the same or similar to our current coverage. The impact of these events could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees, and as executive officers. We cannot predict or estimate the total amount of the costs we may incur or the timing of such costs to comply with these rules and regulations.

Under the corporate governance standards of NASDAQ, a majority of our board of directors and each member of our audit committee must be an independent director. If any vacancies on our board or our audit committee occur that need to be filled by independent directors, we may encounter difficulty in attracting qualified persons to serve on our board and, in particular, our audit committee. If we fail to attract and retain the required number of independent directors, we may be subject to SEC enforcement proceedings and delisting of our common stock from the NASDAQ Capital Market.

Risks Related to Our Intellectual Property

Patents obtained by other persons may result in infringement claims against us that are costly to defend and which may limit our ability to use the disputed technologies and prevent us from pursuing research and development or commercialization of potential products, such as Tovaxin.

If third party patents or patent applications contain claims infringed by either our licensed technology or other technology required to make or use our potential products, such as Tovaxin, and such claims are ultimately determined to be valid, there can be no assurance that we would be able to obtain licenses to these patents at a reasonable cost, if at all, or be able to develop or obtain alternative technology. If we are unable to obtain such licenses at a reasonable cost, we may not be able to develop any affected product candidate, such as Tovaxin, commercially. There can be no assurance that we will not be obliged to defend ourselves in court against allegations of infringement of third party patents. Patent litigation is very expensive and could consume substantial resources and create significant uncertainties. An adverse outcome in such a suit could subject us to significant liabilities to third parties, require disputed rights to be licensed from third parties, or require us to cease using such technology.

If we are unable to obtain patent protection and other proprietary rights, our operations will be significantly harmed.

Our ability to compete effectively is dependent upon obtaining patent protection relating to our technologies. The patent positions of pharmaceutical and biotechnology companies, including ours, are uncertain and involve complex and evolving legal and factual questions. The coverage sought in a patent application can be denied or significantly reduced before or after the patent is issued. Consequently, we do not know whether pending patent applications for our technology will result in the issuance of patents, or if any issued patents will provide significant protection or commercial advantage or will be circumvented by others. Since patent applications are secret until the applications are published (usually 18 months after the earliest effective filing date), and since publication of discoveries in the scientific or patent literature often lags behind actual discoveries, we cannot be certain that the inventors of our owned or licensed intellectual property rights were the first to make the inventions at issue or that any patent applications at issue were the first to be filed for such inventions. There can be no assurance that patents will issue from pending patent applications or, if issued, that such patents will be of commercial benefit to us, afford us adequate protection from competing products, or not be challenged or declared invalid.

For our licensed intellectual property, we have limited control over the amount or timing of resources that are devoted to the prosecution of such intellectual property. Due to this lack of control and general uncertainties in the patent prosecution process, we cannot be sure that any licensed patents will be mature from licensed applications or, if they do, that they will be maintained. Issued U.S. patents require the payment of maintenance fees to continue to be in force. We rely on licensors to do this and their failure to do so could result in the forfeiture of patents not timely maintained. Many foreign patent offices also require the payment of periodic annuities to keep patents and patent applications in good standing. As we do not maintain control over the payment of annuities, we cannot assure you that our licensors will timely pay such annuities and that the granted patents and pending patent applications will not become abandoned. In addition, our licensors may have selected a limited amount of foreign patent protection, and therefore applications have not been filed in, and foreign patents may not have been perfected in, all commercially significant countries.

The patent protection of product candidates, such as Tovaxin, involves complex legal and factual questions. To the extent that it would be necessary or advantageous for any of our licensors to cooperate or lead in the enforcement of our licensed intellectual property rights, we cannot control the amount or timing of resources such licensors devote on our behalf or the priority they place on enforcing such rights. We may not be able to protect our intellectual property rights against third party infringement, which may be difficult to detect. Additionally, challenges may be made to the ownership of our intellectual property rights, our ability to enforce them, or our underlying licenses.

We cannot be certain that any of the patents issued to us or to our licensors will provide adequate protection from competing products. Our success will depend, in part, on whether we or our licensors can:

- obtain and maintain patents to protect our product candidates such as Tovaxin;
- obtain and maintain any required or desirable licenses to use certain technologies of third parties, which may be protected by patents;
- protect our trade secrets and know-how;
- operate without infringing the intellectual property and proprietary rights of others;
- enforce the issued patents under which we hold rights; and
- develop additional proprietary technologies that are patentable.

The degree of future protection for our proprietary rights (owned or licensed) is uncertain. For example:

- we or our licensor might not have been the first to make the inventions covered by pending patent applications or issued patents owned by, or licensed to, us;
- we or our licensor might not have been the first to file patent applications for these inventions;

- others may independently develop similar or alternative technologies or duplicate any of the technologies owned by, or licensed to, us;
- it is possible that none of the pending patent applications owned by, or licensed to, us will result in issued patents;
- any patents under which we hold rights may not provide us with a basis for commercially viable products, may not provide us with any competitive advantages or may be challenged by third parties as invalid, or unenforceable under U.S. or foreign laws; or
- any of the issued patents under which we hold rights may not be valid or enforceable or may be circumvented successfully in light of the continuing evolution of domestic and foreign patent laws.

Confidentiality agreements with employees and others may not adequately prevent disclosure of our trade secrets and other proprietary information and may not adequately protect our intellectual property, which could limit our ability to compete.

We rely in part on trade secret protection in order to protect our proprietary trade secrets and unpatented know-how. However, trade secrets are difficult to protect, and we cannot be certain that others will not develop the same or similar technologies on their own. We have taken steps, including entering into confidentiality agreements with our employees, consultants, outside scientific collaborators and other advisors, to protect our trade secrets and unpatented know-how. These agreements generally require that the other party keep confidential and not disclose to third parties all confidential information developed by the party or made known to the party by us during the course of the party's relationship with us. We also typically obtain agreements from these parties which provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, these agreements may not be honored and may not effectively assign intellectual property rights to us. Further, we have limited control, if any, over the protection of trade secrets developed by our licensors. Enforcing a claim that a party illegally obtained and is using our trade secrets or know-how is difficult, expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States may be less willing to protect trade secrets or know-how. The failure to obtain or maintain trade secret protection could adversely affect our competitive position.

A dispute concerning the infringement or misappropriation of our proprietary rights or the proprietary rights of others could be time consuming and costly, and an unfavorable outcome could harm our business.

A number of pharmaceutical, biotechnology and other companies, universities and research institutions have filed patent applications or have been issued patents relating to cell therapy, T-cells, and other technologies potentially relevant to or required by our product candidate Tovaxin. We cannot predict which, if any, of such applications will issue as patents or the claims that might be allowed. We are aware of a number of patent applications and patents claiming use of modified cells to treat disease, disorder or injury.

There is significant litigation in our industry regarding patent and other intellectual property rights. While we are not currently subject to any pending intellectual property litigation, and are not aware of any such threatened litigation, we may be exposed to future litigation by third parties based on claims that our product candidates, such as Tovaxin, or their methods of use, manufacturing or other technologies or activities infringe the intellectual property rights of such third parties. If our product candidates, such as Tovaxin, or their methods of manufacture are found to infringe any such patents, we may have to pay significant damages or seek licenses under such patents. We have not conducted comprehensive searches of patents issued to third parties relating to Tovaxin. Consequently, no assurance can be given that third-party patents containing claims covering Tovaxin, its method of use or manufacture do not exist or have not been filed and will not be issued in the future. Because some patent applications in the United States may be maintained in secrecy until the patents are issued, and because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, we cannot be certain that others have not filed patent applications that will mature into

issued patents that relate to our current or future product candidates that could have a material effect in developing and commercializing one or more of our product candidates. A patent holder could prevent us from importing, making, using or selling the patented compounds. We may need to resort to litigation to enforce our intellectual property rights or to determine the scope and validity of third-party proprietary rights. Similarly, we may be subject to claims that we have inappropriately used or disclosed trade secrets or other proprietary information of third parties. If we become involved in litigation, it could consume a substantial portion of our managerial and financial resources, regardless of whether we win or lose. Some of our competitors may be able to sustain the costs of complex intellectual property litigation more effectively than we can because they have substantially greater resources. We may not be able to afford the costs of litigation. Any legal action against us or our collaborators could lead to:

- payment of actual damages, royalties, lost profits, potentially treble damages and attorneys' fees, if we are found to have willfully infringed a third party's patent rights;
- injunctive or other equitable relief that may effectively block our ability to further develop, commercialize and sell our products;
- we or our collaborators having to enter into license arrangements that may not be available on commercially acceptable terms if at all; or
- significant cost and expense, as well as distraction of our management from our business.

As a result, we could be prevented from commercializing current or future product candidates.

Risks Related to Our Industry

We are subject to stringent regulation of our product candidates, such as Tovaxin, which could delay development and commercialization.

We, our third-party contractors, suppliers and partners, and our product candidates, such as Tovaxin, are subject to stringent regulation by the FDA and other regulatory agencies in the United States and by comparable authorities in other countries. None of our product candidates can be marketed in the United States until it has been approved by the FDA. No product candidate of ours has been approved, and we may never receive FDA approval for any product candidate. Obtaining FDA approval typically takes many years and requires substantial resources. Even if regulatory approval is obtained, the FDA may impose significant restrictions on the indicated uses, conditions for use and labeling of such products. Additionally, the FDA may require post-approval studies, including additional research and development and clinical trials. These regulatory requirements may limit the size of the market for the product or result in the incurrence of additional costs. Any delay or failure in obtaining required approvals could substantially reduce our ability to generate revenues.

In addition, both before and after regulatory approval, we, our partners and our product candidates, such as Tovaxin, are subject to numerous FDA requirements covering, among other things, testing, manufacturing, quality control, labeling, advertising, promotion, distribution and export. The FDA's requirements may change and additional government regulations may be promulgated that could affect us, our partners and our product candidates, such as Tovaxin. Given the number of recent high profile adverse safety events with certain drug products, the FDA may require, as a condition of approval, costly risk management programs, which may include safety surveillance, restricted distribution and use, patient education, enhanced labeling, special packaging or labeling, expedited reporting of certain adverse events, preapproval of promotional materials and restrictions on direct-to-consumer advertising. Furthermore, heightened Congressional scrutiny on the adequacy of the FDA's drug approval process and the agency's efforts to assure the safety of marketed drugs resulted in the enactment of legislation addressing drug safety issues, the FDA Amendments Act of 2007. This legislation provides the FDA with expanded authority over drug products after approval and the FDA's exercise of this authority could result in delays or increased costs during the period of product development, clinical trials and regulatory review and approval, and increased costs to assure compliance with new post-approval regulatory requirements. We cannot predict the likelihood, nature or extent of government regulation that may arise from this or future legislation or administrative action, either in the United States or abroad.

In order to market any of our products outside of the United States, we and our strategic partners and licensees must establish and comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy. Approval procedures vary among countries and can involve additional product testing and additional administrative review periods and the time required to obtain approval in other countries might differ from that required to obtain FDA approval. The regulatory approval process in other countries may include all of the risks detailed above regarding FDA approval in the United States. Approval by the FDA does not automatically lead to the approval of authorities outside of the United States and, similarly, approval by other regulatory authorities outside the United States will not automatically lead to FDA approval. In addition, regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may negatively impact the regulatory process in others. Our product candidates, such as Tovaxin, may not be approved for all indications that we request, which would limit uses and adversely impact our potential royalties and product sales. Such approval may be subject to limitations on the indicated uses for which any potential product may be marketed or require costly, post-marketing follow-up studies.

If we fail to comply with applicable regulatory requirements in the United States and other countries, among other things, we may be subject to fines and other civil penalties, delays in approving or failure to approve a product, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions, interruption of manufacturing or clinical trials, injunctions and criminal prosecution, any of which would harm our business.

We may need to change our business practices to comply with health care fraud and abuse regulations, and our failure to comply with such laws could adversely affect our business, financial condition and results of operations.

If we are successful in achieving approval to market one or more of our product candidates, our operations will be directly, or indirectly through our customers, subject to various state and federal fraud and abuse laws, including, without limitation, the federal Anti-Kickback Statute and False Claims Act. These laws may impact, among other things, our proposed sales, marketing, and education programs.

The federal Anti-Kickback Statute prohibits persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual, or the furnishing or arranging for a good or service, for which payment may be made under a federal healthcare program such as the Medicare and Medicaid programs. Several courts have interpreted the statute's intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the statute has been violated. The Anti-Kickback Statute is broad and prohibits many arrangements and practices that are lawful in businesses outside of the healthcare industry. Recognizing that the Anti-Kickback Statute is broad and may technically prohibit many innocuous or beneficial arrangements, Congress authorized the Department of Health and Human Services, Office of Inspector General, or OIG, to issue a series of regulations, known as the "safe harbors." These safe harbors set forth provisions that, if all their applicable requirements are met, will assure healthcare providers and other parties that they will not be prosecuted under the Anti-Kickback Statute. The failure of a transaction or arrangement to fit precisely within one or more safe harbors does not necessarily mean that it is illegal or that prosecution will be pursued. However, conduct and business arrangements that do not fully satisfy each applicable safe harbor may result in increased scrutiny by government enforcement authorities such as the OIG. Penalties for violations of the federal Anti-Kickback Statute include criminal penalties and civil sanctions such as fines, imprisonment and possible exclusion from Medicare, Medicaid and other federal healthcare programs. Many states have also adopted laws similar to the federal Anti-Kickback Statute, some of which apply to the referral of patients for healthcare items or services reimbursed by any source, not only the Medicare and Medicaid programs.

The federal False Claims Act prohibits persons from knowingly filing or causing to be filed a false claim to, or the knowing use of false statements to obtain payment from, the federal government. Suits filed under the False Claims Act, known as "qui tam" actions, can be brought by any individual on behalf of the government and

such individuals, sometimes known as “relators” or, more commonly, as “whistleblowers,” may share in any amounts paid by the entity to the government in fines or settlement. The frequency of filing of qui tam actions has increased significantly in recent years, causing greater numbers of healthcare companies to have to defend a False Claims Act action. When an entity is determined to have violated the federal False Claims Act, it may be required to pay up to three times the actual damages sustained by the government, plus civil penalties. Various states have also enacted laws modeled after the federal False Claims Act.

In addition to the laws described above, the Health Insurance Portability and Accountability Act of 1996 created two new federal crimes: healthcare fraud and false statements relating to healthcare matters. The healthcare fraud statute prohibits knowingly and willfully executing a scheme to defraud any healthcare benefit program, including private payors. A violation of this statute is a felony and may result in fines, imprisonment or exclusion from government sponsored programs. The false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. A violation of this statute is a felony and may result in fines or imprisonment.

If our operations are found to be in violation of any of the laws described above and other applicable state and federal fraud and abuse laws, we may be subject to penalties, including civil and criminal penalties, damages, fines, exclusion from government healthcare programs, and the curtailment or restructuring of our operations.

If our competitors develop and market products that are more effective than our product candidates, they may reduce or eliminate our commercial opportunities.

Competition in the pharmaceutical industry, particularly the market for MS products, is intense, and we expect such competition to continue to increase. We face competition from pharmaceutical and biotechnology companies, as well as numerous academic and research institutions and governmental agencies, in the United States and abroad. Our competitors have products that have been approved or are in advanced development and may succeed in developing drugs that are more effective, safer and more affordable or more easily administered than ours, or that achieve patent protection or commercialization sooner than our products. Our most significant competitors are fully integrated pharmaceutical companies and more established biotechnology companies. These companies have significantly greater capital resources and expertise in research and development, manufacturing, testing, obtaining regulatory approvals, and marketing than we currently do. However, smaller companies also may prove to be significant competitors, particularly through proprietary research discoveries and collaboration arrangements with large pharmaceutical and established biotechnology companies. In addition to the competitors with existing products that have been approved, many of our competitors are further along in the process of product development and also operate large, company-funded research and development programs. As a result, our competitors may develop more competitive or affordable products, or achieve earlier patent protection or further product commercialization than we are able to achieve. Competitive products may render any products or product candidates that we develop obsolete.

Our competitors may also develop alternative therapies that could further limit the market for any products that we may develop.

Rapid technological change could make our products obsolete.

Biopharmaceutical technologies have undergone rapid and significant change, and we expect that they will continue to do so. As a result, there is significant risk that our product candidates, such as Tovaxin, may be rendered obsolete or uneconomical by new discoveries before we recover any expenses incurred in connection with their development. If our product candidates, such as Tovaxin, are rendered obsolete by advancements in biopharmaceutical technologies, our future prospects will suffer.

Consumers may sue us for product liability, which could result in substantial liabilities that exceed our available resources and damage our reputation.

Developing and commercializing drug products entails significant product liability risks. Liability claims may arise from our and our collaborators' use of products in clinical trials and the commercial sale of those products.

In the event that any of our product candidates becomes an approved product and is commercialized, consumers may make product liability claims directly against us and/or our collaborators, and our collaborators or others selling these products may seek contribution from us if they incur any loss or expenses related to such claims. We have insurance that covers clinical trial activities. We believe our current insurance coverage is reasonably adequate at this time. However, we will need to increase and expand this coverage as we commence additional clinical trials, as well as larger scale trials, and if any product candidate is approved for commercial sale. This insurance may be prohibitively expensive or may not fully cover our potential liabilities. Our inability to obtain sufficient insurance coverage at an acceptable cost or otherwise to protect against potential product liability claims could prevent or inhibit the regulatory approval or commercialization of products that we or one of our collaborators develop. Product liability claims could have a material adverse effect on our business and results of operations. Liability from such claims could exceed our total assets if we do not prevail in any lawsuit brought by a third party alleging that an injury was caused by one or more of our products.

Health care reform measures could adversely affect our business.

The business and financial condition of pharmaceutical and biotechnology companies are affected by the efforts of governmental and third-party payors to contain or reduce the costs of health care. In the United States and in foreign jurisdictions, there have been, and we expect that there will continue to be, a number of legislative and regulatory proposals aimed at changing the health care system. For example, in some countries other than the United States, pricing of prescription drugs is subject to government control, and we expect proposals to implement similar controls in the United States to continue. Another example of reform that could affect our business is drug reimportation into the United States (*i.e.*, the reimportation of approved drugs originally manufactured in the United States back into the United States from other countries where the drugs were sold at lower prices). Initiatives in this regard could decrease the price we or any potential collaborators receive for our product candidates if they are ever approved for sale, adversely affecting our future revenue growth and potential profitability. Moreover, the pendency or approval of such proposals could result in a decrease in our stock price or adversely affect our ability to raise capital or to obtain strategic partnerships or licenses.

Risks Related to Our Securities

There is currently a limited market for our securities, and any trading market that exists in our securities may be highly illiquid and may not reflect the underlying value of our net assets or business prospects.

Although our common stock and Series E warrants are traded on the NASDAQ Capital Market, there is currently a limited market for our securities and there can be no assurance that an improved market will ever develop. Investors are cautioned not to rely on the possibility that an active trading market may develop.

Our stock may be delisted from NASDAQ, which could affect its market price and liquidity.

We are required to meet certain qualitative and financial tests (including a minimum stockholders' equity requirement and bid price for our common stock of \$1.00 per share) to maintain the listing of our common stock on the NASDAQ Capital Market. During portions of 2008 and 2009, our stockholders' equity was below the continued listing standard requirement of \$2.5 million and the bid price for our common stock was below \$1.00 per share for periods of time, and our common stock was in jeopardy of being delisted. We may receive additional future notices from NASDAQ that we have failed to meet these requirements. If we are unable to cure

any such failures in a timely manner and our common stock were delisted, it could be more difficult to buy or sell our common stock and to obtain accurate quotations, and the price of our stock could suffer a material decline. Delisting may also impair our ability to raise capital.

As our share price is volatile, and you may not be able to resell our shares at a profit or at all.

The market prices for securities of biopharmaceutical and biotechnology companies, and early-stage drug discovery and development companies like us in particular, have historically been highly volatile and may continue to be highly volatile in the future. The following factors, in addition to other risk factors described in this section, may have a significant impact on the market price of our common stock:

- the development status of any drug candidates, such as Tovaxin, including clinical study results and determinations by regulatory authorities with respect thereto;
- the initiation, termination, or reduction in the scope of any collaboration arrangements or any disputes or developments regarding such collaborations;
- announcements of technological innovations, new commercial products or other material events by our competitors or us;
- disputes or other developments concerning our proprietary rights;
- changes in, or failure to meet, securities analysts' or investors' expectations of our financial performance;
- additions or departures of key personnel;
- discussions of our business, products, financial performance, prospects or stock price by the financial and scientific press and online investor communities;
- public concern as to, and legislative action with respect to, the pricing and availability of prescription drugs or the safety of drugs and drug delivery techniques; or
- regulatory developments in the United States and in foreign countries.

Broad market and industry factors, as well as economic and political factors, also may materially adversely affect the market price of our common stock.

We may be or become the target of securities litigation, which is costly and time-consuming to defend.

In the past, following periods of market volatility in the price of a company's securities or the reporting of unfavorable news, security holders have often instituted class action litigation. If the market value of our securities experience adverse fluctuations and we become involved in this type of litigation, regardless of the outcome, we could incur substantial legal costs and our management's attention could be diverted from the operation of our business, causing our business to suffer.

Our "blank check" preferred stock could be issued to prevent a business combination not desired by management or our current majority stockholders.

Our articles of incorporation authorize the issuance of "blank check" preferred stock with such designations, rights and preferences as may be determined by our board of directors without stockholder approval. Our preferred stock could be utilized as a method of discouraging, delaying, or preventing a change in our control and as a method of preventing stockholders from receiving a premium for their shares in connection with a change of control.

Future sales of our common stock in the public market could lower our stock price.

We sold 2,550,000 shares of our common stock, and warrants to acquire another 1,275,000 shares, in a registered direct transaction in December 2009. We may sell additional shares of common stock in subsequent

public or private offerings. We may also issue additional shares of common stock to finance future acquisitions. We cannot predict the size of future issuances of our common stock or the effect, if any, that future issuances and sales of shares of our common stock will have on the market price of our common stock. Sales of substantial amounts of our common stock (including shares issued in connection with an acquisition), or the perception that such sales could occur, may adversely affect prevailing market prices for our common stock.

We presently do not intend to pay cash dividends on our common stock.

We currently anticipate that no cash dividends will be paid on the common stock in the foreseeable future. While our dividend policy will be based on the operating results and capital needs of the business, it is anticipated that all earnings, if any, will be retained to finance the future expansion of our business.

Our stockholders may experience substantial dilution in the value of their investment if we issue additional shares of our capital stock.

Our charter allows us to issue up to 100,000,000 shares of our common stock and to issue and designate the rights of, without stockholder approval, up to 10,000,000 shares of preferred stock. In the event we issue additional shares of our capital stock, dilution to our stockholders could result. In addition, if we issue and designate a class of convertible preferred stock, these securities may provide for rights, preferences or privileges senior to, and thus adverse to, those of holders of our common stock.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our 10,200 square foot facility is located on three acres at 2635 North Crescent Ridge Drive in The Woodlands, Texas. This location provides space for research and development and manufacturing capacity for clinical trials; a specialized Flow Cytometry and Microscopy lab; support of clinical trials with 800 square feet of cGMP manufacturing suites; Quality Systems management with a Quality Control Laboratory, Regulatory Affairs, and Quality Assurance; as well as administrative support space. 2,500 square feet of space remains available for future build-out. We lease the facility for a term ending in 2015 with two options for an additional five years each at the then prevailing market rate.

Item 3. Legal Proceedings.

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

Item 4. RESERVED.

PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information and Holders

Our common stock is traded on the NASDAQ Capital Market under the symbol “OPXA.” Our common stock has, from time to time, traded on a limited, sporadic and volatile basis.

The table below shows the high and low sales prices for our common stock for the periods indicated, as reported by NASDAQ.

	Price Ranges	
	High	Low
Fiscal Year Ended December 31, 2008		
First Quarter	\$3.93	\$0.91
Second Quarter	1.58	0.59
Third Quarter	2.74	0.15
Fourth Quarter	0.50	0.09
Fiscal Year Ended December 31, 2009		
First Quarter	\$0.70	\$0.15
Second Quarter	0.75	0.31
Third Quarter	6.93	0.36
Fourth Quarter	3.77	1.61

The closing price of our common stock on March 1, 2010 was \$2.02 per share, and there were approximately 250 holders of record of our common stock. This number does not include stockholders for whom shares were held in “nominee” or “street name.”

Dividends

We have never declared or paid any cash dividends on our common stock and we do not intend to pay cash dividends in the foreseeable future. We currently expect to retain any future earnings to fund the operation and expansion of our business.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table sets forth information, as of December 31, 2009, with respect to our compensation plans under which common stock is authorized for issuance. We issue options to officers, directors, employees and consultants under our stockholder-approved 2004 Compensatory Stock Option Plan. We believe that the exercise price for all of the options set forth below reflects at least 100% of fair market value on the dates of grant for the options at issue.

Equity Compensation Plan Information

<u>Plan Category</u>	<u>Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (A)</u>	<u>Weighted Average Exercise Price of Outstanding Options, Warrants and Rights (B)</u>	<u>Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column A) (C)</u>
Equity Compensation Plans Approved by Stockholders	1,923,376	\$3.70	315,850
Equity Compensation Plans Not Approved by Stockholders	—	—	—
Total	<u>1,923,376</u>	<u>\$3.70</u>	<u>315,850</u>

Refer to Note 10 “Options and Warrants” in the Notes to our financial statements for the fiscal year ended December 31, 2009, included elsewhere in the annual report for a description of our 2004 Compensatory Stock Option Plan.

Recent Sales of Unregistered Securities and Equity Purchases by Company

None.

Item 6. Selected Financial Data.

Not applicable.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion of our financial condition and results of operations should be read in conjunction with the accompanying financial statements and the related footnotes thereto.

Organizational Overview

We are a development-stage company and have a limited operating history. Our predecessor company for financial reporting purposes was formed on January 22, 2003 to acquire rights to an adult stem cell technology. In November 2004 we acquired Opexa Pharmaceuticals, Inc. and its MS treatment technology. In 2009, Novartis Pharmaceuticals acquired our stem cell technology. Currently we remain focused on initially developing our T-cell technology for MS. To date, we have not generated any commercial revenues from our operations.

Critical Accounting Policies

Our discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities and expenses. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe the following critical accounting policies affect our most significant judgments and estimates used in preparation of our financial statements.

Stock-Based Compensation. On January 1, 2006, we adopted the provisions of FASB ASC 718 which establishes accounting for equity instruments exchanged for employee service. We utilize the Black-Scholes option pricing model to estimate the fair value of employee stock based compensation at the date of grant, which requires the input of highly subjective assumptions, including expected volatility and expected life. Changes in these inputs and assumptions can materially affect the measure of estimated fair value of our share-based compensation. These assumptions are subjective and generally require significant analysis and judgment to develop. When estimating fair value, some of the assumptions will be based on, or determined from, external data and other assumptions may be derived from our historical experience with stock-based payment arrangements. The appropriate weight to place on historical experience is a matter of judgment, based on relevant facts and circumstances.

We estimated volatility by considering historical stock volatility. We have opted to use the simplified method for estimating expected term equal to the midpoint between the vesting period and the contractual term.

Research and Development. The costs of materials and equipment or facilities that are acquired or constructed for research and development activities and that have alternative future uses are capitalized as tangible assets when acquired or constructed. The cost of such materials consumed in research and development activities and the depreciation of such equipment or facilities used in those activities are research and development costs. However, the costs of materials, equipment, or facilities acquired or constructed for research and development activities that have no alternative future uses are considered research and development costs and are expensed at the time the costs are incurred.

Accounting for Derivative Instruments. FASB ASC 815 requires all derivatives to be recorded on the balance sheet at fair value. These derivatives are separately valued and accounted for on our balance sheet. Fair values for securities traded in the open market and derivatives are based on quoted market prices. Where market prices are not readily available, fair values are determined using market based pricing models incorporating readily observable market data and requiring judgment and estimates.

The pricing model we use for determining fair values of our derivatives is the Black-Scholes option-pricing model. Valuations derived from this model are subject to ongoing internal and external verification and review. The model uses market-sourced inputs such as interest rates, exchange rates and stock price volatilities. Selection of these inputs involves management's judgment and may impact net income.

In January 2009, we adopted new accounting guidance for determining whether an instrument (or embedded feature) is indexed to an entity's own stock. We evaluated all of our financial instruments and determined that the warrants associated with the August 2008 financing qualified for treatment under this new accounting guidance. As of January 1, 2009, we adjusted our financial statements to reclassify the fair value on these warrants as of January 1, 2009 in the amount of \$220,835 from additional paid in capital to derivative liabilities and the cumulative effect of the change in accounting principle in the amount of \$1,755,622 is recognized as an adjustment to the opening balance of retained earnings.

Results of Operations

Comparison of Year Ended December 31, 2009 with the Year Ended December 31, 2008

Net Sales. We recorded no commercial revenues for the years ended December 31, 2009 and 2008.

Research and Development Expenses. Research and development expenses were \$2,107,833 for the year ended December 31, 2009, compared to \$8,388,734 for the year ended December 31, 2008. The decrease in expenses was primarily due to a decrease in activities related to the Phase IIB clinical trial for Tovaxin which was completed in 2008, closing the extension trial, a reduction in staff, and a decrease in stock compensation expense. We have made and expect to continue to make substantial investments in research and development in order to develop and market our technology. We expense research and development costs as incurred. Acquired

research and development that has no alternative future use is expensed when acquired. Property, plant and equipment for research and development that has an alternative future use is capitalized and the related depreciation is expensed.

General and Administrative Expenses. Our general and administrative expenses were \$2,020,572 for the year ended December 31, 2009, as compared to \$3,341,415 for the year ended December 31, 2008. The decrease in expense is due to a reduction in staff and a decrease in stock compensation expense, overhead expenses, professional service fees and board compensation fees.

Gain on Sale of Technology. Gain on sale of assets was \$3 million for the year ended December 31, 2009, compared to \$-0- for the year ended December 31, 2008. The gain is attributable to the sale of our stem cell technology program to Novartis for an upfront payment of \$3 million. As there was no cost basis associated with the stem cell assets on the financial statements, the entire upfront payment was recognized as a gain on sale of technology.

Other Income and Expense, Net. Other income for the year ended December 31, 2009 was \$554,242, compared to \$34,901 for the year ended December 31, 2008. The increase in other income is primarily attributable to the receipt of an initial \$500,000 technology transfer fee pursuant to the terms of the stem cell technology acquisition agreement with Novartis.

Loss on Derivative Instruments. We recognized a loss on derivative instruments of \$366,774 for the year ended December 31, 2009. The loss is a result of the net unrealized (non-cash) change in the fair value of our derivative instrument liabilities related to warrants associated with the August 2008 financing which had been accounted for under FASB ASC 815 and which accounting treatment was discontinued on June 1, 2009.

Interest Expense. Interest expense was \$278,127 for the year ended December 31, 2009, compared to \$19,983 for the year ended December 31, 2008. Interest expense for 2009 was primarily related to accrued interest on the convertible notes, amortized interest on the convertible notes and the (non-cash) amortization of the financing fees over the life of the notes with the balance related to interest on the equipment line loan payable. Interest expense for 2008 was solely related to the equipment line loan payable of up to \$250,000 with Wells Fargo, of which \$102,932 was outstanding as of December 31, 2009.

Interest Income. Interest income was \$1,764 for the year ended December 31, 2009, compared to \$100,235 for the year ended December 31, 2008. The decrease was due to the reduction in cash balances that were available for investment in cash equivalent instruments and a reduction in interest rates.

Net Loss. We had a net loss for the year ended December 31, 2009 of \$1,433,922, or \$.11 per share (basic and diluted), compared with a net loss of \$11,852,152, or \$1.12 per share (basic and diluted), for the year ended December 31, 2008. The decrease in net loss is primarily due to the reduction of costs associated with the Phase IIb clinical trial of Tovaxin that was completed in 2008, a reduction in staff and a decrease in stock compensation expense.

Liquidity and Capital Resources

Historically, we have financed our operations primarily from the sale of debt and equity securities. As of December 31, 2009, we had cash and cash equivalents of approximately \$8.2 million.

Our financing activities generated \$6.9 million for the year ended December 31, 2009, compared to approximately \$9.2 million for the year ended December 31, 2008. The cash generated in 2009 was the result of \$1.13 million in net proceeds from a convertible note offering closed on April 14 and May 14, 2009, \$4.7 million in net proceeds from a registered direct offering on December 14, 2009 and \$1.1 million in net proceeds from the exercise of options and warrants.

Our current burn rate is approximately \$300,000. We believe that while we have sufficient liquidity to support our operations, at current levels, beyond December 2010, we will need to raise additional capital in the

future to fund our current business plan and support our operations. We do not maintain any external lines of credit, or have commitments for equity funds, and should we need any additional capital in the future, management will be reliant upon “best efforts” debt or equity financings. As our prospects for funding, if any, develop during the fiscal year, we will assess our business plan and make adjustments accordingly. Although we have successfully funded our operations to date by attracting additional investors in our equity, there is no assurance that our capital raising efforts will be able to attract additional necessary capital for our operations in the future. If we are unable to obtain additional funding for operations in the future, we may not be able to continue operations as proposed, requiring us to modify our business plan, curtail various aspects of our operations or cease operations.

Off-Balance Sheet Arrangements

None.

Inflation

We believe that inflation has not had a material impact on our results of operations for the two years ended December 31, 2009 and 2008, since inflation rates have generally remained at relatively low levels and our operations are not otherwise uniquely affected by inflation concerns.

Recently Issued Accounting Pronouncements

On July 1, 2009, the FASB officially launched the FASB Accounting Standards Codification, which has become the single official source of authoritative, nongovernmental U.S. Generally Accepted Accounting Principles, in addition to guidance issued by the Securities and Exchange Commission. The codification supersedes all prior FASB, AICPA, EITF, and related literature. The codification, which is effective for interim and annual periods ending after September 15, 2009, is organized into approximately 90 accounting topics. The FASB no longer issues new standards in the form of Statements, FASB Staff Positions, or Emerging Issues Task Force Abstracts. Instead, amendments to the codification are made by issuing “Accounting Standards Updates.”

There were various other accounting standards and interpretations issued during 2009 and 2008, none of which are expected to have a material impact on the Company’s financial position, operations or cash flows.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Not applicable.

Item 8. Financial Statements and Supplementary Data.

The financial statements and notes thereto and supplementary data required by this Item are presented beginning on page F-1 of this annual report on Form 10-K.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

Item 9A(T). Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

In accordance with Exchange Act Rules 13a-15 and 15d-15, we carried out an evaluation, under the supervision and with the participation of management, including our Chief Executive Officer and Acting Chief Financial Officer, of the effectiveness of our disclosure controls and procedures as of the end of the period

covered by this report. Based on that evaluation, our Chief Executive Officer and Acting Chief Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2009 in enabling us to record, process, summarize and report information required to be included in our periodic SEC filings within the required time period.

Management’s Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Acting Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Based on our evaluation under the framework in *Internal Control—Integrated Framework* issued by COSO, our management concluded that our internal control over financial reporting was effective as of December 31, 2009 in providing reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management’s report was not subject to attestation by our registered public accounting firm pursuant to temporary rules of the SEC that permit us to provide only management’s report in this annual report.

Changes in Internal Control over Financial Reporting

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

Item 9B. Other Information.

Submission of Matters to a Vote of Security Holders

We held our annual meeting of stockholders on November 11, 2009. At the annual meeting, the following five nominees were elected to serve as directors: David Hung, David E. Jorden, Michael S. Richman, Scott B. Seaman and Neil K. Warma. The votes cast for the election of directors are set forth below:

<u>Name of Nominee</u>	<u>For</u>	<u>Withheld</u>
David Hung	9,676,922	91,954
David E. Jorden	9,678,047	90,829
Michael S. Richman	9,676,847	92,029
Scott B. Seaman	9,677,047	91,829
Neil K. Warma	9,673,914	94,962

Our stockholders also approved the following additional proposals:

- Amendment to the Company’s Articles of Incorporation to reduce the par value of the Company’s common stock from \$0.50 per share to \$0.01 per share; and
- Ratification of the appointment of MaloneBailey, LLP, as independent auditors of the Company for the fiscal year ending December 31, 2009.

The votes for these proposals were as follows:

<u>Proposal</u>	<u>For</u>	<u>Against</u>	<u>Absentions</u>	<u>Broker Non-Votes</u>
Proposal 2	9,396,727	281,281	90,868	0
Proposal 3	9,680,442	68,588	19,846	0

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Executive Officers

Our executive officers are elected by the board of directors and serve at the discretion of the board. Our executive officers are as follows:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Neil K. Warma	47	President, Chief Executive Officer, Acting Chief Financial Officer and Director
Jaye L. Thompson	44	Senior Vice President of Clinical Development and Regulatory Affairs
Donna R. Rill	56	Senior Vice President of Operations

Biographical information for our executive officers is set forth below:

Neil K. Warma has served as President and Chief Executive Officer since June 2008, as Director since September 2008 and as Acting Chief Financial Officer since March 2009. From July 2004 to September 2007, Mr. Warma served as president and chief executive officer of Viron Therapeutics Inc., a privately-held clinical stage biopharmaceutical company. From 2000 to 2003 Mr. Warma was co-founder and president of MedExact USA, Inc., an Internet company providing clinical information and services to physicians and pharmaceutical companies. From 1992 to 2000, Mr. Warma held senior positions of increasing responsibility at Novartis Pharmaceuticals (previously Ciba-Geigy Ltd.) at its corporate headquarters in Basel, Switzerland. While at Novartis, Mr. Warma served as the Head of International Pharma Policy & Advocacy and in senior management within global marketing where he worked on the international launch of a gastrointestinal product. Mr. Warma obtained an honors degree specializing in Neuroscience from the University of Toronto and an International M.B.A. from the Schulich School of Management at York University in Toronto. As our president and chief executive officer, Mr. Warma is directly involved in all aspects of our operations. He has extensive experience in corporate business development within the biopharmaceutical industry, in addition to executive leadership and management experience.

Jaye L. Thompson, Ph.D., has served as Senior Vice President of Clinical Development and Regulatory Affairs since November 2009. From April 2006 to September 2009, Dr. Thompson served as Senior Vice President of Regulatory and Emerging Technologies for inVentiv Clinical Solutions, LLC a subsidiary of inVentiv Health, Inc., a publicly traded company providing a wide range of services to the pharmaceutical industries. inVentiv Health acquired the company founded in 1991 by Dr. Thompson, SYNERGOS, Inc. SYNERGOS was a contract research organization helping companies move through the clinical and regulatory hurdles of product development. Dr. Thompson received a doctorate and master degree in Biostatistics from the University of Texas Health Science Center, School of Public Health, and a B.S. in Applied Mathematics from Texas A&M University.

Donna R. Rill has served as Senior Vice President of Operations since January 2009. From November 2004 until January 2009, she served as Vice President of Operations. From April 2003 to November 2004, she was the director of quality systems and process development at Opexa Pharmaceuticals, Inc. From November 1997 to April 2003, she was the director of translational research for the Center for Cell & Gene Therapy at Baylor College of Medicine. Ms. Rill has worked to design and qualify GMP Cell & Gene Therapy Laboratories, GMP Vector Production facilities, and Translational Research Labs at St. Jude Children’s Research Hospital, Texas Children’s Hospital, and Baylor College of Medicine. Ms. Rill received her B.S. in Medical Technology from the University of Tennessee, Memphis.

Directors

All of the current directors will serve until the next annual stockholders' meeting or until their successors have been duly elected and qualified. Our current board of directors is as follows:

<u>Name</u>	<u>Age</u>	<u>Position</u>
David Hung	52	Director
David E. Jorden	47	Director
Michael S. Richman	48	Director
Scott B. Seaman	54	Director
Neil K. Warma	47	Director, President, Chief Executive Officer and Acting Chief Financial Officer

David Hung, M.D., has served as a Director since May 2006. Dr. Hung has served as the president, chief executive officer and as a director of Medivation, Inc. since December 2004. Dr. Hung also has served as the president and chief executive officer, and member of the board of directors, of Medivation, Inc.'s subsidiary, Medivation Neurology, Inc., since its inception in September 2003. From 1998 until 2001, Dr. Hung was employed by ProDuct Health, Inc., a privately held medical device company, as Chief Scientific Officer (1998-1999), and as president and chief executive officer (1999-2001). From December 2001 to January 2003, Dr. Hung served as a consultant to Cytoc Health Corporation. Dr. Hung received his M.D. from the University of California at San Francisco, and his A.B. in biology and organic chemistry from Harvard College. As the chief executive officer of a public biopharmaceutical company actively engaged in clinical drug development, Dr. Hung offers extensive experience in numerous aspects of managing a pre-commercialization drug development company, including strategic planning, clinical development, and strategic partnering.

David E. Jorden has served as a Director since August 2008. Mr. Jorden has served as executive board member for Cytomedix, Inc. since October 2008. Mr. Jorden previously served as vice president with Morgan Stanley in its Wealth Management group where he was responsible for equity portfolio management for high net worth individuals since 2003. Prior to Morgan Stanley, Mr. Jorden served as vice president and chief financial officer of Genometrix, Inc., a private genomics/life sciences company focused on high-throughput microarray applications from March 2000 to September 2002. Mr. Jorden was a principal with Fayez Sarofim & Co. prior to joining Genometrix. Mr. Jorden earned a MBA from Kellogg School of Management at Northwestern University in 1989 and a BBA from the University of Texas/Austin in 1984. He currently serves as a director of Cytomedix, Inc. and PLx Pharma, Inc. Mr. Jorden is a Chartered Financial Analyst and Certified Public Accountant. He has extensive experience in various aspects of corporate finance and accounting for public companies including capital formation and deployment.

Michael S. Richman has served as a Director since June 2006. Mr. Richman has served as president and chief executive officer of Amplimmune, Inc. since July 2008. Mr. Richman served as president and chief operating officer of Amplimmune, Inc. from May 2007 to July 2008. From April 2002 to May 2007, Mr. Richman served as executive vice president and chief operating officer of MacroGenics, Inc. Mr. Richman joined MacroGenics, Inc. in 2002 with approximately 20 years experience in corporate business development within the biotechnology industry. Mr. Richman served as a director of Cougar Biotechnology from June 2006 to July 2009. Mr. Richman obtained his B.S. in Genetics/Molecular Biology at the University of California at Davis and his MSBA in International Business at San Francisco State University. He has extensive experience in business development and strategic planning for life science companies, as well as his executive leadership and management experience.

Scott B. Seaman has served as a Director of since April 2006. Mr. Seaman has served for over five years as the executive director and treasurer of the Albert and Margaret Alkek Foundation of Houston, Texas, a private foundation primarily supporting institutions in the Texas Medical Center in Houston, Texas. Since January 1996 to present, Mr. Seaman has served as the chief financial officer of Chaswil Ltd., an investment management

company. Since September 1986, Mr. Seaman has served as secretary and treasurer of M & A Properties Inc., a ranching and real estate concern. In April 2009, Mr. Seaman became the Managing Member of ICT Development LLC which is the Managing Member of ICT Holdings LLC, an energy services supplier. From January 2003 to April 2009, Mr. Seaman served as chairman and from July 2004 to April 2009, as president of ICT Management Inc., the general partner of Impact Composite Technology Ltd., a composite industry supplier. Since October 2007, Mr. Seaman has served on the board of GeneExcel, Inc., a privately held biotechnology company. Since May 2004, Mr. Seaman has served as a Member of the Investment Committee of Global Hedged Equity Fund LP, a hedge fund. Mr. Seaman received a bachelor's degree in business administration from Bowling Green State University and is a certified public accountant. Mr. Seaman has extensive experience in overall financial management and corporate development combined with operational and corporate governance experience.

Neil K. Warma—refer to “Executive Officers” section above for Mr. Warma’s biographical information.

Audit Committee

The Board of Directors has established a standing Audit Committee currently composed of three non-employee directors, Messrs. Jordan, Richman and Seaman, each of whom the Board has determined is “independent” within the meaning of SEC rules and regulations and NASDAQ listing standards. The Audit Committee selects, on behalf of our Board, an independent public accounting firm to audit our financial statements, discusses with the independent auditors their independence, reviews and discusses the audited financial statements with the independent auditors and management, and recommends to our Board whether the audited financials should be included in our Annual Reports to be filed with the SEC. The Board has determined that Messrs. Jordan and Seaman each qualifies as an “audit committee financial expert” as defined in SEC rules and regulations and also possesses the financial sophistication and requisite experience as required under NASDAQ listing standards.

Code of Ethics

In 2005, in accordance with SEC rules, the then audit committee and the Board of Directors adopted the Policy on Whistleblower Protection and Code of Ethics which is applicable to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, which we sometimes refer to as our senior financial officers. The Board of Directors believes that these individuals must set an exemplary standard of conduct, particularly in the areas of accounting, internal accounting control, auditing and finance. This Code of Ethics sets forth ethical standards to which the designated officers must adhere and other aspects of accounting, auditing and financial compliance. The Code of Ethics is available on our website at www.opexatherapeutics.com. Please note that the information contained on our website is not incorporated by reference in, or considered to be a part of, this document.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our directors and officers, and persons who beneficially own more than 10% of a registered class of our equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership. These reporting persons are required by SEC regulations to furnish us with copies of all such reports they file. To our knowledge, based solely on our review of the copies of such reports furnished to us and written representations from certain insiders that no other reports were required, we believe all of these reporting persons complied with all applicable Section 16(a) filing requirements.

Item 11. Executive Compensation.

Executive Officer Compensation

The following table sets forth certain information concerning compensation earned by or paid to certain persons who we refer to as our “Named Executive Officers” for services provided for the fiscal year ended

December 31, 2009. Our Named Executive Officers include persons who (i) served as our principal executive officer or acted in a similar capacity during 2009; (ii) were serving at fiscal year-end as our two most highly compensated executive officers, other than the principal executive officer, whose total compensation exceeded \$100,000, and (iii) up to two additional individuals for whom disclosure would have been provided as a most highly compensated executive officer, but for the fact that the individual was not serving as an executive officer at fiscal year-end.

2009 Summary Compensation Table

<u>Name and Principal Position</u>	<u>Year</u>	<u>Salary</u>	<u>Bonus</u>	<u>Other Compensation</u>	<u>Options Awards⁽¹⁾</u>	<u>Total</u>
Neil K. Warma	2009	\$312,083	\$142,500	—	\$235,117	\$689,700
<i>President, Chief Executive Officer, Acting</i>	2008	\$195,100	—	\$62,847 ⁽²⁾	\$ 72,869	\$330,456
<i>Chief Financial Officer and Director</i>						
Donna R. Rill	2009	\$197,963	—	—	\$113,870 ⁽³⁾	\$311,833
<i>Senior Vice President of Operations</i>	2008	\$141,886	—	—	\$110,402	\$252,288
Jaye L. Thompson ⁽⁴⁾	2009	\$ 23,590	—	—	\$101,440	\$125,030
<i>Senior Vice President of Clinical</i>	2008	—	—	—	—	—
<i>Development and Regulatory Affairs</i>						

- (1) Amounts in this column represent the aggregate grant date fair value of awards computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718. See Note 10 to our financial statements included in this annual report on Form 10-K for assumptions underlying the valuation of equity awards.
- (2) Other compensation includes costs of moving and temporary housing in connection with Mr. Warma's relocation to accept employment with Opexa.
- (3) Represents Ms. Rill's accrued salary increase from 2008 totaling \$8,396 that was exchanged in February 2009 for a fully vested stock option to purchase 8,396 shares of Opexa common stock at an exercise price of \$.47 per share, the market value on the date of grant.
- (4) Dr. Thompson joined Opexa as executive officer in November 2009.

Executive Employment Agreements

We entered into a three-year employment agreement on June 16, 2008 with Neil K. Warma pursuant to which he will serve as President and Chief Executive Officer. Pursuant to the agreement, Mr. Warma is paid \$285,000 for the first 12-month period, \$335,000 for the second 12-month period and \$385,000 for the third 12-month period. In addition, Mr. Warma is entitled to the following: (i) an annual cash bonus of up to 50% of his base salary based upon milestones to be agreed upon; (ii) a one-time payment of \$50,000 cash and 25,000 shares of our common stock to be issued if and when the closing bid price of our common stock equals or exceeds \$4.00 for 20 consecutive trading days; and (iii) a 10-year stock option to purchase 250,000 shares of common stock with an exercise price of \$1.01 per share that vests 50,000 shares immediately and the balance quarterly in equal amounts over three years. In addition, we provided Mr. Warma with relocation assistance and our standard benefits and insurance coverage as generally provided to our management. If employment is terminated by the Board without cause, Mr. Warma will receive 12 months base salary plus a payment equal to 30% of base salary and including any earned but unpaid bonus. In addition, vesting of stock options will accelerate in full if the effective date of the termination is at least two years after commencement of employment or vesting will be accelerated for a 12-month period if termination is prior to two years of employment. Upon the effectiveness of a change in control, Mr. Warma will receive 18 months of salary and a payment equal to 45% of base salary. In addition, all vesting of options will accelerate in full.

We entered into a one-year employment agreement with Donna R. Rill on May 9, 2008, effective for the period April 1, 2008 through March 31, 2009, at an annual salary of \$151,114 pursuant to which Ms. Rill served as Vice President of Operations. On January 16, 2009, Ms. Rill was promoted to Senior Vice President at an annual salary of \$200,000. Following termination of the March 31, 2009 employment agreement, we entered into a new one-year employment agreement with Ms. Rill on April 14, 2009, effective for the period April 1, 2009 through March 31, 2010 at an annual salary of \$200,000. The employment agreement may be terminated at any time voluntarily by her or without cause by the Board. If employment is terminated by the Board without cause, Ms. Rill will receive six months base salary and any stock options granted to Ms. Rill prior to termination will be accelerated for a 12-month period. Ms. Rill has one year to exercise any vested stock options. In the event of a change of control, any stock options granted to Ms. Rill prior to such change of control will be accelerated to become vested and Ms. Rill has a one-year period from the effective change of control date to exercise any such stock options.

We entered into a one-year employment agreement with Jaye L. Thompson on November 16, 2009, effective for the period of November 16, 2009 through December 31, 2010, at an annual salary of \$200,000 pursuant to which Ms. Thompson will serve as Senior Vice President of Clinical Development and Regulatory Affairs. Ms. Thompson is eligible to receive an annual discretionary bonus of up to 20% of her base salary per 12-month period based upon milestones to be agreed upon, with the first measurement period ending on or about December 31, 2010. Pursuant to her employment agreement, Ms. Thompson received a 10-year stock option to purchase 50,000 shares of common stock at an exercise price of \$2.05 per share vesting quarterly in equal amounts over three years. Six months after the start of employment, we agreed to meet with Ms. Thompson to consider the addition of severance arrangements to the term of her employment.

2009 Grants of Plan Based Awards

The following table presents information regarding stock options granted in 2009 pursuant to our 2004 Compensatory Stock Option Plan to the Named Executive Officers.

<u>Name</u>	<u>Grant Date</u>	<u>Number of Securities Underlying Options</u>	<u>Exercise Price of Option Awards</u>	<u>Grant Date Fair Value of Options⁽¹⁾</u>
Neil K. Warma	01/16/09	150,000 ⁽²⁾	\$0.22	\$ 32,237
	11/30/09	100,000 ⁽³⁾	\$2.05	\$202,880
Donna R. Rill	01/16/09	40,000 ⁽²⁾	\$0.22	\$ 8,597
	02/06/09	8,396 ⁽⁴⁾	\$0.47	\$ 3,833
	11/30/09	50,000 ⁽³⁾	\$2.05	\$101,440
Jaye L. Thompson	11/30/09	50,000 ⁽³⁾	\$2.05	\$101,440

(1) Amounts in this column represent the aggregate grant date fair value of awards computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718. See Note 10 to our financial statements included in this annual report on Form 10-K for assumptions underlying the valuation of equity awards.

(2) One-half of the shares vested on the date of grant and the remaining one-half vested on December 31, 2009.

(3) The shares vest quarterly over a three-year period from the grant date.

(4) Fully vested at grant.

2009 Outstanding Equity Awards at Fiscal Year-End

The following table presents information regarding outstanding equity awards at December 31, 2009 for each of the Named Executive Officers.

<u>Name</u>	<u>Option Awards</u>		<u>Option Exercise Price (\$)</u>	<u>Option Expiration Date</u>
	<u>Number of Securities Underlying Unexercised Options (#) Exercisable</u>	<u>Number of Securities Underlying Unexercised Options (#) Unexercisable</u>		
Neil K. Warma	166,669	83,331 ⁽¹⁾	\$1.01	06/16/18
	150,000	—	\$0.22	01/16/19
	—	100,000 ⁽¹⁾	\$2.05	11/30/19
Donna R. Rill	6,000	—	\$7.00	12/05/10
	23,380	—	\$5.00	04/20/16
	21,333	10,667 ⁽²⁾	\$5.47	06/18/17
	3,000	—	\$1.09	05/06/18
	19,250	13,750 ⁽¹⁾	\$1.17	06/26/18
	40,000	—	\$0.22	01/16/19
	8,396	—	\$0.47	02/06/19
	—	50,000 ⁽¹⁾	\$2.05	11/30/19
Jaye L. Thompson	—	50,000 ⁽¹⁾	\$2.05	11/30/19

(1) The shares vest quarterly over a three-year period from the grant date.

(2) The shares vest on 6/18/10.

2009 Director Compensation

The following table presents summary information for the year ended December 31, 2009 regarding the compensation of the non-employee members of our Board of Directors. Mr. Randall resigned from the Board effective February 19, 2009, and Mr. McWilliams did not stand for re-election at the expiration of his term of office effective November 11, 2009.

<u>Name</u>	<u>Fees Earned or Paid in Cash</u>	<u>Options Awards⁽¹⁾</u>	<u>Total</u>
David Hung ⁽²⁾	—	\$15,199 ⁽¹¹⁾⁽¹²⁾	\$15,199
David E. Jordan ⁽³⁾	\$15,000 ⁽⁷⁾⁽⁸⁾	\$18,340 ⁽¹¹⁾⁽¹²⁾	\$33,340
David B. McWilliams ⁽⁴⁾	\$ 9,000 ⁽⁹⁾	\$15,199 ⁽¹¹⁾⁽¹²⁾	\$24,199
Lorin J. Randall	\$ 4,600 ⁽¹⁰⁾	—	\$ 4,600
Michael S. Richman ⁽⁵⁾	— ⁽⁷⁾	\$24,887 ⁽¹²⁾	\$24,887
Scott B. Seaman ⁽⁶⁾	— ⁽⁷⁾	\$28,097 ⁽¹¹⁾⁽¹²⁾	\$28,097

(1) Amounts in this column represent the aggregate grant date fair value of awards computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718. See Note 10 to our financial statements included in this annual report on Form 10-K for assumptions underlying the valuation of equity awards.

(2) Holds options to purchase 61,000 shares of common stock at fiscal year end.

(3) Holds options to purchase 42,880 shares of common stock at fiscal year end.

(4) Holds options to purchase 268,326 shares of common stock at fiscal year end.

(5) Holds options to purchase 103,650 shares of common stock at fiscal year end.

- (6) Holds options to purchase 111,150 shares of common stock at fiscal year end.
- (7) Messrs. Jorden, Richman and Seaman elected to exchange Board compensation fees due as of December 31, 2008 for stock options. On February 6, 2009, each named director was issued an option to purchase one share of common stock for each dollar due, fully vested and exercisable for a term of ten years, at an exercise price of \$0.47 per share, the market value on the date of grant.
- (8) Compensation for services as chair of the Audit Committee for the fourth quarter 2009 and paid in January 2010.
- (9) Payment of deferred 2008 board compensation fees in 2009.
- (10) Payment of fourth quarter 2008 and first quarter 2009 board compensation fees paid in 2009.
- (11) Dr. Hung and Messrs. Jorden, McWilliams and Seaman elected to exchange Board compensation fees due for the period January 1, 2009 to June 30, 2009 for stock options. On February 6, 2009, each named director was issued an option to purchase 8,000 shares of common stock, fully vested on June 30, 2009 and exercisable for a term of ten years, at an exercise price of \$0.47 per share, the market value on the date of grant.
- (12) Dr. Hung and Messrs. Jorden, McWilliams, Richman and Seaman elected to exchange Board compensation fees due for the period July 1, 2009 to December 31, 2009 for stock options. On August 26, 2009, each named director was issued an option to purchase 8,000 shares of common stock, fully vested on December 31, 2009 and exercisable for a term of ten years, at an exercise price of \$1.47 per share, the market value on the date of grant.

The following table presents information regarding stock option granted in 2009 pursuant to our 2004 Compensatory Stock Option Plan to the non-employee members of our Board of Directors.

<u>Name</u>	<u>Grant Date</u>	<u>Number of Securities Underlying Options</u>	<u>Exercise Price of Option Awards</u>	<u>Grant Date Fair Value of Options⁽¹⁾</u>
David Hung	02/06/09	8,000	\$0.47	\$ 3,667
	08/26/09	8,000	\$1.47	\$11,532
David E. Jorden	02/06/09	6,880	\$0.47	\$ 3,141
	02/06/09	8,000	\$0.47	\$ 3,667
	08/26/09	8,000	\$1.47	\$11,532
David B. McWilliams	02/06/09	8,000	\$0.47	\$ 3,667
	08/26/09	8,000	\$1.47	\$11,532
Michael S. Richman	02/06/09	29,250	\$0.47	\$13,355
	08/26/09	8,000	\$1.47	\$11,532
Scott B. Seaman	02/06/09	28,250	\$0.47	\$12,898
	02/06/09	8,000	\$0.47	\$ 3,667
	08/26/09	8,000	\$1.47	\$11,532

- (1) Amounts in this column represent the aggregate grant date fair value of awards computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718. See Note 10 to our financial statements included in this annual report on Form 10-K for assumptions underlying the valuation of equity awards.

Standard Compensation Arrangements

Employee directors do not receive any compensation for services as a member of our Board. We reimburse our directors for travel and lodging expenses in connection with their attendance at Board and committee meetings. In summary, non-employee Board members receive the following fees:

Annual retainer	\$12,000
For each Board meeting attended in person	\$ 1,500
For each Board meeting attended that is held telephonically	\$ 750
For each committee meeting attended by a non-chair committee member	\$ 750
For each committee meeting attended by the chair of that committee	\$ 1,000
Quarterly retainer for Audit Committee chair	\$15,000

In lieu of cash compensation for services as a member of the Board for 2009, the Board elected to temporarily suspend cash payments, and non-employee directors were issued stock options instead, except with respect to the Audit Committee chair quarterly retainer.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The following table sets forth, as of February 25, 2010, the number and percentage of outstanding shares of our common stock beneficially owned by: (a) each person who is known by us to be the beneficial owner of more than 5% of our outstanding shares of common stock; (b) each of our directors; (c) the Named Executive Officers; and (d) all current directors and executive officers, as a group. As of February 25, 2010 there were 15,527,322 shares of common stock issued and outstanding.

Beneficial ownership has been determined in accordance with Rule 13d-3 under the Exchange Act. Under this rule, certain shares may be deemed to be beneficially owned by more than one person (if, for example, persons share the power to vote or the power to dispose of the shares). In addition, shares are deemed to be beneficially owned by a person if the person has the right to acquire shares (for example, upon exercise of an option or warrant) within sixty (60) days of the date as of which the information is provided. In computing the percentage ownership of any person, the amount of shares is deemed to include the amount of shares beneficially owned by such person by reason of such acquisition rights. As a result, the percentage of outstanding shares of any person as shown in the following table does not necessarily reflect the person's actual voting power at any particular date.

To our knowledge, except as indicated in the footnotes to this table and pursuant to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them.

Beneficial Ownership Table

Name and Address of Beneficial Owner ⁽¹⁾	Number of Shares Owned	Percentage of Class
Beneficial Owners of more than 5%:		
Charles E. Sheedy ⁽²⁾	1,456,090 ⁽³⁾	8.97%
Albert and Margaret Alkek Foundation ⁽⁴⁾	1,624,755 ⁽⁵⁾	9.99%
LBI Group Inc. ⁽⁶⁾	1,461,755 ⁽⁷⁾	8.96%
Alkek & Williams Ventures Ltd. ⁽⁸⁾	1,421,269 ⁽⁹⁾	8.60%
DLD Family Investments, LLC ⁽¹⁰⁾	989,014 ⁽¹¹⁾	6.13%
Austin W. Marx ⁽¹²⁾	1,235,800 ⁽¹³⁾	7.72%
David M. Greenhouse ⁽¹²⁾	1,235,800 ⁽¹³⁾	7.72%
Officers and Directors:		
David E. Jordan	1,492,332 ⁽¹⁴⁾	9.12%
Scott B. Seaman ⁽⁸⁾	1,454,916 ⁽¹⁵⁾	8.81%
Neil K. Warma	353,205 ⁽¹⁶⁾	2.23%
Donna R. Rill	128,136 ⁽¹⁷⁾	*
Michael S. Richman	103,650 ⁽¹⁸⁾	*
David Hung	78,573 ⁽¹⁹⁾	*
Jaye L. Thompson	8,480 ⁽²⁰⁾	*
All directors and executive officers as a group (7 persons)**	<u>3,619,292⁽²¹⁾</u>	<u>22.19%</u>

* Less than 1%

** Includes only current directors and officers serving in such capacity as of February 25, 2010.

- (1) Unless otherwise indicated in the footnotes, the mailing address of the beneficial owner is c/o Opexa Therapeutics, Inc., 2635 N. Crescent Ridge Drive, The Woodlands, Texas 77381.
- (2) Charles E. Sheedy exercises sole voting and dispositive power over all of the shares of common stock beneficially owned. The information in this footnote is primarily based on information reported on the Schedule 13G/A filed with the SEC on July 23, 2009 by Charles E. Sheedy. The mailing address of the beneficial owner is 909 Fannin Street, Suite 2907, Houston, Texas 77010.
- (3) Consisting of: (i) 752,354 shares of common stock; (ii) 50,000 shares of common stock underlying the April 2006 warrants; (iii) 150,000 shares of common stock underlying Series E warrants; (iv) 353,736 shares of common stock underlying Series F warrants; (v) 100,000 shares of common stock resulting from the potential conversion of the April 2009 convertible notes; and (vi) 50,000 shares of common stock underlying the Series G warrants.
- (4) This information is based on the Schedule 13D/A filed with the SEC on December 16, 2009, by Albert and Margaret Alkek Foundation (the "Foundation"), Alkek & Williams Ventures, Ltd. ("Ventures"), Scott Seaman, DLD Family Investments, LLC, and the other reporting persons named therein (the "Foundation 13D") and other information available to the Company. The Foundation acts through an investment committee of its board of directors, which includes Mr. Daniel Arnold, Mr. Joe Bailey, Mr. Scott Seaman and Ms. Randa Duncan Williams. Mr. Seaman is the executive director of the Foundation and chairman of the investment committee. The investment committee has sole voting and investment power over all of the shares of common stock beneficially owned by the Foundation. However, pursuant to the Foundation 13D, neither the executive director nor any member of the investment committee may act individually to vote or sell shares of common stock held by the Foundation; therefore, the Foundation has concluded that no individual committee member is deemed to beneficially own, within the meaning of Rule 13d-3 of the Exchange Act, any shares of common stock held by the Foundation solely by virtue of the fact that he or she is a member of the investment committee. Additionally, pursuant to the Foundation 13D, the Foundation has concluded that because Mr. Seaman, in his capacity as executive director or chairman of the investment committee, cannot act in such capacity to vote or sell shares of common stock held by the Foundation without the approval of the investment committee, he is not deemed to beneficially own, within

the meaning of Rule 13d-3 of the Exchange Act, any shares of common stock held by the Foundation by virtue of his position as executive director or chairman of the investment committee. The mailing address of the beneficial owner is 1100 Louisiana, Suite 5250, Houston, Texas 77002.

- (5) Consisting of: (i) 902,618 shares of common stock; (ii) 22,222 shares of common stock underlying Series C warrants; (iii) 158,165 shares of common stock underlying the Series F warrants; (iv) 41,750 shares of common stock underlying the Series G warrants; and (v) 500,000 shares of common stock resulting from the potential conversion of the April 2009 convertible notes. Excludes: (i) 250,000 shares of common stock underlying the April 2006 warrants; (ii) 250,000 shares of common stock underlying the Series E warrants; and (iii) 208,250 shares of common stock underlying the Series G warrants because the Foundation is contractually prohibited from exercising any of these warrants to the extent that it would beneficially own in excess of 9.999% of the total number of issued and outstanding shares of common stock after such exercise. Pursuant to the Foundation 13D, the Foundation and other reporting persons named therein may be deemed to constitute a group for purposes of Section 13(d) or Section 13(g) of the Exchange Act. However, the Foundation, Ventures, Chaswil, Ltd. and Mr. Seaman expressly disclaim (i) that, for purposes of Section 13(d) or Section 13(g) of the Exchange Act, they are a member of a group with respect to securities of the Company held by DLD Family Investments, LLC, Mr. Arnold, Mr. Bailey or Ms. Williams and (ii) that they have agreed to act together with DLD Family Investments, LLC, Mr. Arnold, Mr. Bailey or Ms. Williams as a group other than as described in the Foundation 13D. Therefore, this does not include the following securities: (i) 392,454 shares of common stock held by DLD Family Investments, LLC; (ii) 17,778 shares of common stock underlying Series C warrants held by DLD Family Investments, LLC; (iii) 110,000 shares of common stock underlying the April 2006 warrants held by DLD Family Investments, LLC; (iv) 100,000 shares of common stock underlying Series E warrants held by DLD Family Investments, LLC; (v) 68,781 shares of common stock underlying Series F warrants; (vi) 200,000 shares of common stock resulting from the potential conversion of the April 2009 convertible notes; (vii) 100,000 shares of common stock underlying the Series G warrants; (viii) 26,667 shares of common stock held by Mr. Arnold; (ix) 8,889 shares of common stock underlying Series C warrants held by Mr. Arnold; (x) 10,000 shares of common stock underlying the April 2006 warrants held by Mr. Arnold; (xi) 50,000 shares of common stock held by Mr. Bailey; (xii) 5,000 shares of common stock underlying a Warrant held by Mr. Bailey; (xiii) 416,537 shares of common stock held by Ventures; (xiv) 18,223 shares of common stock underlying Series C warrants held by Ventures; (xv) 125,000 shares of common stock underlying the April 2006 warrants held by Ventures; (xvi) 200,000 shares of common stock underlying Series E warrants held by Ventures; (xvii) 61,509 shares of common stock underlying Series F warrants held by Ventures; (xviii) 400,000 shares of common stock resulting from the potential conversion of the April 2009 convertible notes; (xix) 200,000 shares of common stock underlying the Series G warrants; (xx) 43,655 shares of common stock held by Mr. Seaman; (xxi) 5,334 shares of common stock underlying Series C warrants held by Mr. Seaman; (xxii) 7,500 shares of common stock underlying the April 2006 warrants held by Mr. Seaman; (xxiii) 10,000 shares of common stock underlying Series E warrants held by Mr. Seaman and (xxiv) 17,573 shares of common stock underlying Series F warrants held by Mr. Seaman. The information in this footnote is primarily based on the Foundation 13D and other information provided to us.
- (6) Lehman Brothers Holdings Inc. exercises sole voting and dispositive power over all of the shares of common stock beneficially owned by LBI Group Inc. The information in this footnote is primarily based on information reported on the Schedule 13G filed with the SEC on August 19, 2008 by LBI Group Inc. The mailing address of the beneficial owner is 1271 Sixth Avenue, 38th Floor, New York, New York 10020.
- (7) Consisting of: (i) 675,675 shares of common stock and (ii) 786,080 shares of common stock underlying Series F warrants.
- (8) Chaswil, Ltd. is the investment manager of Ventures and holds voting power and investment power with respect to Company securities held by Ventures pursuant to a written agreement. Scott B. Seaman is a principal of Chaswil, Ltd. and has shared voting power and shared investment power over all of the shares of common stock beneficially owned by Ventures. The information in this footnote is primarily based on the Foundation 13D and other information provided to us. The mailing address of the beneficial owner is 1100 Louisiana, Suite 5250, Houston, Texas 77002.

- (9) Consisting of: (i) 416,537 shares of common stock; (ii) 18,223 shares of common stock underlying Series C warrants; (iii) 125,000 shares of common stock underlying the April 2006 warrants; (iv) 200,000 shares of common stock underlying Series E warrants; (v) 61,509 shares of common stock underlying Series F warrants; and (vi) 400,000 shares of common stock resulting from the potential conversion of the April 2009 convertible notes; and (vii) 200,000 shares underlying the Series G warrants.
- (10) Randa Duncan Williams is the principal of DLD Family Investments, LLC and she may be deemed to exercise voting and investment power with respect to such shares. The information in this footnote is primarily based on the Foundation 13D and other information provided to us. The mailing address of the beneficial owner is P.O. Box 4735, Houston, Texas 77210-4735.
- (11) Consisting of: (i) 392,454 shares of common stock; (ii) 17,779 shares of common stock underlying Series C warrants; (iii) 110,000 shares of common stock underlying the April 2006 warrants; (iv) 100,000 shares of common stock underlying Series E warrants; (v) 68,781 shares of common stock underlying Series F warrants; (vi) 200,000 shares of common stock resulting from the potential conversion of the April 2009 convertible notes; and (vii) 100,000 shares of common stock underlying the Series G warrants.
- (12) Austin W. Marx and David M. Greenhouse are the controlling principals of AWM Investment Company, Inc. (“AWM”), the general partner of and investment advisor to Special Situations Cayman Fund, L.P. (“Cayman”). AWM serves as the investment advisor to Special Situations Fund III QP, L.P. (“SSFQP”), Special Situations Private Equity Fund, L.P. (“SSPE”), and Special Situations Life Sciences Fund, L.P. (“Life Sciences”). Cayman, SSFQP, SSPE, and Life Sciences are collectively referred to as the “Funds.” AWM and Messrs. Marx and Greenhouse are either the general partner or members of entities which are the general partner of the Funds. Messrs. Marx and Greenhouse exercise joint voting and dispositive power over all of the shares of common stock and warrants owned by the Funds. The information in this footnote is primarily based on a Schedule 13G filed with the SEC on February 12, 2010. The mailing address of Messrs. Marx and Greenhouse is 527 Madison Ave., Suite 2600, New York, New York 10022.
- (13) Consisting of: (i) 750,000 shares of common stock and (ii) 485,800 shares of common stock underlying the April 2006 warrants held by the Funds.
- (14) Consisting of: (i) 650,000 shares of common stock (ii) 60,000 shares of common stock underlying the April 2006 warrants; (iii) 132,000 shares of common stock underlying Series E warrants; (iv) 314,118 shares of common stock underlying Series F warrants; (v) 200,000 shares of common stock resulting from the potential conversion of the April 2009 convertible notes; and (vi) 100,000 shares of common stock underlying the Series G Warrants; and (vii) 36,214 shares of common stock underlying currently exercisable stock options.
- (15) Consisting of: (i) 111,150 shares underlying stock options; (ii) 416,537 shares of common stock held by Ventures; (iii) 18,223 shares of common stock underlying Series C warrants held by Ventures; (iv) 125,000 shares of common stock underlying the April 2006 warrants held by Ventures; (v) 200,000 shares of common stock underlying Series E warrants held by Ventures; (vi) 61,509 shares of common stock underlying Series F Warrants held by Ventures; (vii) 400,000 shares of common stock resulting from the potential conversion of the April 2009 convertible notes held by Ventures; (viii) 200,000 shares underlying the Series G Warrants held by Ventures; (ix) 5,334 shares of common stock underlying Series C warrants; (x) 7,500 shares of common stock underlying the April 2006 warrants; (xi) 10,000 shares of common stock underlying Series E warrants; (xii) 17,573 shares of common stock underlying Series F warrants; and (xiii) 43,655 shares of common stock. (See footnote 9 for additional discussion of the information set forth in clauses (ii) through (viii) of the preceding sentence.) Pursuant to the Foundation 13D, this does not include the following shares which Mr. Seaman has determined he does not have beneficial ownership of or has disclaimed beneficial ownership: (i) 902,618 shares of common stock held by the Foundation; (ii) 22,222 shares of common stock underlying Series C warrants held by the Foundation; (iii) 250,000 shares of common stock underlying the April 2006 warrants held by the Foundation; (iv) 250,000 shares of common stock underlying Series E warrants held by the Foundation; (v) 158,165 shares of common stock underlying Series F warrants held by the Foundation; (vi) 250,000 shares of common stock underlying Series G warrants held by the Foundation; and (vii) 500,000 shares of common stock resulting from the potential conversion of the April 2009 convertible notes held by the Foundation. (See footnote 5 for additional discussion of the information set forth in clauses (i) through (vii) of the preceding sentence.) The mailing address of the beneficial owner is 1100 Louisiana, Suite 5250, Houston, Texas 77002.

- (16) Consisting of: (i) 3,021 shares of common stock; (ii) 3,515 shares of common stock underlying Series F warrants; (iii) 20,000 shares of common stock resulting from the potential conversion of the April 2009 convertible notes; (iv) 10,000 shares of common stock underlying the Series G Warrants; and (v) 316,669 shares of common stock underlying currently exercisable stock options.
- (17) Consisting of: (i) 2,610 shares of common stock and (ii) 125,526 shares of common stock underlying currently exercisable stock options.
- (18) Consisting of 103,650 shares of common stock underlying currently exercisable stock options.
- (19) Consisting of: (i) 17,573 shares of common stock underlying Series F warrants and (ii) 61,000 shares of common stock underlying currently exercisable stock options.
- (20) Consisting of: (i) 4,313 shares of common stock and (ii) 4,167 shares of common stock underlying currently exercisable stock options.
- (21) Consisting of: (a) the following held by Mr. Jordan (i) 60,000 shares of common stock underlying the April 2006 warrants; (ii) 132,000 shares of common stock underlying Series E warrants; (iii) 314,118 shares of common stock underlying Series F warrants; (iv) 36,214 shares of common stock underlying currently exercisable stock options; (v) 200,000 shares of common stock underlying convertible promissory notes; (vi) 100,000 shares underlying Series G warrants; and (vii) 650,000 shares of common stock; (b) the following held by Mr. Seaman or for which Mr. Seaman may be deemed to have voting and investment power: (i) 111,150 shares of common stock underlying currently exercisable stock options; (ii) 416,537 shares of common stock held by Ventures; (iii) 18,223 shares of common stock underlying Series C warrants held by Ventures; (iv) 125,000 shares of common stock underlying April 2006 warrants held by Ventures; (v) 200,000 shares of common stock underlying Series E warrants held by Ventures; (vi) 61,509 shares of common stock underlying Series F warrants held by Ventures; (vii) 400,000 shares of common stock underlying convertible promissory notes; (viii) 5,334 shares of common stock underlying Series C warrants; (ix) 7,500 shares of common stock underlying the April 2006 warrants; (x) 10,000 shares of common stock underlying Series E warrants; (xi) 17,573 shares of common stock underlying Series F warrants; and (xii) 43,655 shares of common stock; (c) the following held by Dr. Hung (i) 17,573 shares of common stock underlying warrants and (ii) 61,000 shares of common stock underlying currently exercisable stock options; (d) the following held by Mr. Warma (i) 3,021 shares of common stock; (ii) 3,515 shares underlying Series F warrants; (iii) 20,000 shares underlying convertible promissory notes; (iv) 10,000 shares underlying Series G warrants; and (v) 316,669 shares of common stock underlying currently exercisable stock options; (e) 103,650 shares underlying currently exercisable stock options held by Mr. Richman and (f) 2,610 shares of common stock and 125,526 shares of common stock underlying currently exercisable stock options held by Ms. Rill and (g) 4,313 shares of common stock and 4,167 shares of common stock underlying currently exercisable stock options held by Ms. Thompson.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

Transactions with Related Persons

The Audit Committee of our Board is responsible for oversight and review of any related person transactions. We have no related person transactions that require disclosure under this section.

Director Independence

The Board has determined that Dr. Hung and Messrs Jorden, Richman and Seaman are each an independent director within the meaning of NASDAQ listing standards, which directors constitute a majority of the Board. The Board has determined that each member of the Board's Audit, Compensation and Nominating and Corporate Governance Committees is independent (or similarly designated) based on the Board's application of the standards of NASDAQ, the rules and regulations promulgated by the SEC or the Internal Revenue Service, as appropriate for such committee membership. The current members of these committees are as follows:

Director	Independent	Audit Committee	Compensation Committee	Nominating and Corporate Governance Committee
David Hung	X		X	X
David E. Jorden	X	X		X
Michael S. Richman	X	X	X	
Scott B. Seaman	X	X	X	X

Item 14. Principal Accountant Fees and Services.

The following table presents the estimated aggregate fees billed by MaloneBailey, LLP for services performed during our last two fiscal years.

	Years Ended December 31,	
	2009	2008
Audit fees ⁽¹⁾	\$75,375	\$67,415
Tax fees ⁽²⁾	—	5,600
All other fees ⁽³⁾	7,125	11,875
	\$82,500	\$84,800

- (1) Audit fees include professional services rendered for (i) the audit of our annual financial statements for the fiscal years ended December 31, 2008 and 2009, (ii) the reviews of the financial statements included in our quarterly reports on Form 10-Q for such years and (iii) the issuance of consents and other matters relating to registration statements filed by us.
- (2) Tax fees include professional services relating to preparation of the annual tax return.
- (3) Other fees include professional services for review of various filings and issuance of consents.

Policy on Audit Committee Pre-Approval and Permissible Non-Audit Services of Independent Auditors

The Board's policy is to pre-approve all audit and permissible non-audit services provided by the independent auditors. These services may include audit services, audit-related services, tax services and other services. Pre-approval is generally provided for up to one year and any pre-approval is detailed as to the particular service or category of services and is generally subject to a specific budget. The independent auditors and management are required to periodically report to the Board regarding the extent of services provided by the independent auditors in accordance with this pre-approval, and the fees for the services performed to date. The Board of Directors may also pre-approve particular services on a case-by-case basis. The Audit Committee pre-approved 100% of the tax services and other services provided by our independent auditors during the last two fiscal years.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

(a) 1. Financial Statements

INDEX TO FINANCIAL STATEMENTS

Audited Financial Statements for years ended December 31, 2009 and 2008 and the period from January 22, 2003 (Inception) through December 31, 2009

Report of Independent Registered Public Accounting Firm	F-1
Balance Sheets as of December 31, 2009 and 2008	F-2
Statements of Expenses for the Years Ended December 31, 2009 and 2008 and the period from January 22, 2003 (Inception) through December 31, 2009	F-3
Statement of Changes in Stockholders Equity from January 22, 2003 (Inception) through December 31, 2009	F-4
Statements of Cash Flows for the years ended December 31, 2009 and 2008 and the period from January 22, 2003 (Inception) through December 31, 2009	F-6
Notes to Financial Statements	F-7

2. Financial Statement Schedules

The required information is included in the financial statements or notes thereto.

3. List of Exhibits

<u>Exhibit No.</u>	<u>Description</u>
2.1	Stock Purchase Agreement by and among Sportan United Industries, Inc., Jason G. Otteson, PharmaFrontiers Corp., Warren C. Lau and other PharmaFrontiers stockholders, dated May 5, 2004 (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed June 4, 2004).
2.2	Agreement and Plan of Reorganization by and among PharmaFrontiers Corp., Pharma Acquisition Corp and Opexa Pharmaceuticals, Inc. dated October 7, 2004 (incorporated by reference to Exhibit 2.1 to the Company's Current Report on 8-K filed October 8, 2004).
3.1	Articles of Amendment and Restatement of the Articles of Incorporation (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on June 19, 2006).
3.2	Articles of Amendment to the Amended and Restated Articles of Incorporation of the Company (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on November 13, 2009).
3.3	Amended and Restated By-laws (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed on November 13, 2009).
4.1	Form of Common Stock Certificate (incorporated by reference to Exhibit 4.7 to the Company's Registration Statement on Form S-3 (File No. 333-163108), filed on November 13, 2009).
4.2	Registration Rights Agreement dated June 17, 2005 by and among the purchasers named therein for Series C Warrants (incorporated by reference to Exhibit 10.19 to Form SB-2 filed July 19, 2005).
4.3	Securities Purchase Agreement dated June 17, 2005 by and among the Company and the Investors named therein for Series C Warrants (incorporated by reference to Exhibit 10.18 to Form SB-2 filed July 19, 2005).

- 4.4 Securities Purchase Agreement dated June 30, 2005 by and among the Company and the purchasers named therein for Series C Warrants (incorporated by reference to Exhibit 10.20 to Form SB-2 filed July 19, 2005).
- 4.5 Securities Purchase Agreement dated July 15, 2005 by and among the Company and the Investors named therein for Series C Warrants (incorporated by reference to Exhibit 10.21 to Form SB-2 filed July 19, 2005).
- 4.6 Registration Rights Agreement dated July 15, 2005 by and among the Company and the Investors named therein for Series C and Series D Warrants (incorporated by reference to Exhibit 10.22 to Form SB-2 filed July 19, 2005).
- 4.7 Form of Series C Common Stock Purchase Warrant (incorporated by reference to Exhibit 10.17 to Form SB-2 filed July 19, 2005).
- 4.8 Form of Series D Warrant Agreement issued to brokers in connection with 2005 Series A, Series B and Series C Warrant offerings (incorporated by reference to Exhibit 10.25 to Amendment No. 2 to Form SB-2 filed April 11, 2006).
- 4.9 Purchase Agreement dated April 11, 2006 by and among the Company and the Investors named therein for April 2006 common stock and warrant offering (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed April 18, 2006).
- 4.10 Form of Warrant issued in connection with April 2006 offering (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed April 18, 2006).
- 4.11 Registration Rights Agreement dated April 11, 2006 by and among the Company and the Investors named therein for April 2006 offering common stock and warrants (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed April 18, 2006).
- 4.12 Form of Series E Warrant (incorporated by reference to Exhibit 4.2 to the Company's Registration Statement on Form SB-2 (Amendment No. 1) (File No. 333-147167) filed December 20, 2007).
- 4.13 Warrant Agent Agreement by and between the Company and Continental Stock Transfer & Trust Company dated February 13, 2008 for the Series E Warrants (incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K filed February 14, 2008).
- 4.14 Form of Underwriters' Warrant Agreement by and between the Company and each underwriter party thereto for the Series E Warrants (incorporated by reference to Exhibit 4.4 to the Company's Current Report on Form 8-K filed February 14, 2008).
- 4.15 Form of Underwriters' Warrant to Acquire Warrants Agreement by and between the Company and each underwriter party thereto for the Series E Warrants (incorporated by reference to Exhibit 4.5 to the Company's Current Report on Form 8-K filed February 14, 2008).
- 4.16 Unit Purchase Agreement dated August 8, 2008 by and among the Company and the Investors named therein in connection with Unit offering of common stock and Series F Warrants (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed August 12, 2008).
- 4.17 Form of Series F Warrant issued in connection with August 8, 2008 financing (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed August 12, 2008).
- 4.18 Registration Rights Agreement dated August 8, 2008 between the Company and the Investors named therein in connection with common stock and Series F Warrants (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed August 12, 2008).
- 4.19 Unit Purchase Agreement dated April 14, 2009 by and among the Company and the Investors party thereto for the 10% Convertible Notes and Series G Warrants (incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K filed April 16, 2009).

- 4.20 Form of 10% Convertible Promissory Note due April 14, 2011 issued by the Company on April 14, 2009 (incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K filed April 16, 2009).
- 4.21 Registration Rights Agreement dated April 14, 2009 by and among the Company and the investors party thereto (incorporated by reference to Exhibit 10.3 of the Company's Current Report on Form 8-K filed April 16, 2009).
- 4.22 Form of Series G Warrant issued by the Company on April 14, 2009 (incorporated by reference to Exhibit 10.4 of the Company's Current Report on Form 8-K filed April 16, 2009).
- 4.23 Security Agreement dated April 14, 2009 by and among the Company and the investors party thereto (incorporated by reference to Exhibit 10.5 of the Company's Current Report on Form 8-K filed April 16, 2009).
- 4.24 Placement Agent Agreement, dated December 9, 2009, by and between the Company and Rodman & Renshaw, LLC for Unit offering of Common Stock and Series A and Series B Warrants (incorporated by reference to Exhibit 1.1 to the Company's Current Report on Form 8-K filed December 10, 2009).
- 4.25 Form of Securities Purchase Agreement, dated as of December 9, 2009, by and between the Company and each investor signatory thereto for Unit offering of Common Stock and Series A and Series B Warrants (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed December 10, 2009).
- 4.26 Form of Common Stock Purchase Warrant for Series A and Series B Warrants (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed December 10, 2009).
- 10.1+ June 2004 Compensatory Stock Option Plan (incorporated by reference to Exhibit B to the Company's Definitive Information Statement on Schedule 14C filed on June 29, 2004).
- 10.2+ Amended and Restated Employment Agreement dated June 15, 2006 by and between the Company and David B. McWilliams (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-QSB filed August 14, 2006).
- 10.3+ Amendment to Employment Agreement dated May 9, 2008 by and between the Company and David B. McWilliams (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed May 13, 2008).
- 10.4+ Employment Agreement dated May 9, 2008 by and between the Company and Lynne Hohlfeld (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed May 13, 2008).
- 10.5+ Employment Agreement dated May 9, 2008 by and between the Company and Jim C. Williams, Ph.D (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed May 13, 2008).
- 10.6+ Employment Agreement dated May 9, 2008, between the Company and Donna R. Rill (incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed May 13, 2008).
- 10.7+ Employment Agreement dated June 16, 2008 by and between the Company and Neil K. Warma (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on June 18, 2008).
- 10.8+ Employment Agreement dated April 14, 2009 between the Company and Donna R. Rill (incorporated by reference to Exhibit 10.6 of the Company's Current Report on Form 8-K filed April 16, 2009).

- 10.9*+ Employment Agreement dated November 16, 2009 by and between the Company and Jaye L. Thompson.
- 10.10 License Agreement dated September 5, 2001 by and between the Company and Baylor College of Medicine (incorporated by reference to Exhibit 10.14 to the Company's Annual Report on Form 10-KSB filed April 15, 2005).
- 10.11 Lease dated August 19, 2005 by and between the Company and Dirk D. Laukien (incorporated by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-KSB filed March 31, 2006).
- 10.12 License Agreement dated January 13, 2006 by and between the Company and Shanghai Institute for Biological Services (incorporated by reference to Exhibit 10.23 to Amendment No. 1 to Form SB-2 filed February 9, 2006).
- 10.13 Second Amended and Restated License Agreement dated July 31, 2007 by and between the Company and the University of Chicago (incorporated by reference to Exhibit 10.1 of the Company's Report on Form 8-K filed August 3, 2007).
- 10.14++ Asset Purchase Agreement by and between the Company and Novartis Institutes for Biomedical Research, Inc. dated August 6, 2009 (incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K filed August 7, 2009).
- 10.15*+ Certificate of Amendments to the Opexa Therapeutics, Inc. June 2004 Compensatory Stock Option Plan.
- 23* Consent of Independent Registered Public Accounting Firm MaloneBailey, LLP, dated March 4, 2010 to the incorporation by reference of their report dated March 4, 2010, in the Company's Registration Statements on Form S-8 and S-3.
- 31.1* Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32.1* Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

* Filed herewith

+ Management contract or compensatory plan or arrangement.

++ Confidential treatment has been requested as to certain portions of this Exhibit pursuant to Rule 406 promulgated under the Securities Act. Such portions have been omitted and filed separately with the SEC.

SIGNATURES

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

OPEXA THERAPEUTICS, INC.

By: /s/ NEIL K. WARMA

Neil K. Warma
President, Chief Executive Officer and
Acting Chief Financial Officer

Date: March 4, 2010

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/S/ NEIL K. WARMA</u> Neil K. Warma	President and Chief Executive Officer <i>(Principal Executive Officer)</i> Acting Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i> Director	March 4, 2010
<u>/S/ DAVID HUNG</u> David Hung	Director	March 4, 2010
<u>/S/ DAVID E. JORDEN</u> David E. Jordan	Director	March 4, 2010
<u>/S/ MICHAEL S. RICHMAN</u> Michael S. Richman	Director	March 4, 2010
<u>/S/ SCOTT B. SEAMAN</u> Scott B. Seaman	Director	March 4, 2010

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors
Opexa Therapeutics, Inc.
(a development stage company)
The Woodlands, Texas

We have audited the accompanying balance sheets of Opexa Therapeutics, Inc. (a development stage company), as of December 31, 2009 and 2008 and the related statements of expenses, changes in stockholders' equity and cash flows for the years then ended and for the period from January 22, 2003 (Inception) through December 31, 2009. These financial statements are the responsibility of Opexa's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatements. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Opexa as of December 31, 2009 and 2008 and the results of its operations and its cash flows for the years then ended and for the period from January 22, 2003 (Inception) through December 31, 2009 in conformity with accounting principles generally accepted in the United States of America.

/s/ MALONEBAILEY, LLP
www.malone-bailey.com
Houston, Texas

March 4, 2010

OPEXA THERAPEUTICS, INC.
(a development stage company)

BALANCE SHEETS

	<u>December 31,</u> <u>2009</u>	<u>December 31,</u> <u>2008</u>
Assets		
Current assets:		
Cash and cash equivalents	\$ 8,181,582	\$ 1,243,187
Other current assets	187,306	86,705
Total current assets	8,368,888	1,329,892
Property & equipment, net of accumulated depreciation of \$1,029,241 and \$847,244, respectively	949,910	1,166,530
Total assets	<u>\$ 9,318,798</u>	<u>\$ 2,496,422</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 593,011	\$ 482,838
Accounts payable—related parties	32,591	161,714
Accrued expenses	141,065	199,272
Current maturity of loan payable	67,307	62,423
Total current liabilities	833,974	906,247
Long term liabilities:		
Convertible promissory notes, net of discount of \$314,749	987,251	—
Loan payable	35,625	102,778
Accrued interest	86,800	—
Total liabilities	<u>1,943,650</u>	<u>1,009,025</u>
Commitments and contingencies	—	—
Stockholders' equity:		
Preferred stock, no par value, 10,000,000 shares authorized, none issued and outstanding	—	—
Common stock, \$0.01 par value, 100,000,000 shares authorized, 15,476,222 and 12,245,858 shares issued and outstanding	154,762	6,122,888
Additional paid in capital	96,463,658	84,929,481
Deficit accumulated during the development stage	(89,243,272)	(89,564,972)
Total stockholders' equity	<u>7,375,148</u>	<u>1,487,397</u>
Total liabilities and stockholders' equity	<u>\$ 9,318,798</u>	<u>\$ 2,496,422</u>

See accompanying summary of accounting policies and notes to financial statements

OPEXA THERAPEUTICS, INC.
(a development stage company)

STATEMENTS OF EXPENSES
Years ended December 31, 2009 and 2008 and the
Period from January 22, 2003 (Inception) to December 31, 2009

	2009	2008	Inception through 2009
Research and development	\$ 2,107,833	\$ 8,388,734	\$ 64,254,104
General and administrative	2,020,572	3,341,415	22,986,762
Depreciation and amortization	214,851	234,325	967,386
Loss on disposal of assets	1,771	2,831	500,103
Operating loss	(4,345,027)	(11,967,305)	(88,708,355)
Interest income	1,764	100,235	1,355,825
Other income and expense, net	554,242	34,901	661,146
Gain on extinguishment of debt	—	—	1,612,440
Gain (loss) on derivative instruments	(366,774)	—	1,388,848
Gain on sale of technology	3,000,000	—	3,000,000
Interest expense	(278,127)	(19,983)	(8,553,176)
Net loss	\$ (1,433,922)	\$(11,852,152)	\$(89,243,272)
Basic and diluted loss per share	\$ (0.11)	\$ (1.12)	
Weighted average shares outstanding	12,556,056	10,551,321	

See accompanying summary of accounting policies and notes to financial statements

OPEXA THERAPEUTICS, INC.
(a development stage company)

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
Period from January 22, 2003 (Inception) through December 31, 2009

	Common Stock		Additional Paid in Capital	Accumulated Deficit	Total
	Shares	Par			
Shares issued for cash	525,000	\$ 262,500	\$ (261,500)	\$ —	\$ 1,000
Shares repurchased and cancelled	(170,625)	(85,313)	84,988	—	(325)
Discount related to:					
beneficial conversion feature	—	—	28,180	—	28,180
warrants attached to debt	—	—	28,180	—	28,180
Net loss	—	—	—	(126,003)	(126,003)
Balances at December 31, 2003	354,375	177,187	(120,152)	(126,003)	(68,968)
Shares issued for:					
cash	2,250	1,125	7,875	—	9,000
services	206,500	103,250	745,750	—	849,000
license	24,269	12,135	414,940	—	427,075
reverse merger with Sportan	99,740	49,870	(197,603)	—	(147,733)
acquisition of Opexa	250,000	125,000	23,625,000	—	23,750,000
additional shares attached to					
convertible debt	16,100	8,050	280,316	—	288,366
conversion of convertible notes	60,750	30,375	217,995	—	248,370
Shares cancelled	(8,000)	(4,000)	4,000	—	—
Discount related to:					
beneficial conversion feature	—	—	855,849	—	855,849
warrants attached to debt	—	—	1,848,502	—	1,848,502
Option expense	—	—	123,333	—	123,333
Net loss	—	—	—	(31,411,736)	(31,411,736)
Balances at December 31, 2004	1,005,984	502,992	27,805,805	(31,537,739)	(3,228,942)
Shares issued for:					
cash, net of offering costs	389,451	194,725	5,151,492	—	5,346,217
convertible debt	611,026	305,513	7,343,933	—	7,649,446
debt	2,300	1,150	159,850	—	161,000
license	29,194	14,597	1,853,787	—	1,868,384
services	24,000	12,000	1,000,400	—	1,012,400
Discount related to:					
beneficial conversion feature	—	—	831,944	—	831,944
warrants attached to debt	—	—	1,433,108	—	1,433,108
Option expense	—	—	2,487,741	—	2,487,741
Warrant expense	—	—	2,373,888	—	2,373,888
Transition of warrants from equity instruments to liability instruments	—	—	(10,658,496)	—	(10,658,496)
Net loss	—	—	—	(14,856,724)	(14,856,724)
Balances at December 31, 2005	2,061,955	1,030,977	39,783,452	(46,394,463)	(5,580,034)

OPEXA THERAPEUTICS, INC.
(a development stage company)

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY—(Continued)
Period from January 22, 2003 (Inception) through December 31, 2009

	Common Stock		Additional Paid in Capital	Accumulated Deficit	Total
	Shares	Par			
Shares issued for:					
cash, net of offering costs	4,600,000	2,300,000	18,853,519	—	21,153,519
debt	34,829	17,374	162,626	—	180,000
Option expense	—	—	2,749,617	—	2,749,617
Warrant expense	—	—	1,568,966	—	1,568,966
Net loss	—	—	—	(12,649,170)	(12,649,170)
Balances at December 31, 2006	6,696,784	3,348,351	63,118,180	(59,043,633)	7,422,898
Cumulative change in derivative					
liability	—	—	10,658,496	(4,001,820)	6,656,676
Option expense	—	—	1,876,103	—	1,876,103
Warrant expense	—	—	845,275	—	845,275
Net loss	—	—	—	(14,667,367)	(14,667,367)
Balances at December 31, 2007	6,696,784	3,348,351	76,498,054	(77,712,820)	2,133,585
Shares issued for:					
cash, net of offering costs	5,503,874	2,751,937	5,899,642	—	8,651,579
services	45,200	22,600	26,365	—	48,965
Issuance of warrants for cash	—	—	603,850	—	603,850
Option expense	—	—	1,901,570	—	1,901,570
Net loss	—	—	—	(11,852,152)	(11,852,152)
Balances at December 31, 2008	12,245,858	\$ 6,122,888	\$84,929,481	\$(89,564,972)	\$ 1,487,397
Cumulative effect of change in					
accounting principle			(1,976,457)	1,755,622	(220,835)
Par value adjustment	—	(6,329,888)	6,329,888	—	—
Reduction in derivative liability	—	—	587,609	—	587,609
Discount on convertible notes	—	—	439,493	—	439,493
Discount on warrants	—	—	37,453	—	37,453
Shares issued for:					
cash, net of offering costs	2,550,000	25,500	4,663,665	—	4,689,165
exercise of options	60,400	26,280	37,324	—	63,604
exercise of warrants	619,964	309,982	764,953	—	1,074,935
Option expense	—	—	650,249	—	650,249
Net loss	—	—	—	(1,433,922)	(1,433,922)
Balances at December 31, 2009	15,476,222	154,762	96,463,658	(89,243,272)	7,375,148

See accompanying summary of accounting policies and notes to financial statements

OPEXA THERAPEUTICS, INC.
(a development stage company)

STATEMENTS OF CASH FLOWS
Years ended December 31, 2009 and 2008 and the
Period from January 22, 2003 (Inception) to December 31, 2009

	<u>2009</u>	<u>2008</u>	<u>Inception through 2009</u>
Cash flows from operating activities			
Net loss	\$(1,433,922)	\$(11,852,152)	\$(89,243,272)
Adjustments to reconcile net loss to net cash used in operating activities			
Stock payable for acquired research and development	—	—	112,440
Stock issued for acquired research and development	—	—	26,286,589
Stock issued for services	—	48,964	1,910,365
Stock issued for debt in excess of principal	—	—	109,070
Amortization of discount on notes payable due to warrants and beneficial conversion feature	124,744	—	6,437,949
Unrealized gain on marketable securities	—	—	—
Gain on extinguishment of debt	—	—	(1,612,440)
Depreciation	214,851	234,325	967,386
Amortization of debt financing costs	50,351	—	416,261
Option and warrant expense	650,249	1,901,571	14,576,743
Loss on derivative instruments	366,774	—	(1,388,848)
Loss on disposition of fixed assets	1,771	2,831	500,103
Changes in:			
Accounts receivable	—	—	—
Prepaid and other expenses	7,516	268,561	(495,862)
Accounts payable	(19,360)	(347,980)	175,552
Accrued expenses	28,593	(823,189)	101,210
Net cash provided by (used in) operating activities	<u>(8,433)</u>	<u>(10,567,069)</u>	<u>(41,146,754)</u>
Cash flows from investing activities			
Purchase of property & equipment	—	(33,040)	(1,339,511)
Net cash provided by (used in) investing activities	<u>—</u>	<u>(33,040)</u>	<u>(1,339,511)</u>
Cash flows from financing activities			
Common stock and warrants sold for cash, net of offering costs	4,689,165	9,255,429	40,454,331
Common stock repurchased and canceled	—	—	(325)
Proceeds from exercise of warrants and options	1,138,947	—	1,138,947
Proceeds from debt	1,180,985	—	9,283,184
Repayments on notes payable	(62,269)	(57,615)	(208,290)
Net cash provided by financing activities	<u>6,946,828</u>	<u>9,197,814</u>	<u>50,667,847</u>
Net change in cash and cash equivalents	6,938,395	(1,402,295)	8,181,582
Cash and cash equivalents at beginning of period	1,243,187	2,645,482	—
Cash and cash equivalents at end of period	<u>\$ 8,181,582</u>	<u>\$ 1,243,187</u>	<u>\$ 8,181,582</u>
Cash paid for:			
Income tax	\$ —	\$ —	\$ —
Interest	16,232	19,984	63,357
NON-CASH TRANSACTIONS			
Issuance of common stock to Sportan shareholders	—	—	147,733
Issuance of common stock for accrued interest	—	—	525,513
Issuance of warrants to placement agent	37,453	—	37,453
Conversion of notes payable to common stock	—	—	6,407,980
Conversion of accrued liabilities to common stock	—	—	197,176
Conversion of accounts payable to note payable	—	—	93,364
Discount on convertible notes relating to:			
Warrants	349,947	—	3,659,737
Beneficial conversion feature	89,546	—	1,805,519
Stock attached to notes	—	—	1,287,440
Fair value of derivative instrument	(1,976,457)	—	4,680,220
Derivative reclassified to equity	587,609	—	587,609

See accompanying summary of accounting policies and notes to financial statements

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

NOTE 1—BUSINESS OVERVIEW AND SUMMARY OF ACCOUNTING POLICIES

Opexa Therapeutics, Inc. (“Opexa”) was incorporated in Texas in March 1991 as a bio-pharmaceutical company engaged in developing autologous personalized cellular therapies. During the development stage, Opexa acquired the worldwide license to technology developed at Argonne National Laboratory, a U.S. Department of Energy Laboratory operated by the University of Chicago (“Argonne”). This is an exclusive license to a stem cell technology in which adult multi-potent stem cells are derived from monocytes obtained from the patient’s own blood (the “License”). A patent application was filed in November 2003 with the United States Patent and Trade Office regarding the technology involved in the License. Effective August 6, 2009, the Company entered into an exclusive agreement with Novartis whereby Novartis acquired the Company’s rights to the technology and has full responsibility for funding and carrying out all research, development and commercialization activities. The Company received an upfront cash payment of \$3 million at the time the agreement was entered into and subsequently received \$0.5 million as a technology transfer fee milestone. The Company will receive an additional \$0.5 million technology transfer fee in 2010. The Company is eligible to receive certain clinical and commercial milestone payments as well as royalty payments from the sale of any products resulting from the use of the technology and the Company retains an option on certain manufacturing rights.

In June 2004, PharmaFrontiers Corp. (“Pharma”) was acquired by Sportan United Industries, Inc. (“Sportan”) in a transaction accounted for as a reverse acquisition. Pharma’s stockholders were issued 6,386,439 Sportan shares in exchange for 100 percent of the outstanding common shares of Pharma. Immediately following the transaction, Sportan changed its name to Pharma and 7,383,838 shares were outstanding.

On October 7, 2004, Opexa acquired all of the outstanding stock of Opexa Pharmaceuticals, Inc., an entity that has the exclusive worldwide license from Baylor College of Medicine to an individualized T-cell therapeutic vaccine, Tovaxin[®], for the treatment of multiple sclerosis (MS).

Development Stage Company. Opexa is considered to be in development stage and has had no commercial revenues to date.

Basis of Presentation. In June 2006, Opexa (i) changed its name to Opexa Therapeutics, Inc. from Pharma and (ii) affected a one-for-ten reverse common stock split. All references to number of shares and per share amounts reflect such split as if it occurred on the first day of the first period presented. The financial statements include the accounts of Opexa and its wholly-owned subsidiary, Opexa Pharmaceuticals, Inc. through December 31, 2006. All inter-company accounts and transactions have been eliminated. In January 2007 Opexa Therapeutics, Inc., the parent, merged with its wholly owned subsidiary, Opexa Pharmaceuticals, Inc. with Opexa Therapeutics, Inc. being the surviving company.

Reclassifications. Certain prior year amounts have been reclassified to conform with the current year presentation.

Use of Estimates in Financial Statement Preparation. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

Cash and Cash Equivalents For purposes of the statements of cash flows, cash equivalents include all highly liquid investments with original maturities of three months or less. Marketable securities include investments with maturities greater than three months but less than one year. The primary objectives for the fixed income investment portfolio are liquidity and safety of principal. Investments are made with the objective of achieving the highest rate of return consistent with these two objectives. Opexa's investment policy limits investments to certain types of instruments issued by institutions primarily with investment grade credit ratings and places restrictions on maturities and concentration by type and issuer.

Long-lived Assets. Property and equipment are stated on the basis of historical cost less accumulated depreciation. Depreciation is provided using the straight-line method over the estimated useful lives of the assets. Major renewals and improvements are capitalized, while minor replacements, maintenance and repairs are charged to current operations. Impairment losses are recorded on long-lived assets used in operations when indicators of impairment are present and the undiscounted cash flows estimated to be generated by those assets are less than the assets' carrying amount.

Income Taxes. Income tax expense is based on reported earnings before income taxes. Deferred income taxes reflect the impact of temporary differences between assets and liabilities recognized for financial reporting purposes and such amounts recognized for tax purposes, and are measured by applying enacted tax rates in effect in years in which the differences are expected to reverse.

Stock-Based Compensation. On January 1, 2006, Opexa began recording compensation expense associated with stock options and other forms of equity compensation in accordance with FASB ASC 718. Prior to January 1, 2006, Opexa had accounted for stock options according to the provisions of Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees," and related interpretations, and therefore no related compensation expense was recorded for awards granted with no intrinsic value. Opexa adopted the modified prospective transition method provided for under FASB ASC 718, and, consequently, has not retroactively adjusted results from prior periods. Under this transition method, compensation cost associated with stock options recognized in the first quarter of fiscal 2006 includes the quarterly amortization related to the remaining unvested portion of all stock option awards granted prior to January 1, 2006, based on the estimated grant date fair value.

Research and Development. Research and development expenses include salaries, related employee expenses, clinical trial expenses, research expenses, consulting fees, and laboratory costs. All costs for research and development activities are expensed as incurred. Opexa expenses the costs of licenses of patents and the prosecution of patents until the issuance of such patents and the commercialization of related products is reasonably assured. Research and development expense for the years ended December 31, 2009 and 2008 was \$2,107,833 and \$8,388,734, respectively.

Accounting for Derivative Instruments. In accordance with FASB ASC 815, all derivatives are to be recorded on the balance sheets at fair value. Opexa's derivatives are separately valued and accounted for on the balance sheets. Fair values for securities traded in the open market and derivatives are based on quoted market prices. Where market prices are not readily available, fair values are determined using market based pricing models incorporating readily observable market data and requiring judgment and estimates.

The pricing model Opexa used for determining fair values of its derivatives is the Black-Scholes option-pricing model. Valuations derived from this model are subject to ongoing internal and external verification and review. The model uses market-sourced inputs such as interest rates, exchange rates and option volatilities. Selection of these inputs involves management's judgment and may impact net income.

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

Subsequent Events. In accordance with applicable accounting standards for the disclosure of events that occur after the balance sheet date but before the financial statements are issued, we have evaluated all events or transactions that occurred after December 31, 2009. Please see Note 13 for details.

Recently Issued Accounting Pronouncements. On July 1, 2009, the FASB officially launched the FASB Accounting Standards Codification, which has become the single official source of authoritative, nongovernmental U.S. Generally Accepted Accounting Principles, in addition to guidance issued by the Securities and Exchange Commission. The codification supersedes all prior FASB, AICPA, EITF, and related literature. The codification, which is effective for interim and annual periods ending after September 15, 2009, is organized into approximately 90 accounting topics. The FASB no longer issues new standards in the form of Statements, FASB Staff Positions, or Emerging Issues Task Force Abstracts. Instead, amendments to the codification are made by issuing "Accounting Standards Updates." The Company has incorporated the current codification in its Form 10-K.

In January 2009, Opexa adopted new accounting guidance for determining whether an instrument or an embedded feature is indexed to an entity's stock. The new guidance provides a new two-step model to be applied in determining whether a financial instrument or an embedded feature is indexed to an issuer's own stock, including evaluating the instrument's contingent exercise and settlement provisions. It also clarifies the impact of foreign-currency-denominated strike prices and market-based employee stock option valuation instruments on the evaluation. See also Note 11. There were various other accounting standards and interpretations issued during 2009 and 2008, none of which are expected to have a material impact on the Opexa's financial position, operations or cash flows.

NOTE 2—RESTRUCTURING

In November 2008, Opexa implemented a restructuring plan to terminate the one-year open label extension of the TERMS Phase IIb Clinical Trial of Tovaxin[®] therapy for multiple sclerosis (OLTERMS). The trial was enrolled with patients that had previously completed one year in the TERMS, Tovaxin Phase IIb multi-center, randomized, double blind, placebo-controlled trial. The Company terminated OLTERMS to conserve financial resources for clinical data analysis, future clinical trial planning and seeking a development partner for Tovaxin. As a result of this restructuring, the Company reduced its staff of 29 to 12 people. Personnel-related severance and benefits payments of \$77,075 were paid in 2008.

NOTE 3—CASH AND CASH EQUIVALENTS

Opexa considers all highly liquid investments with an original maturity of three months or less, when purchased, to be cash equivalents.

At December 31, 2009, Opexa invested approximately \$8 million in a money market account with an average market yield of 0.01%. Interest income of \$1,764 was recognized for the year ended December 31, 2009 in the statements of expenses.

At December 31, 2008, Opexa invested approximately \$1.2 million in a money market account with an average market yield of 0.8%. Interest income of \$100,235 was recognized for the twelve months ended December 31, 2008 in the statements of expense.

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

NOTE 4—PROPERTY AND EQUIPMENT

Property and equipment consisted of the following at December 31, 2009 and 2008:

<u>Description</u>	<u>Life</u>	<u>2008</u>	<u>2009</u>
Computer equipment	3 years	\$ 123,155	\$ 155,018
Office furniture and equipment	3-10 years	317,657	328,368
Software	3-5 years	87,929	90,689
Laboratory equipment	3-10 years	984,809	984,809
Leasehold improvements	10 years	465,601	454,890
Subtotal		1,979,151	2,013,774
Less: accumulated depreciation		(1,029,241)	(847,244)
Property and equipment, net		<u>\$ 949,910</u>	<u>\$1,166,530</u>

Property and equipment is carried at cost less accumulated depreciation. Depreciation is calculated by the straight-line method over the estimated useful life of three to ten years, depending upon the type of equipment, except for leasehold improvements which are amortized using the straight-line method over the remaining lease term or the life of the asset, whichever is shorter. The cost of repairs and maintenance is charged as an expense as incurred. Depreciation expense totaled \$214,851 and \$234,325 for the years ended December 31, 2009 and 2008 respectively.

NOTE 5—INCOME TAXES

Opexa uses the liability method, where deferred tax assets and liabilities are determined based on the expected future tax consequences of temporary differences between the carrying amounts of assets and liabilities for financial and income tax reporting purposes.

At December 31, 2009, for federal income tax and alternative minimum tax reporting purposes, Opexa had approximately \$79 million of unused net operating losses available for carryforward to future years. The benefit from carryforward of such net operating losses will start to expire beginning on 2024. Under the provisions of Section 382 of the Internal Revenue Code, the benefit from utilization of approximately \$5,650,429 of net operating losses incurred prior to October 7, 2004 was significantly limited as a result of the change of control that occurred in connection with Opexa's acquisition of Opexa Pharmaceuticals, Inc. The benefit could be subject to further limitations if significant future ownership changes occur in Opexa.

At December 31, 2009, deferred tax assets consisted of the following:

NOL @ 12/31/09	\$(78,786,494)
Estimated tax rate	X 34%
Deferred tax asset	(26,787,408)
Valuation allowance	26,787,408
Net deferred tax asset	<u>\$ —</u>

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

NOTE 6—LOAN PAYABLE

Loan payable consists of an equipment line of up to \$250,000 with Wells Fargo of which \$102,932 and \$165,201 were outstanding as of December 31, 2009 and 2008, respectively. This loan has an interest rate of 7.61% per annum, matures in May 2011 and is secured by Opexa's furniture and equipment purchased with the loan proceeds. For the years ended December 31, 2009 and 2008, Opexa recognized interest expense of \$10,578 and \$15,233, respectively associated with its equipment line.

NOTE 7—CONVERTIBLE PROMISSORY NOTES

On April 14, 2009 and May 14, 2009 the Company closed a private offering consisting of secured convertible notes for gross proceeds of approximately \$1.3 million. The notes mature in two years from the date of issue and accrue interest at a 10% rate, compounded annually. The interest is payable at maturity in either cash or common stock at the Company's option. The notes are secured by substantially all of the Company's assets and are convertible into common stock, at the option of the holders, at a price of \$0.50 per share. Additionally, subject to the satisfaction of certain conditions, the notes are mandatorily convertible into common stock, at the Company's option, during their term also at \$0.50 per share. The required conditions are: (1) the Company enters into an agreement that will fund a Phase IIb or Phase III clinical trial for the further development of the Company's product known as Tovaxin®, (2) the Company's common stock trades at a price greater than or equal to \$1.00 per share for twenty consecutive trading days, and (3) the Company has an effective registration statement on file with the Securities and Exchange Commission for the re-sale of the shares of common stock issuable upon conversion of the notes.

In connection with the issuance of convertible promissory notes, warrants to purchase a total of 1,302,000 shares of common stock were issued to the investors. See Note 10 "Broker and Investor Warrants" section for details on the warrants. The convertible promissory notes were evaluated for a beneficial conversion feature under FASB ASC 470 and determined to have a beneficial conversion feature totaling \$89,546. The Company recorded a debt discount of \$439,493 related to the warrants granted to the investors. Pursuant to FASB ASC 470, the discount on the convertible promissory notes is amortized over the period between the issuance date and the maturity of the note under the effective interest method. The amortized discount for the year ended December 31, 2009 was \$124,744.

The Company analyzed the convertible promissory notes and the warrants for derivative accounting consideration under FASB ASC 470. The Company determined the embedded conversion option in the convertible promissory notes and the warrants met the criteria for classification in stockholders equity under FASB ASC 470. Therefore, derivative accounting was not applicable for these convertible notes payable or their associated warrants.

The total of the fees associated with the financing (broker commissions and legal fees) was \$158,468. These fees will be amortized over the life of the notes using the effective interest method. The amortized offering costs for the year ended December 31, 2009 was \$50,351. Interest on the 10% promissory notes in the amount of \$86,800 has been accrued as of December 31, 2009.

NOTE 8—COMMITMENTS AND CONTINGENCIES

In October 2005, Opexa entered into a ten-year lease for its office and research facilities. The facility including the property is leased for a term of ten years with two options for an additional five years each at the then prevailing market rate. Future minimum lease payments under the non-cancellable operating lease are \$147,540 for 2010 and 2011, \$150,129 for 2012 and a total of \$434,221 for years 2013 to 2015. Rent expense was approximately \$136,000 for each of the years ended December 31, 2009 and 2008.

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

NOTE 9—EQUITY

During 2003, equity related transactions were as follows:

- 525,000 shares of common stock were sold for \$1,000.
- 170,625 shares were reacquired for \$325 and canceled.
- Additional contributions to capital of \$56,360 resulted from the discounted value to notes payable due to warrants and beneficial conversion features attached to convertible notes was issued in 2003.

During 2004, equity related transactions were as follows:

- 2,250 shares of common stock were sold for \$9,000.
- 206,500 shares of common stock valued at their then fair value of \$849,000 were issued to employees and consultants for their services.
- 24,269 shares of common stock valued at their then fair value of \$427,075 were issued to the University of Chicago per the terms of a license agreement. See Note 12 for details.
- 99,740 shares of common stock were issued for net liabilities of \$147,733 pursuant to the 2004 reorganization.
- 250,000 shares of common stock valued at their then fair value of \$23,750,000 were issued to Opexa Pharmaceuticals, Inc., stockholders.
- 16,100 shares of common stock with a relative fair value of \$288,366 were issued to note holders as their additional shares for their subscription investment.
- 60,750 shares of common stock were issued to note holders for the conversion of \$248,370 of principal and interest from convertible notes.
- 8,000 shares of common stock were cancelled pursuant to the terms of an employment separation agreement.
- Additional contributions to capital of \$2,704,351 resulted from the discounted value to notes payable from warrants and beneficial conversion features attached to convertible notes.
- Employee stock option compensation expense was \$123,333 for 2004.

During 2005, equity related transactions were as follows:

- 389,451 shares of common stock with warrants to purchase 1,070,993 shares were sold for \$5,841,769. The relative fair value of the common stock is \$1,103,714 and the relative fair value of the warrants is \$4,738,055. Offering costs of \$495,552 related to shares issued were charged to additional paid in capital.
- 45,168 shares of common stock with a relative fair value of \$999,074 were issued to note holders as their additional shares for their subscription investment.
- 565,858 shares of common stock were issued to note holders for the conversion of \$6,124,859 of principal and \$525,513 interest from convertible notes.
- 2,300 shares of common stock valued at their fair value of \$161,000 were issued to note holders for the conversion of \$51,930 of principal and interest from the notes.

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

- 29,194 shares of common stock were issued to the University of Chicago per the terms of a license agreement. These shares were recorded at \$1,868,384.
- 24,000 shares of common stock valued at their fair value of \$1,012,400 were issued to consultants for their services.
- Additional contributions to capital of \$2,265,052 relating to the discounted value to notes payable from warrants, beneficial conversion features attached to convertible notes.
- Employee stock option compensation expense was \$2,487,741 for 2005.
- Non-employee stock option compensation expense was \$2,373,888 for 2005.
- Transition of warrants from equity instruments to liability instruments in the amount of \$10,658,496 was recorded.

During 2006, equity related transactions were as follows:

- In March 2006, 34,829 shares of common stock were issued to settle an outstanding accounts payable in the amount of \$180,000.
- In April 2006, Opexa sold 4,600,000 shares of its common stock and warrants to purchase 2,300,000 shares of Opexa's common stock for \$23 million. Opexa paid \$1,846,481 for the commissions and fees related to this offering and granted to its brokers warrants to purchase 213,720 shares of common stock at an exercise price of \$5.00 per share. These warrants are not callable and have a cashless exercise option.
- Employee stock option compensation expense was \$2,749,617 for 2006.
- Non-employee stock option compensation expense was \$1,568,966 for 2006.

During 2007, equity related transactions were as follows:

- Employee stock option compensation expense was \$1,876,103 for 2007.
- Non-employee stock option compensation expense was \$845,275 for 2007.

During 2008, equity related transactions were as follows:

- In February 2008, Opexa sold 3,500,000 shares of common stock and 4,025,000 Series E warrants in a public offering for approximately \$7.6 million. Opexa paid approximately \$1.2 million for the underwriter discounts, commissions and other expenses related to this offering and granted to the underwriter warrants to purchase 350,000 shares of common stock at a price of \$2.40 per share and an option to acquire 350,000 Series E warrants at a price of \$0.18 per Series E warrant.
- In August, Opexa sold common stock in a private offering to certain institutional and accredited investors for approximately \$3.0 million. Opexa paid approximately \$100,000 in expenses related to this offering.
- 45,200 shares of restricted common stock valued at \$48,965 were issued to board members as compensation for their board services.
- Employee stock option compensation expense was \$1,467,364 for 2008.
- Non-employee stock option compensation expense was \$434,207 for 2008.

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

During 2009, equity related transactions were as follows:

- In December 2009, Opexa sold 2,550,000 shares of its common stock and warrants to purchase 1,275,000 shares of Opexa's common stock for \$5.1 million. Opexa paid \$310,500 for the commissions related to this offering and granted broker warrants to purchase 89,250 shares of common stock at an exercise price of \$2.50 per share. These warrants are not callable and have a cashless exercise option.
- 60,400 shares of common stock were issued in connection with the exercise of stock options.
- 48,200 shares of common stock were issued in connection with the exercise of Series E warrants.
- 472,968 shares of common stock were issued in connection with the exercise of Series F warrants
- 98,796 shares of common stock were issued in connection with the exercise of broker warrants.

On November 11, 2009, the Company's stockholders approved an amendment to the Articles of Incorporation reducing the par value of the common stock from \$.50 to \$.01 per share. As a result of the reduction in par value, the "Common stock" account was reduced by \$6,329,888 and the "Additional paid-in capital" account was increased by the same amount in the accompanying Statements of Changes in Stockholders' Equity.

NOTE 10—OPTIONS AND WARRANTS

In 2004, Opexa adopted the June 2004 Compensatory Stock Option Plan ("the Plan") for the granting of stock options to employees and consultants of Opexa. Options granted under the Plan may be either incentive stock options or nonqualified stock options. The Board of Directors has discretion to determine the number, term, exercise price and vesting of all grants.

Employee Options:

During 2004, options to purchase 96,500 shares were granted to employees at exercise prices ranging from \$30.00 to \$50.00. These options have terms of five years and vest from one to three years. Fair value of \$5,623,186 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2004 include (1) discount rate of 2%, (2) option life of 5 years, (3) expected volatility of 75.1% and (4) zero expected dividends.

During 2005, options to purchase 63,050 shares were granted to employees at an exercise price of \$7.00. These options have terms of ten years and vest in four years. Fair value of \$261,879 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2005 include (1) discount rate of 2%, (2) option life of 10 years, (3) expected volatility of 175.4% and (4) zero expected dividends.

During 2005, options to purchase 4,167 shares were forfeited and cancelled.

During 2006, options to purchase 389,160 shares of common stock were granted by Opexa to its employees at exercise prices ranging from \$5.00 to \$9.40. These options have terms from five to ten years and vest from one to three years. Fair value of \$3,126,168 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2006 include (1) discount rate range of 4.72% to 5.22%, (2) option life of 5 to 10 years, (3) expected volatility range of 401.3% to 429.9% and (4) zero expected dividends.

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

During 2006, options to purchase 14,133 shares were forfeited.

Opexa recorded \$2,749,617 stock-based compensation expense to management and employees during 2006.

During 2007, options to purchase 224,400 shares of common stock were granted by Opexa to its employees at exercise prices ranging from \$3.96 to \$5.47. These options have terms of ten years and vest annually over a three year period. Fair value of \$958,011 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2007 include (1) discount rate range of 4.22% to 5.07%, (2) option life is a term with the expected term of 5 to 6 years, (3) expected volatility range of 95.4% to 103.9% and (4) zero expected dividends.

During 2007, options to purchase 17,345 shares were forfeited.

Opexa recorded \$1,876,103 stock-based compensation expense to management and employees during 2007.

During 2008, options to purchase 469,100 shares of common stock were granted by Opexa to its employees at exercise prices ranging from \$1.09 to \$1.17. These options have terms of ten years and have vesting ranges from 8 months to three years. Fair value of \$433,164 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2008 include (1) discount rate range of 3.15% to 3.73%, (2) option life is a term with the expected term of 5 to 6 years, (3) expected volatility of 115.3% and (4) zero expected dividends.

During 2008, options to purchase 104,578 shares were forfeited.

Opexa recorded \$1,467,364 stock-based compensation expense to management and employees during 2008.

During 2009, options to purchase 535,959 shares of common stock were granted by Opexa to its employees at exercise prices ranging from \$0.22 to \$2.05. These options have terms of ten years and have vesting ranges from 6 months to three years. Fair value of \$512,919 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2009 include (1) discount rate range of 1.47% to 2.01%, (2) option life is a term with the expected term of 5 to 6 years, (3) expected volatility of 192.4%—207.7% and (4) zero expected dividends.

During 2009, options to purchase 228,786 shares were forfeited.

Opexa recorded \$402,803 stock-based compensation expense to management and employees during 2009. Unamortized stock-based compensation expense as of December 31, 2009 amounted to \$586,467.

Non-Employee Options:

During 2004, options to purchase 20,000 shares were granted to consultants at exercise prices ranging from \$30.00 to \$50.00. These options have terms of five years and vest from one to three years. Fair value of \$1,011,770 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2004 include (1) discount rate of 2% (2) option life of 5 years, (3) expected volatility of 75.1% and (4) zero expected dividends.

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

During 2005, options to purchase 71,060 shares were granted to consultants. Using the Black-Scholes option-pricing model fair value for 2005 was \$1,552,936. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2005 include (1) discount rate of 2%, (2) option life of 5 years, (3) expected volatility of 175.4% and (4) zero expected dividends.

During 2005, options to purchase 10,000 shares were forfeited and cancelled.

During 2006, options to purchase 156,500 shares of common stock were granted by Opexa to its consultants, directors and exiting directors at exercise prices ranging from \$5.20 to \$9.80. These warrants have a term of ten years and vest from one to three years. Fair value of \$1,496,375 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2006 include (1) discount rate range of 4.7%—5.2%, (2) option life of 10 years, (3) expected volatility range of 401.3% to 429.9% and (4) zero expected dividends.

During 2006, options to purchase 5,000 shares expired.

Opexa recorded \$1,568,966 stock-based compensation expense to consultants, directors and exiting directors during 2006.

During 2007, options to purchase 69,500 shares of common stock were granted by Opexa to its consultants and directors at exercise prices ranging from \$3.95 to \$5.47. These options have a term of ten years, and have vesting dates that vary from either full or partial vesting at date of grant to full vesting at the first and second year anniversary of the date of grant. Fair value of \$268,675 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2007 include (1) discount rate range of 4.20% to 5.07%, (2) option life is a term with the expected term of 5.75 years, (3) expected volatility range of 95.4% to 95.9% and (4) zero expected dividends.

Opexa recorded \$845,275 stock-based compensation expense to consultants and directors during 2007.

During 2008, options to purchase 171,300 shares of common stock were granted by Opexa to its consultants and directors at exercise prices ranging from \$0.88 to \$1.55. These options have a term of ten years, and have vesting dates that vary from either full or partial vesting at date of grant to full vesting at the first year anniversary of the date of grant. Fair value of \$179,340 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2008 include (1) discount rate range of 3.07% to 3.44%, (2) option life is a term with the expected term of 5.5 years, (3) expected volatility range of 115.3% to 116.5% and (4) zero expected dividends.

During 2008, options to purchase 22,000 shares were forfeited.

Opexa recorded \$434,207 stock-based compensation expense to consultants and directors during 2008.

During 2009, options to purchase 238,380 shares of common stock were granted by Opexa to its consultants and directors at exercise prices ranging from \$0.47 to \$2.10. These options have a term of ten years, and have vesting dates that vary from either full or partial vesting at date of grant to full vesting at the first year anniversary of the date of grant. Fair value of \$215,275 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2009 include (1) discount rate range of 1.87% to 2.46%, (2) option life is a term with the expected term of 5 to 5.5 years, (3) expected volatility range of 192.9% to 208.9% and (4) zero expected dividends.

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

During 2009, options to purchase 113,750 shares were forfeited.

Opexa recorded \$247,446 stock-based compensation expense to consultants and directors during 2009. Unamortized stock-based compensation expense as of December 31, 2009 amounted to \$33,715.

Broker and Investor Warrants:

During 2003, warrants to purchase 15,000 shares were granted to investors related to the convertible notes.

During 2004, warrants to purchase 142,800 shares were granted to investors related to the convertible notes.

During 2005, warrants to purchase 46,084 shares of common stock were issued to several brokerage firms as the offering costs and commissions for Opexa's financing activities at an exercise price of \$1.50. These warrants have a fair value of \$2,197,162 and vest immediately.

During 2005, warrants to purchase 2,386,984 shares were granted to investors related to the convertible notes.

During 2005 warrants to purchase 254,362 shares were forfeited.

In April 2006, warrants to purchase 213,720 shares of common stock were granted by Opexa to the brokers in connection with the \$23,000,000 equity financing, at an exercise price of \$5.00. These warrants have a term of three years and vest immediately. Fair value of \$1,077,778 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for warrants issued during the year ended December 31, 2006 include (1) discount rate of 5.22%, (2) warrant life of 3 years, (3) expected volatility of 429.9% and (4) zero expected dividends.

During 2006, warrants to purchase 2,765,043 shares were granted to investors related to the April 2006 financing. These warrants have a term of five years and vest immediately. Fair value of \$11,729,982 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for warrants issued during the year ended December 31, 2006 include (1) discount rate of 4.86%, (2) warrant life of 5 years, (3) expected volatility of 429.9% and (4) zero expected dividends.

During 2006 warrants to purchase 1,644,908 shares were forfeited.

During 2007, there were no warrants granted to investors.

During 2008, Series E warrants to purchase 4,025,000 shares of common stock were issued by Opexa to the investors and underwriters in connection with the February 2008 public offering, at an exercise price of \$2.00. These warrants vest immediately and have a fair value of \$603,750. During 2008 Opexa issued warrants to the underwriter of the February 2008 public offering to purchase 350,000 shares of common stock at a price of \$2.40 per share and an option to acquire 350,000 Series E warrants at a price of \$0.18 per Series E warrant. These warrants are classified as equity and are immediately exercisable. Fair value of \$350,061 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for options issued during the year ended December 31, 2008 include (1) discount rate of 2.93%, (2) warrant life is a term with the expected term of 5 years, (3) expected volatility of 97.7% and (4) zero expected dividends.

During August 2008, in connection with a private financing, Opexa issued warrants to purchase 2,003,874 shares of its common stock to certain institutional and accredited investors. The warrants expire four years from issuance, are first exercisable after six months of the closing of the financing and are exercisable at \$1.78 per

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

share. These warrants are classified as equity. Fair value of \$1,976,457 was recorded using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model for warrants issued during the year ended December 31, 2008 include (1) discount rate of 3.27%, (2) warrant life is a term with the expected term of 4 years, (3) expected volatility of 116.5% and (4) zero expected dividends.

In connection with the closing of the April and May 2009 private offering of convertible notes, investors were issued four-year warrants to purchase up to an aggregate of 1,302,000 shares of our common stock, at an exercise price of \$0.75 per share. The estimated fair value of the investor warrants was \$478,577 and was calculated using the Black-Scholes valuation model. The following assumptions were used: (1) no expected dividends, (2) risk free interest rate of 0.86%—0.87%, (3) expected volatility range of 195%,—197% and (4) expected life of 4 years.

As additional compensation, Opexa issued warrants to the broker to purchase 112,140 shares of common stock also at a price of \$0.75 per share. The estimated fair value of the broker warrants was \$37,453 and was calculated using the Black-Scholes valuation model. The following assumptions were used: (1) no expected dividends, (2) risk free interest rate of 0.87%, (3) expected volatility of 195% and (4) expected life of 4 years.

In connection with the December 2009 registered direct offering, institutional investors were issued, Series A warrants to purchase 892,500 shares of common stock and Series B warrants to purchase 382,500 shares of common stock. . The Series A and Series B warrants are exercisable at \$2.55 per share and are first exercisable on June 15, 2010. The Series A Warrants expire on June 15, 2015 and the Series B warrants expire on June 15, 2011.

As additional compensation, Opexa issued warrants to the placement agent to purchase 89,250 shares of common stock at \$2.50 per share that are first exercisable on June 15, 2010 and expire on November 23, 2014.

At December 31, 2009, the aggregate intrinsic value of the outstanding options and warrants were \$1,106,364 and \$2,740,166, respectively.

Summary information regarding options and warrants is as follows:

	<u>Options</u>	<u>Weighted Average Exercise Price</u>	<u>Warrants</u>	<u>Weighted Average Exercise Price</u>
Outstanding at December 31, 2006	762,970	\$11.48	3,670,361	\$19.51
Year ended December 31, 2007:				
Granted	293,900	5.28	—	—
Forfeited and canceled	(17,345)	7.74	—	—
Outstanding at December 31, 2007	1,039,525	\$ 9.79	3,670,361	\$19.51
Year ended December 31, 2008:				
Granted	640,400	1.10	6,728,874	1.96
Forfeited and canceled	(126,578)	6.53	—	—
Outstanding at December 31, 2008	1,553,347	\$ 6.47	10,399,235	\$ 8.15
Year ended December 31, 2009:				
Granted	773,339	0.96	3,204,620	1.67
Exercised	(60,774)	1.05	(718,764)	1.66
Forfeited and canceled	(342,536)	10.56	(208,330)	5.00
Outstanding at December 31, 2009	<u>1,923,376</u>	<u>\$ 3.70</u>	<u>12,676,761</u>	<u>\$ 6.93</u>

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

Summary of options outstanding and exercisable as of December 31, 2009 is as follows:

<u>Range of Exercise Prices</u>	<u>Weighted Average Remaining Contractual Life (years)</u>	<u>Number of Options Outstanding</u>	<u>Number of Options Exercisable</u>
\$ 0.88 to 4.99	8.97	1,246,748	874,748
5.00 to 9.99	5.06	611,568	592,735
10.00 to 15.00	3.71	8,500	8,500
30.00 to 40.00	0.26	56,560	56,560
\$ 0.88 to 40.00	<u>7.45</u>	<u>1,923,376</u>	<u>1,532,543</u>

Summary of warrants outstanding and exercisable as of December 31, 2009 is as follows:

<u>Range of Exercise Prices</u>	<u>Weighted Average Remaining Contractual Life (years)</u>	<u>Number of Warrants Outstanding</u>	<u>Number of Warrants Exercisable</u>
\$ 0.75 to 4.99	3.23	9,214,737	7,850,487
5.00 to 9.99	1.28	2,305,390	2,305,390
15.00 to 30.00	0.46	1,156,634	1,156,634
\$ 0.75 to 30.00	<u>2.62</u>	<u>12,676,761</u>	<u>11,312,511</u>

NOTE 11—DERIVATIVE INSTRUMENTS

FASB ASC 815, “Accounting for Derivatives and Hedging Activities” (“FASB ASC 815”) specifies that a contract that would otherwise meet the definition of a derivative, but is both (a) indexed to its own stock and (b) classified in stockholders’ equity in the statement of financial position would not be considered a derivative financial instrument. FASB ASC 815 provides a new two-step model to be applied in determining whether a financial instrument or an embedded feature is indexed to an issuer’s own stock, including evaluating the instrument’s contingent exercise and settlement provisions, and thus able to qualify for the FASB ASC 815-10 scope exception. It also clarifies the impact of foreign-currency-denominated strike prices and market-based employee stock option valuation instruments on the evaluation. Initially, Opexa evaluated all of its financial instruments and determined that the Series F warrants associated with the August 2008 financing qualified for treatment under FASB ASC 815 and adjusted its financial statements to reflect the adoption of the FASB ASC 815 as of January 1, 2009. The fair value of these warrants were reclassified as of January 1, 2009 in the amount of \$220,835 from additional paid in capital to derivative liability and the cumulative effect of the change in accounting principle in the amount of \$1,755,622 was recognized as an adjustment to the opening balance of retained earnings. The impact of FASB ASC 815 for the year to date period ended June 1, 2009 resulted in an increase in the derivative liability of \$366,774 with a corresponding loss on derivative instruments. On June 1, 2009, it was determined that the floor for resetting the exercise price was met and that any further adjustments to the exercise price of the Series F warrants would require a vote by the shareholders of the company. Therefore, the Series F warrants were considered indexed to the company’s stock and qualified for the scope exception under FASB ASC 815-10 allowing for a transfer from liability classification to equity classification. Consequently, the remaining derivative liability of \$587,609 at June 1, 2009 was reclassified to additional paid in capital.

OPEXA THERAPEUTICS, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS

NOTE 12—LICENSES AND GAIN ON EXTINGUISHMENT OF DEBT

University of Chicago License Agreement

In 2004, Opexa entered into an agreement with the University of Chicago (“University”) for the worldwide license to technology developed at Argonne National Laboratory, a U.S. Department of Energy Laboratory operated by the University. The license was later amended granting Opexa an exclusive, non-transferable worldwide license to the University’s stem cell technology. In consideration for the license and amendment, Opexa paid the University a total of \$232,742 and issued the University 53,462 shares of common stock valued at \$2,295,461. Opexa also agreed to pay the University \$1.5 million and to issue the University 21,623 shares of Opexa common stock. In April 2007, the \$1.5 million cash payment obligation was extended until July 31, 2007 and the obligation to issue shares of Opexa’s common stock was extended until July 31, 2007, with \$112,440 accrued as of June 30, 2007.

In July 2007, Opexa entered into a second amended and restated license agreement with the University of Chicago that eliminated the obligations under the prior agreement for the payment of \$1.5 million due July 31, 2007 and the obligation to issue 21,623 shares of Opexa common stock. These obligations were recorded as an intangible asset, with the liabilities recorded as a notes payable—current portion of \$1.5 million and a stock payable of \$112,440. As a result of the amendment and restatement of the license agreement with the University of Chicago \$1,612,440 was reported as a gain on extinguishment of liability. Opexa applied the accounting guidance related to transfers and servicing of financial assets and extinguishments of liabilities as well as the guidance on debtor’s accounting for a modification or exchange of debt instruments. Effective August 6, 2009, the University of Chicago license agreement was assigned to Novartis as part of an agreement as further described below.

Stem Cell Technology Agreement

Effective August 6, 2009, Opexa entered into an exclusive agreement with Novartis for the further development of its stem cell technology. This technology, which has generated preliminary data was in early preclinical development. Under the terms of the agreement, Novartis acquired the stem cell technology from Opexa and Novartis will have full responsibility for funding and carrying out all research, development and commercialization activities. Opexa received an upfront cash payment of \$3 million at the time the agreement was entered into and subsequently received \$0.5 million as a technology transfer fee milestone. Opexa will receive an additional \$0.5 million technology transfer fee in 2010. The \$3 million was recorded as a gain on sale of technology and the \$0.5 million technology transfer fee was recorded as other income for the year end December 31, 2009.

Opexa is eligible to receive certain clinical and commercial milestone payments as well as royalty payments from the sale of any products resulting from the use of the technology and retains an option on certain manufacturing rights.

NOTE 13—SUBSEQUENT EVENTS

Subsequent to December 31, 2009, former employees exercised their options to purchase 65,726 shares for a total of \$51,433 at exercise prices ranging from \$0.47 per share to \$1.17 per share.