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

SCHEDULE 14A

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

Filed by the Registrant x

Filed by a Party other than the Registrant o

Check the appropriate box:

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

CYCLACEL PHARMACEUTICALS, INC.

(Name of Registrant as Specified In Its Charter)

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

Payment of Filing Fee (Check the appropriate box):

x No fee required.

0

- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
- (1) Title of each class of securities to which transaction applies:
 - (2) Aggregate number of securities to which transaction applies:

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

- (4) Proposed maximum aggregate value of transaction:
- (5) Total fee paid:

o Fee paid previously with preliminary materials.

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

(1) Amount Previously Paid:

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

- (3) Filing Party:
- (4) Date Filed:

Table of Contents

Cyclacel Pharmaceuticals, Inc. 200 Connell Drive, Suite 1500 Berkeley Heights, New Jersey 07922 United States of America

April 26, 2011

Dear Stockholder,

You are cordially invited to attend the 2011 Annual Meeting of the Stockholders of Cyclacel Pharmaceuticals, Inc. (the "**Company**") to be held at 12:30 p.m., E.S.T., on May 24, 2011, at our corporate headquarters at 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey, 07922. The attached Notice of Annual Meeting and proxy statement describe the business we will conduct at the annual meeting and provide information about us that the holders of our common stock (the "**Common Stock**") and 6% Convertible Exchangeable Preferred Stock (the "**Preferred Stock**") should consider when voting.

At the annual meeting, the holders of our Common Stock are being asked to elect Spiro Rombotis and Dr. David U'Prichard, nominees for Class 2 directors, to our Board of Directors. In addition, we will ask the holders of our Common Stock to ratify the selection of Ernst & Young LLP as our

independent registered public accounting firm for our fiscal year ending December 31, 2011. The Board of Directors recommends the approval of each of these proposals.

Also at the annual meeting, the holders of our Preferred Stock may elect two directors to fill the newly created directorships on our Board of Directors that will be created pursuant to the terms of the Certificate of the Powers, Designations, Preferences and Rights governing the Preferred Stock if candidates are elected. Lloyd Sems and Gregory T. Hradsky have been nominated by a holder of our Preferred Stock for these directorships. The Board of Directors makes no recommendation with respect to this proposal.

Such other business will be transacted as may properly come before the annual meeting and at any adjournments or postponements thereof.

We hope you will be able to attend the annual meeting. Whether you plan to attend the annual meeting or not, it is important that you cast your vote either in person or by proxy. You may vote over the Internet as well as by telephone or by mail. Therefore, when you have finished reading the proxy statement, you are urged to vote in accordance with the instructions set forth in this proxy statement. We encourage you to vote by proxy so that your shares will be represented and voted at the annual meeting, whether or not you can attend.

If you wish to attend the annual meeting in person, you will need to register with us in advance. You can register by contacting our investor relations office by no later than May 17, 2011, by telephone at (908) 517-7330, by mail at Cyclacel Pharmaceuticals, Inc., 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey, 07922, by fax at (866) 271-3466, or by e-mail to ir@cyclacel.com.

Thank you for your ongoing support of Cyclacel Pharmaceuticals, Inc. We look forward seeing you at the annual meeting.

Sincerely,

/s/ Spiro Rombotis Spiro Rombotis President and Chief Executive Officer

Table of Contents

Cyclacel Pharmaceuticals, Inc. 200 Connell Drive, Suite 1500 Berkeley Heights, New Jersey 07922 United States of America

April 26, 2010

NOTICE OF 2011 ANNUAL MEETING OF STOCKHOLDERS

TIME: 12:30 P.M., E.S.T.

DATE: May 24, 2011

PLACE: 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey, 07922

PURPOSES:

1. For the holders of our common stock ("**Common Stock**") to elect Spiro Rombotis and Dr. David U'Prichard as Class 2 directors to serve three-year terms expiring at the annual meeting in 2014.

2. For the holders of our Common Stock to ratify the appointment of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2011.

3. For the holders of our 6% Convertible Exchangeable Preferred Stock (the "**Preferred Stock**") to elect two directors to serve until the earlier of (a) a term expiring at the 2013 annual meeting of stockholders, in the case of one director, and a term expiring at the 2014 annual meeting, in the case of the other director, and (b) such time as all accrued and unpaid dividends on the Preferred Stock have been declared and paid or set apart for payment.

In addition, the Company will transact any other business that may properly be presented before the annual meeting or at any adjournment or postponement thereof.

WHO MAY VOTE?

You may vote if you were the record holder of our Common Stock and/or Preferred Stock at the close of business on April 4, 2011. A list of stockholders of record will be available at the annual meeting and during the ten days prior to the annual meeting at the office of our Secretary at the above address.

The presence, in person or by proxy, of the holders of a majority of the issued and outstanding shares of Common Stock entitled to vote at the annual meeting is required to constitute a quorum for the proposals to be voted on by the holders of our Common Stock. The presence, in person or by proxy, of the holders of a majority of the issued and outstanding shares of Preferred Stock entitled to vote at the annual meeting is required to constitute a quorum for the proposal to be voted on by the holders of our Common Stock. The presence, in person or by proxy, of the holders of a majority of the issued and outstanding shares of Preferred Stock entitled to vote at the annual meeting is required to constitute a quorum for the proposal to be voted on by the holders of our Preferred Stock. Accordingly, whether you plan to attend the annual meeting or not, we ask that you complete, sign, date and return the enclosed proxy card for the holders of Common Stock and Preferred Stock, as applicable, as soon as possible in accordance with the instructions on the proxy card. A pre-addressed, postage prepaid return envelope is enclosed for your convenience. In the event you are able to attend the annual meeting, you may revoke your proxy and vote your shares in person.

If you plan to attend the annual meeting, you must register in advance by contacting our investor relations office by telephone at (908) 517-7330, by mail at Cyclacel Pharmaceuticals, Inc., 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey, 07922, by fax at (866) 271-3466, or by e-mail to

ir@cyclacel.com. Only record and beneficial owners will be permitted to register. Requests for registration will be processed in the order in which they are received and must be requested by no later than May 17, 2011. Please note that seating is limited and registration of stockholders will be accepted on a first-come, first-served basis. On the day of the annual meeting, each stockholder will be required to present a valid picture identification such as a driver's license or passport. Seating will begin at 11:30 a.m. and the meeting will begin at 12:30 p.m.

BY ORDER OF THE BOARD OF DIRECTORS

/s/ Paul McBarron

Paul McBarron, Secretary

Table of Contents

TABLE OF CONTENTS

| | Page |
|--|------|
| GENERAL INFORMATION ABOUT THE ANNUAL MEETING | 1 |
| SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT | 8 |
| MANAGEMENT AND CORPORATE GOVERNANCE | 10 |
| EXECUTIVE OFFICER AND DIRECTOR COMPENSATION | 17 |
| REPORT OF AUDIT COMMITTEE | 27 |
| SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE | 28 |
| CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS | 29 |
| PROPOSALS TO BE VOTED UPON BY COMMON STOCKHOLDERS | 30 |
| PROPOSAL 1: ELECTION OF CLASS 2 DIRECTORS | 30 |
| PROPOSAL 2: RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM | 31 |
| PREFERRED DIRECTOR ELECTION PROPOSAL: ELECTION OF CLASS 1 AND 2 DIRECTORS | 33 |
| CODE OF CONDUCT AND ETHICS | 34 |
| OTHER MATTERS | 34 |
| STOCKHOLDER PROPOSALS AND NOMINATIONS FOR DIRECTOR | 34 |
| | |

i

Table of Contents

Cyclacel Pharmaceuticals, Inc. 200 Connell Drive, Suite 1500 Berkeley Heights, New Jersey 07922 United States of America

PROXY STATEMENT FOR THE CYCLACEL PHARMACEUTICALS, INC. 2011 ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON MAY 24, 2011

GENERAL INFORMATION ABOUT THE ANNUAL MEETING

Why Did I Receive this Proxy Statement as a Holder of Common Stock?

You received this proxy statement and the enclosed proxy card because the Board of Directors of Cyclacel Pharmaceuticals, Inc. (the "**Company**") is soliciting your proxy to vote at the 2011 annual meeting, and any adjournments or postponements of the meeting, to be held at 12:30 p.m., E.S.T., on May 24, 2011 at our corporate headquarters at 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey 07922. The holders of our Common Stock are entitled only to vote on Proposal 1, the election of Class 2 directors, and Proposal 2, the ratification of the appointment of Ernst & Young LLP as our independent registered public accounting firm, each as described in more detail in this proxy statement. This proxy statement, along with the accompanying Notice of Annual Meeting of Stockholders, summarizes the purposes of the annual meeting and the information that holders of our Common Stock need to know to vote at the annual meeting.

Why Did I Receive this Proxy Statement as a Holder of Preferred Stock?

You received this proxy statement and the enclosed proxy card because the holders of 6% Convertible Exchangeable Preferred Stock (the "**Preferred Stock**") of the Company, are currently entitled to vote and elect directors to fill two newly created directorships to be created on the Company's Board of Directors.

In the Fall of 2010, Lloyd I. Miller, a holder of 10% or more of the Preferred Stock requested that the Company call a special meeting of the holders of our Preferred Stock to vote and elect the two directors entitled to be elected by the holders of Preferred Stock. The Company called and attempted to hold a special meeting of the holders of Preferred Stock for such purpose on October 4, 2010. Because a quorum was not present at such time, the meeting was adjourned until November 1, 2010, at which time a quorum of holders of Preferred Stock was again not present and the meeting was terminated without further adjournment.

Pursuant to the terms of the Company's Certificate of the Powers, Designations, Preferences and Rights governing the Preferred Stock (the "**Certificate**"), holders of the Preferred Stock are entitled to receive, when, as and if declared by the Board of Directors, out of the funds of the Company legally available therefor, cash dividends payable in equal quarterly installments on February 1, May 1, August 1 and November 1. The Certificate further provides that, if the Company is in arrears in an aggregate amount equal to at least six quarterly dividends (whether or not consecutive), the number of members of the Company's Board of Directors will be increased by two, effective as of the time of election of such directors, and the holders of Preferred Stock, voting separately as a class, will have the right to vote and elect such two additional directors. This right accrued to the holders of our Preferred Stock as of August 2, 2010. Although a dividend was paid on February 1, 2011, and one has been declared and is payable on May 2, 2011 the Company is still in arrears in an aggregate amount equal to six quarterly dividends on the Preferred Stock.

In light of the continuing right of the holders of Preferred Stock to elect two directors, Mr. Miller has re-nominated Lloyd Sems and Gregory T. Hradsky to serve as such additional directors. We have not received any other nominations for directors by the holders of the Preferred Stock. Pursuant to the terms of the Certificate, the Board of Directors shall determine which class of directors on the Company's classified board to appoint any individuals elected by the holders of Preferred Stock. The Board of Directors has determined that Mr. Sems, if elected, would be appointed to Class 2, with a term expiring at the Company's 2014 annual meeting of stockholders, and Mr. Hradsky, if elected, would be appointed to Class 1, with a term expiring at the Company's 2013 annual meeting of stockholders. If elected, Messrs. Sems and Hradsky would serve as directors until the earlier of (a) the annual meeting of stockholders at which the class of directors to which such individual has been appointed expires and such individual's successor is duly elected and qualified, and (b) such time as all accrued and unpaid dividends on the Preferred Stock have been declared and paid or set apart for payment.

1

Table of Contents

The holders of the Preferred Stock are entitled only to vote on the proposal relating to the election of Messrs. Sems and Hradsky, as described in more detail in this proxy statement (the "**Preferred Director Election Proposal**"). This proxy statement, along with the accompanying Notice of Annual Meeting of Stockholders, summarizes the purposes of the annual meeting and the information that holders of our Preferred Stock need to know to vote at the annual meeting.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE ANNUAL MEETING TO BE HELD ON MAY 24, 2011. THE PROXY STATEMENT AND ANNUAL REPORT TO STOCKHOLDERS FOR 2011 ARE AVAILABLE AT *WWW.PROXYVOTE.COM*.

On or about April 26, 2010, we began sending this proxy statement, the attached Notice of Annual Meeting of Stockholders and the enclosed proxy card to all stockholders entitled to vote at the annual meeting. Although not part of this proxy statement, we are also sending along with this proxy statement, our 2010 Annual Report, which includes our financial statements for the fiscal year ended December 31, 2010. You can also find a copy of our Annual Report on Form 10-K for the year ended December 31, 2010 on the Internet through the SEC's electronic data system called EDGAR at *www.sec.gov* or through the Investor Relations section of our website at *www.cyclacel.com*. The information in our website is not a part of this proxy statement and is not incorporated by reference into this proxy statement. You may also obtain a printed copy of our Annual Report on Form 10-K, including our financial statements, free of charge, from us by sending a written request to 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey 07922, Attention: Secretary. Exhibits will be provided upon written request and payment of an appropriate processing fee.

Who Can Vote at the Annual Meeting?

Only stockholders who owned our Common Stock and/or Preferred Stock at the close of business on April 4, 2011 are entitled to vote at the annual meeting. On this record date, there were 46,598,688 shares of our Common Stock and 1,213,142 shares of our Preferred Stock issued and outstanding and entitled to vote on the proposals submitted to the holders of our Common Stock and Preferred Stock, respectively.

You do not need to attend the annual meeting to vote your shares. Shares represented by valid proxies, received in time for the annual meeting and not revoked prior to the annual meeting, will be voted at the annual meeting. For instructions on how to change or revoke your proxy, see "May I Change or Revoke My Proxy?" below.

For the ten-day period immediately prior to the annual meeting, the list of the stockholders of record entitled to vote at the annual meeting will be available for inspection at our offices at 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey, 07922, by stockholders for such purposes as are set forth in the General Corporation Law of the State of Delaware. Such list will also be available for inspection at the annual meeting.

How Many Votes Do I Have?

Each share of Cyclacel Common Stock that you own entitles you to one vote with respect to each of Proposals 1 and 2. Each share of Cyclacel Preferred Stock that you own entitles you to one vote with respect to the Preferred Director Election Proposal.

How Do I Vote?

Whether you plan to attend the annual meeting or not, we urge you to vote by proxy. If you vote by proxy, the individuals named on the proxy card applicable to your class of stock, or your "proxies," will vote your shares in the manner you indicate. If you are a holder of our Common Stock, you may specify whether your shares should be voted for all, some or none of the nominees for director or withheld from all or any one of the nominees for director and whether your shares should be voted for, against or abstained with respect to the proposal to ratify the selection of our independent registered public accounting firm. If you are a holder of our Preferred Stock, you may specify whether your shares should be voted for all, some or none of the nominees for director or withheld from all or any one of the nominees for director. Voting by proxy will not affect your right to attend the annual meeting. If your shares are

registered directly in your name through our transfer agent, American Stock Transfer and Trust Company, or you have stock certificates registered in your name, you may submit a proxy to vote:

• **By Internet or by telephone.** Follow the instructions attached to the proxy card applicable to your class of stock to submit a proxy to vote by Internet or telephone.

Table of Contents

- **By mail.** Complete and mail the enclosed proxy card applicable to your class of stock in the enclosed postage prepaid envelope. Your proxy will be voted in accordance with your instructions. As a holder of shares of Common Stock, if you sign the proxy card but do not specify how you want your shares voted, they will be voted as recommended by our Board of Directors.
- In person at the meeting. If you attend the annual meeting, you may deliver your completed proxy card in person or you may vote by completing a ballot, which will be available at the annual meeting. You are required to register in advance of the annual meeting if you plan to attend the annual meeting in person. If you wish to register in advance of the annual meeting, please contact our investor relations office by no later than May 17, 2011, by telephone at (908) 517-7330, by mail at Cyclacel Pharmaceuticals, Inc., 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey, 07922, by fax at (866) 271-3466, or by e-mail to ir@cyclacel.com.

Telephone and Internet voting facilities for all stockholders of record will be available 24-hours a day and will close at 11:59 p.m., E.S.T., on May 23, 2011.

If your shares are held in "street name" (held in the name of a bank, broker or other nominee who is the holder of record), you must provide the bank, broker or other nominee with instructions on how to vote your shares and can do so as follows:

- **By Internet or by telephone.** Follow the instructions you receive from the record holder to vote by Internet or telephone.
- **By mail.** You should receive instructions from the record holder explaining how to vote your shares.
- **In person at the meeting.** Contact the broker, bank or other nominee who holds your shares to obtain a broker's proxy card and bring it with you to the annual meeting. You will not be able to vote at the annual meeting unless you have a proxy card from your broker, bank or other nominee.

How Does the Board of Directors Recommend That I Vote on the Proposals?

The Board of Directors recommends that you vote as follows:

- · As a holder of Common Stock, "FOR" the election of Spiro Rombotis and Dr. David U'Prichard, nominees for Class 2 directors;
- As a holder of Common Stock, "**FOR**" ratification of the selection of our independent registered public accounting firm for the fiscal year ending December 31, 2011; and
- As a holder of Preferred Stock, "**NO RECOMMENDATION**" on whether to vote in favor of or against the election of Lloyd Sems, as a Class 2 director, and Gregory T. Hradsky, as a Class 1 director.

If any other matter is properly presented at the annual meeting, your proxy provides that your shares will be voted by the proxy holder listed on the proxy card in accordance with his or her best judgment. We know of no matters that need to be acted on at the annual meeting, other than those described in this proxy statement.

May I Change or Revoke My Proxy?

If you submit a proxy, you may change or revoke it at any time before the annual meeting. You may change or revoke your proxy in any one of the following ways:

• By submitting a new proxy card with a date later than your previously delivered proxy and submitting it as instructed above or by providing written notice of revocation to us before the annual meeting at 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey, 07922,

3

Table of Contents

Attention: Paul McBarron, Executive Vice President—Finance, Chief Financial Officer, Chief Operating Officer and Secretary;

- · By submitting a later proxy by Internet or by telephone as instructed above; or
- By attending the annual meeting in person and voting in person. Attending the annual meeting in person will not, in and of itself, change or revoke a previously submitted proxy unless you specifically request it or vote by ballot at the annual meeting.

Your most current proxy card or proxy submission by telephone or Internet is the one that will be counted.

Separate proxy cards are being sent to holders of Common Stock and to holders of Preferred Stock. If you hold only shares of Common Stock, you will receive only the proxy card for holders of Common Stock. If you hold only shares of Preferred Stock, you will receive only the proxy card for holders of Preferred Stock. If you hold both shares of Common Stock and Preferred Stock, you will receive both proxy cards, and you should complete both proxy cards if you wish to vote your respective interests in both the Common Stock and Preferred Stock.

In addition, you may receive more than one proxy card or voting instruction form if you hold shares of our Common Stock or Preferred Stock in more than one account, which may be in registered form or held in street name. Please vote in the manner described under "How Do I Vote?" for each account to ensure that all of your shares are voted.

Will My Shares be Voted if I Do Not Vote?

If your shares are registered in your name, they will not be voted if you do not return your proxy card by mail or vote by Internet, telephone or at the annual meeting, as described above under "How Do I Vote?"

If your shares are held in street name and you do not provide voting instructions to the broker, bank or other nominee who holds your shares as described above under "How Do I Vote?," the bank, broker or other nominee that holds your shares has the authority to vote your unvoted shares of Common Stock on Proposal 2 even if it does not receive instructions from you. We encourage you to provide voting instructions. This ensures your shares will be voted at the annual meeting in the manner you desire. However, your broker, bank or other nominee cannot vote your shares on Proposal 2 or the Preferred Director Election Proposal if it has not received instructions from you because such matters are considered non-routine under applicable law. Where your broker, bank or other nominee does not vote on a matter for which it does not have discretionary voting authority, this is referred to as a "broker non-vote."

What Vote is Required to Approve Each Proposal and How are Votes Counted?

Proposal 1: Holders of Common Stock to Elect Two Class 2 Directors

The two nominees for director who receive the most votes (also known as a "plurality" of the votes cast) will be elected. You may vote either FOR all of the nominees, WITHHOLD your vote from all of the nominees or WITHHOLD your vote from any one or more of the nominees. Votes that are withheld will not be included in the vote tally for the election of directors. Brokerage firms do not have authority to vote customers' unvoted shares held by the firms in street name for the election of directors. As a result, any shares not voted by a customer will be treated as a broker non-vote. Such broker non-votes will have no effect on the results of this vote.

4

Table of Contents

Proposal 2: Holders of Common Stock to Ratify The affirmative vote of a majority of the shares of Common Stock cast for this proposal is Selection of Our Independent Registered Public required to ratify the selection of our independent registered public accounting firm. Abstentions **Accounting Firm** will have no effect on this proposal. Brokerage firms have authority to vote customers' unvoted shares held by the firms in street name on this proposal. If a broker does not exercise this authority, such broker non-votes will have no effect on the results of this vote. We are not required to obtain the approval of our holders of Common Stock to select our independent registered public accounting firm. However, if our holders of Common Stock do not ratify the selection of Ernst & Young LLP as our independent registered public accounting firm for the year ending December 31, 2011, our Audit Committee of our Board of Directors will reconsider its selection. **Preferred Director Election Proposal** The two nominees for director who receive the most votes (also known as a "plurality" of the votes cast) will be elected. You may vote either FOR all of the nominees, WITHHOLD your vote from all of the nominees or WITHHOLD your vote from any one or more of the nominees. Votes that are withheld will not be included in the vote tally for the election of directors. Brokerage firms do not have authority to vote customers' unvoted shares held by the firms in street name for the election of directors. As a result, any shares not voted by a customer will be treated as a broker non-vote. Such broker non-votes will have no effect on the results of this vote.

What is the Effect of Not Casting Your Vote?

If you hold your shares of Common Stock or Preferred Stock in street name, it is critical that you submit a proxy or instruct your bank, broker or other nominee to cast your vote if you want your vote to be counted for the election of directors (Proposal 1 of this proxy statement, if you are a holder of Common Stock; Preferred Director Election Proposal in this proxy statement, if you are a holder of Preferred Stock). In the past, if you held your shares in street name and you did not indicate how you wanted your shares voted in the election of directors, your bank, broker or other nominee was allowed to vote those shares on your behalf in the election of directors in the bank, broker or other nominee's discretion.

Recent changes in regulation were made to take away the ability of your bank, broker or other nominee to vote your uninstructed shares in the election of directors on a discretionary basis. Thus, if you hold your shares in street name and you do not instruct your bank, broker or other nominee how to vote in the election of directors, no votes will be cast on this proposal on your behalf. Your bank, broker or other nominee will, however, continue to have discretion to vote any uninstructed shares of Common Stock on the ratification of the appointment of the Company's independent registered public accounting firm (Proposal 2 of this proxy statement). If you are a holder of Common or Preferred stock of record and you do not cast your vote, no votes will be cast on your behalf on any of the items of business at the annual meeting on which your class of stock is entitled to vote.

Is Voting Confidential?

We will keep all of the proxies, ballots and voting tabulations private. We only let our Inspector of Election, a representative of Broadridge Financial Solutions, Inc., examine these documents. Management will not know how you voted on a specific proposal unless it is necessary to meet legal requirements. Broadridge, however, will forward to management any written comments you make, on the proxy card or elsewhere.

What Are the Costs of Soliciting these Proxies?

The solicitation of proxies in the enclosed form is made on behalf of the Board of Directors. The entire cost of soliciting these proxies, including the costs of preparing, printing and mailing this proxy statement and accompanying materials, will be borne by us. We have engaged Morrow & Co., LLC, 470 West Ave., Stamford, CT 06902, to assist us with the solicitation of proxies with respect to Proposals 1 and 2 for a fee of \$5,500, plus expenses. In addition, proxies may be solicited personally, by telephone or otherwise, by our officers, directors and employees, and, with respect to the Preferred Director Election Proposal, by Messrs. Lloyd Miller, Lloyd Sems and Gregory T. Hradsky, none of whom will receive any compensation for these services. Mr. Miller has engaged Okapi Partners LLC, 437

Table of Contents

Madison Avenue, 28th Floor, New York, NY 10022, at his own expense, to assist in the solicitation of proxies of holders of our Preferred Stock with respect to the Preferred Director Election Proposal, for a fee of \$15,000, plus expenses. We will ask banks, brokers and other nominees to forward these proxy materials to their principals and obtain authority to execute proxies. We will then reimburse such parties for their reasonable expenses incurred in connection with these activities.

What Constitutes a Quorum for the Annual Meeting?

With respect to Proposals 1 and 2, the presence, in person or by proxy, of the holders of a majority of the issued and outstanding shares of our Common Stock entitled to vote at the meeting is necessary to constitute a quorum at the annual meeting.

With respect to the Preferred Director Election Proposal, the presence, in person or by proxy, of the holders of a majority of the issued and outstanding shares of our Preferred Stock entitled to vote at the meeting is necessary to constitute a quorum at the annual meeting.

Votes of stockholders of record of each class who are present at the annual meeting in person or by proxy and abstentions are counted for purposes of determining whether a quorum exists as to each such class of capital stock. Broker non-votes will be counted for purposes of determining whether a quorum exists with respect to the Common Stock Proposals 1 and 2, but will not be counted with respect to the Preferred Director Election Proposal.

What Dissenters' Rights Do I Have?

Under Delaware law, none of our stockholders are entitled to rights of appraisal on any proposal referred to herein.

Attending the Annual Meeting

The annual meeting will be held at 12:30 P.M., E.S.T., on May 24, 2011, at our corporate headquarters at 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey 07922. When you arrive at our corporate headquarters, signs will direct you to the appropriate meeting room. You need not attend the annual meeting in order to vote.

If you plan to attend the meeting, you must register in advance by no later than May 17, 2011. Registration will be granted only to record and beneficial owners. You may register by contacting our investor relations office by telephone at (908) 517-7330, by mail at Cyclacel Pharmaceuticals, Inc., 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey 07922, by fax at (866) 271-3466, or by e-mail to ir@cyclacel.com. When contacting us, please provide the class of shares you hold and the name under which you hold shares of record or the evidence of your beneficial ownership of shares described below.

Please note that if you hold your shares in "street name" (that is, through a broker, bank or other nominee), you will need to send a written request for registration either by regular mail, fax or e-mail, along with proof of share ownership, such as a copy of the portion of your voting instruction form showing your name and address, a bank or brokerage firm account statement or a letter from the broker, bank or nominee holding your shares, confirming ownership. Requests for registration will be processed in the order in which they are received and must be requested no later than May 17, 2011. Please note that seating is limited and requests for registration will be accepted on a first-come, first-served basis. On the day of the annual meeting, each stockholder will be required to present a valid picture identification such as a driver's license or passport. Seating will begin at 11:30 A.M. and the meeting will begin at 12:30 P.M.

Householding of Annual Disclosure Documents

In December 2000, the Securities and Exchange Commission, or the SEC, adopted a rule concerning the delivery of annual disclosure documents. The rule allows us or your broker, bank or other nominee to send a single set of our annual report and proxy statement to any household at which two or more of our stockholders reside, if we or your broker, bank or other nominee believe that the stockholders are members of the same family. This practice, referred to as "householding," benefits both you and us. It reduces the volume of duplicate information received at your household and helps to reduce our expenses. The rule applies to our annual reports, proxy statements and information statements. Once you receive notice from your broker, bank or other nominee or from us that communications to your address will be "householded," the practice will continue until you are otherwise notified or until you revoke your consent to the practice. Each stockholder will continue to receive a separate proxy card or voting instruction card.

Table of Contents

If your household received a single set of disclosure documents this year, but you would prefer to receive your own copy, please contact Broadridge Financial Solutions, Inc., by calling their toll free number, 1-888-237-1900.

If you do not wish to participate in "householding" and would like to receive your own set of our annual disclosure documents in future years, follow the instructions described below. Conversely, if you share an address with another holder of our Common Stock and together both of you would like to receive only a single set of our annual disclosure documents, follow these instructions:

- If your shares are registered in your own name, please contact Broadridge Financial Solutions, Inc., and inform them of your request by calling them at 1-888-237-1900 or writing them at 51 Mercedes Way, Edgewood, New York, 11717.
- If a broker, bank or other nominee holds your shares, please contact the broker, bank or other nominee directly and inform them of your request. Be sure to include your name, the name of your brokerage firm and your account number.

Electronic Delivery of Company Stockholder Communications

Most stockholders can elect to view future proxy statements and annual reports over the Internet instead of receiving paper copies in the mail.

You can choose this option and save the cost of producing and mailing these documents by:

- following the instructions provided on your proxy card or voter instruction form;
- following the instructions provided when you submit a proxy to vote over the Internet; or
- going to www.proxyvote.com and following the instructions provided.

7

Table of Contents

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information with respect to the beneficial ownership of our Common Stock and Preferred Stock as of April 18, 2011 for (a) the executive officers named in the Summary Compensation Table on page 17 of this proxy statement, (b) each of our directors and director nominees, (c) all of our current directors and executive officers as a group, and (d) each stockholder known by us to own beneficially more than 5% of each class of our Common and Preferred Stock, relying solely upon the amounts and percentages disclosed in their public filings.

Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to the securities. We deem shares of common stock that may be acquired by an individual or group within 60 days of April 18, 2011 pursuant to the exercise of options or warrants to be outstanding for the purpose of computing the percentage ownership of such individual or group, but are not deemed to be outstanding for the purpose of computing the percentage ownership of such individual or group, but are not deemed to be outstanding for the purpose of computing the percentage ownership of any other person shown in the table. Except as indicated in footnotes to this table, we believe that the stockholders named in this table have sole voting and investment power with respect to all shares of stock shown to be beneficially owned by them based on information provided to us by these stockholders.

Percentage of ownership is based on 46,601,758 shares of Common Stock and 1,213,142 shares of Preferred Stock outstanding as of April 18, 2011.

The address for each of the directors and named executive officers is c/o Cyclacel Pharmaceuticals, Inc., 200 Connell Drive Suite 1500, Berkeley Heights, New Jersey 07922. Addresses of other beneficial owners are noted in the table.

| | Number of Shares of Common Stock Beneficially Owned(1) | Percentage of Common Stock Owned | Number of Shares of Preferred Stock Beneficially Owned(1) | Percentage of Preferred Stock Owned |
|---|--|--|---|---|
| Directors, Director Nominees and Executive Officers | | | | |
| Dr. Nicholas Bacopoulos (2) | 42,309 | * | 0 | 0% |
| Sir John Banham(3) | 132,514 | * | 0 | 0% |
| Dr. Judy Chiao(4) | 359,955 | * | 0 | 0% |
| Dr. Christopher Henney(5) | 218,419 | * | 0 | 0% |
| Paul McBarron(6) | 561,622 | 1.20% | 0 | 0% |
| Spiro Rombotis(7) | 1,050,385 | 2.23% | 0 | 0% |
| Daniel K. Spiegelman(8) | 126,370 | * | 0 | 0% |
| Dr. David U'Prichard(9) | 230,183 | * | 0 | 0% |
| Lloyd Sems | 0 | * | 0 | 0% |
| Gregory T. Hradsky | 0 | * | 0 | 0% |
| Executive officers and directors as a group (9 persons)(10) | 2,834,922 | 5.84% | 0 | 0% |
| 5% or more stockholders | | | | |
| Austin W. Marxe and David M. Greenhouse(11) | | | | |
| 527 Madison Avenue, Suite 2600, New York, NY 10022 | 9,911,148 | 19.69% | 0 | 0% |
| Lloyd I. Miller(12) | | | | |
| 4550 Gordon Drive, Naples, FL 34102 | 0 | 0% | 245,163 | 20.21% |
| | | | | |

* Represents beneficial ownership of less than 1% of the outstanding shares of our Common Stock.

(1) Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Beneficial ownership also includes shares of Common Stock subject to options and warrants currently exercisable or convertible, or exercisable or convertible within 60 days of April 18, 2011. Except as indicated by footnote, to our knowledge, all persons named in the table

Table of Contents

- (2) Includes options to purchase 39,809 shares of Common Stock that are exercisable within 60 days of April 18, 2011.
- (3) Includes options to purchase 95,667 shares of Common Stock that are exercisable within 60 days of April 18, 2011.
- (4) Includes options to purchase 286,787 shares of Common Stock that are exercisable within 60 days of April 18, 2011. Also includes 9,893 restricted stock units.
- (5) Includes options to purchase 211,252 shares of Common Stock that are exercisable within 60 days of April 18, 2011.
- (6) Includes options to purchase 385,568 shares of Common Stock that are exercisable within 60 days of April 18, 2011.
- (7) Includes options to purchase 492,227 shares of Common Stock that are exercisable within 60 days of April 18, 2011. Also includes 19,786 restricted stock units. Of the shares of Common Stock reported, 1,000 shares are held indirectly by Mr. Rombotis through his IRA account.
- (8) Includes options to purchase 126,370 shares of Common Stock that are exercisable within 60 days of April 18, 2011.
- (9) Includes options to purchase 204,877 shares of Common Stock that are exercisable within 60 days of April 18, 2011.
- (10) See footnotes (2)-(9). Also includes options to purchase 113,165 shares of Common Stock held by Robert Sosnowski, our Vice President, Sales & Marketing, which are exercisable within 60 days of April 18, 2011.
- (11) Based on a Schedule 13G filed on February 11, 2011 with the SEC by Austin W. Marxe ("Marxe") and David M. Greenhouse ("Greenhouse"). Marxe and Greenhouse share sole voting and investment power over 4,106,900 shares of common stock, 2,724,073 warrants to purchase shares of common stock, 176,200 warrants (not currently exercisable) and options to purchase 2,053,450 units (each unit consists of one share of common stock and warrant to purchase 0.5 of common stock). This amount includes 547,600 shares of common stock, 381,965 warrants to purchase shares of common stock, 26,400 warrants (not currently exercisable) and options to purchase 273,800 units (each unit consists of one share of common stock and warrant to purchase 0.5 of common stock) owned by Special Situations Private Equity Fund, L.P., 684,500 shares of common stock, warrants to purchase 342,250 shares of common stock and options to purchase 342,250 units (each unit consists of one share of common stock and warrant to purchase 0.5 of common stock) are owned by Special Situations Cayman Fund, L.P., 2,053,400 shares of common stock, 1,459,360 warrants to purchase shares of common stock, 114,000 warrants (not currently exercisable) and options to purchase 1,026,700 units (each unit consists of one share of common stock and warrant to purchase 0.5 of common stock) owned by Special Situations Fund III QP, L.P. and 821,400 shares of common stock, 540,498 warrants to purchase shares of common stock, 35,800 warrants (not currently exercisable) and options to purchase 410,700 units (each unit consists of one share of common stock and warrant to purchase 0.5 of common stock) owned by Special Situations Life Sciences Fund, L.P. Marxe and Greenhouse are the controlling principals of AWM Investment Company, Inc., the general partner of and investment adviser to Special Situations Cayman Fund, L.P. AWM also serves as the general partner of MGP Advisers Limited Partnership, the general partner of Special Situations Fund III QP, L.P. Marxe and Greenhouse are members of MG Advisers L.L.C., the general partner of Special Situations Private Equity Fund, L.P. Marxe and Greenhouse are also members of LS Advisers L.L.C., the general partner of Special Situations Life Sciences Fund, L.P. AMW serves as the investment adviser to Special Situations Private Equity Fund, L.P., Special Situations Fund III QP, L.P. and Special Situations Life Sciences Fund, L.P.
- (12) Based on a letter dated February 16, 2011, sent to the Company by Mr. Miller.

9

Table of Contents

MANAGEMENT AND CORPORATE GOVERNANCE

The Board of Directors

Our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, as amended, provide that our business is to be managed by or under the direction of the Board of Directors. Our Board of Directors is divided into three classes for purposes of election. One class is elected at each annual meeting of stockholders to serve for a three-year term. Our Board of Directors currently consists of seven members, classified into three classes as follows: (1) Sir John Banham and Daniel K. Spiegelman constitute Class 1, with a term ending at the 2013 annual meeting; (2) Spiro Rombotis and David U'Prichard, Ph.D. constitute Class 2, with a term ending at the 2011 annual meeting; and (3) Paul McBarron, Nicholas Bacopoulos, Ph.D. and Christopher S. Henney, Ph.D., D.Sc. constitute Class 3, with a term ending at the 2012 annual meeting.

On March 30, 2011, our Board of Directors voted to nominate Spiro Rombotis and David U'Prichard, Ph.D., for election as Class 2 directors at the annual meeting for a term of three years to serve until the 2014 annual meeting of stockholders, and until their respective successors have been elected and qualified.

In addition, the holders of our Preferred Stock, voting separately as a class, are entitled to vote and elect two additional directors pursuant to the terms of the Certificate. Lloyd Sems and Gregory T. Hradsky have been nominated by a holder of our Preferred Stock. Thus, after the annual meeting (and assuming a quorum of the holders of Preferred Stock is obtained at the annual meeting), our Board of Directors will consist of nine members, provided that the right of the holders of our Preferred Stock to elect directors as a separate class will end at such time as all accrued and unpaid dividends on the Preferred Stock have been declared and paid or set apart for payment. Such directorships shall also expire at such time.

Set forth below are the names of the persons nominated as directors and our current directors, their ages, their offices in the Company, if any, their principal occupations or employment for the past five years, the length of their tenure as directors and the names of other public companies in which such persons hold or have held directorships during the past five years. In addition, the following paragraphs include specific information about the experience, qualifications, attributes or skills of each of our directors, other than Messrs. Sems and Hradsky, who were nominated by Mr. Miller, that led the Board of Directors to the conclusion that the individual is qualified to serve on the Board of Directors as of the time of this filing, in light of our business and structure.

| Name | Age | Position |
|----------------|-----|---|
| Spiro Rombotis | 52 | President and Chief Executive Officer; Common Stock Nominee for Class 2 Director |
| Paul McBarron | 50 | Executive Vice President—Finance, Chief Financial Officer, Chief Operating Officer and Secretary; Class 3 |

| | Director |
|----|---|
| 62 | Class 3 Director |
| 70 | Class 1 Director |
| 70 | Vice Chairman; Class 3 Director |
| 52 | Class 1 Director |
| 62 | Chairman of the Board of Directors; Common Stock Nominee for Class 2 Director |
| 39 | Preferred Stock Nominee for Class 2 Director |
| 50 | Preferred Stock Nominee for Class 1 Director |
| | 70 70 52 62 39 |

Preferred Stock Nominee for Class 1 Director (Term to Expire in 2013)

Gregory T. Hradsky. Based on information provided to us by Mr. Miller, Mr. Hradsky has been an independent financial consultant since February 2006. He has served on the board of directors of Sielox, Inc. since June 2008 where he is Chairman of the Audit Committee. Between May 2003 and February 2006, Mr. Hradsky was a Vice President of Avenue Capital Group, a global investment firm, where he managed a portfolio of distressed securities, post-reorganization equities and other investments. From 1999 until 2003, Mr. Hradsky was the founder and Managing Partner of Bellport Capital, an investment firm specializing in distressed securities. Prior to that,

10

Table of Contents

Mr. Hradsky was a Managing Director and Head of the Distressed Securities Group at UBS Securities LLC from 1993 until 1998. Mr. Hradsky joined UBS in 1991 as a research analyst focusing on distressed credits. Prior to UBS, Mr. Hradsky was a member of the Distressed Securities Group and the High Yield Research Department at the First Boston Corporation from 1988-1991. He began his career at T. Rowe Price Associates in 1983 and worked in the Fixed Income Department until 1986. Mr. Hradsky has a B.A. from Loyola College in Maryland and an M.B.A. from the Wharton School of the University of Pennsylvania.

Only a holder of our Preferred Stock as of the record date is entitled to vote with respect to the election of Mr. Hradsky.

Continuing Class 1 Directors (Terms to Expire in 2013)

Sir John Banham. Sir John Banham is currently the Chairman of Johnson Matthey plc and Sultan Scientific Limited, and senior non-executive director of Invesco Limited. He is past Director General of the Confederation of British Industry (CBI) and past Chairman of Whitbread plc, Geest plc, ECI Partners LLP, Tarmac plc and Kingfisher plc. His public sector appointments comprise first Controller of the Audit Commission and first Chairman of the Local Government Commission for England. He was formerly Honorary Treasurer of the United Kingdom's Cancer Research Campaign prior to its merger with Imperial Cancer Research. He is a graduate of Cambridge University in Natural Sciences and has honorary degrees from a number of British universities.

Sir John Banham is qualified for service on our Board of Directors based on his professional experience and public service involvement in the business and scientific arenas in which our Company operates.

Daniel K. Spiegelman, M.B.A. Mr. Spiegelman had served as one of Xcyte's directors since September 2004, and continued on as a director of the Company. Mr. Spiegelman had served as the Senior Vice President and Chief Financial Officer of CV Therapeutics, Inc. since September 1999. From January 1998 to September 1999, Mr. Spiegelman served as the Vice President and Chief Financial Officer of CV Therapeutics, Inc. From 1991 until 1998, Mr. Spiegelman was employed by Genentech, Inc., a biotechnology company, holding various positions in the Treasury department, including the position of Treasurer from 1996 to 1998. Mr. Spiegelman also serves as a member of the board of directors of Affymax, Inc., Omeros Inc, Oncothyreon, Inc. and Anthera Pharmaceuticals Inc, publicly-traded biopharmaceuticals companies, as well as some private biotech companies. Mr. Spiegelman holds a B.A. in Economics from Stanford University and an M.B.A. from Stanford Graduate School of Business.

Mr. Spiegelman is qualified for service on our Board of Directors based on his extensive background in finance as well as his senior management experience with other biotechnology public companies. In addition, his current service on the board of directors of other public companies in the biopharmaceutical industry brings invaluable expertise to our Board of Directors.

Common Stock Nominees for Class 2 Directors (Terms to Expire in 2014)

Spiro Rombotis. Mr. Rombotis joined Cyclacel in August 1997 and has over 28 years of experience with pharmaceutical and biotechnology companies. He was previously Vice President of International Operations and Business Development; Managing Director, Europe; and Director, Japanese joint venture, at The Liposome Company, Inc. He also served as Vice President of Pharmaceuticals for Central and Eastern Europe and as Director of International Marketing at Bristol-Myers Squibb Company. He was Head of European Marketing and Sales, Head of Corporate Development and one of the first employees of Centocor, Inc. and worked in Business Development at Novartis AG. He holds a B.A. from Williams College and an M.B.A. and Master's degree in Hospital Management with honors, from the Kellogg Graduate School of Management, where he serves on the Kellogg Biotech Advisory Board. He also serves on the Board of Trustees of BioNJ, the biotechnology industry trade group in New Jersey.

Mr. Rombotis is qualified for service on our Board of Directors due to his many years of experience in the pharmaceutical and biotechnology industries as well as his managerial expertise and leadership skills. As the Company's Chief Executive Officer, Mr. Rombotis brings to the Board of Directors valuable knowledge of the Company's business, operations, strategy and future development prospects.

Only a holder of our Common Stock as of the record date is entitled to vote with respect to the election of Mr. Rombotis.

Table of Contents

David U'Prichard, *Ph.D.* Dr. U'Prichard joined the Board of Directors of Cyclacel in May 2004. He is currently President of Druid Consulting LLC, a pharmaceutical and biotechnology-consulting firm, providing customized services to life sciences clients in the United States and Europe. He is also a Venture

Partner with Red Abbey Venture Partners, private equity providers. Previously, he was Chief Executive Officer of 3-Dimensional Pharmaceuticals, Inc. from 1999 to 2003. In addition, he held a variety of positions within the pharmaceutical and biotechnology industries, including, President and Chairman of Research and Development for SmithKline Beecham Pharmaceuticals; Executive Vice President and International Research Director, and a Member of the Board of Management of Zeneca Pharmaceuticals; General Manager, Research Department, ICI Pharmaceuticals, and Vice President Biomedical Research, ICI Pharmaceuticals; and Senior Vice President and Scientific Director for Nova Pharmaceuticals Corporation. He is a director of Life Technologies, Inc. and Silence Therapeutics plc. and he served as a director of Alpharma, Inc., Guilford Pharmaceuticals Inc. and Lynx Therapeutics, Inc. He is the non-executive Chairman of Oxagen Ltd and he was Chairman of the Pennsylvania Biotechnology Association in 2004-2005. From 1992 to 1997, he was a member of the board of directors of the Biotechnology Industry Organization (BIO). He received a B.Sc. in Pharmacology from University of Glasgow in 1970 and a Ph.D. in Pharmacology from University of Kansas in 1975.

Dr. U'Prichard is qualified for service on our Board of Directors based on his significant senior level pharmaceutical industry experience and his extensive background in the consulting and financing realms of the pharmaceutical industry.

Only a holder of our Common Stock as of the record date is entitled to vote with respect to the election of Dr. U'Prichard.

Preferred Stock Nominee for Class 2 Directors (Terms to Expire in 2014)

Lloyd Sems. Based on information provided to us by Mr. Miller, Mr. Sems has served as President of Sems Capital, LLC and of Capital Edge, LLC, both of which he founded, since October 2003. He has also served as a director of Selectica, Inc. since June 2, 2008, and as Chairperson of the Nominating/Corporate Governance Committee of the Selectica Board since May 20, 2009. Previously, Mr. Sems served as Director of Research and Portfolio Manager for Watchpoint Asset Management. Mr. Sems holds a Bachelor of Science degree in Business Administration and Finance from Albright College. Mr. Sems also serves on the Board of Directors of Sport-Haley, Inc. (OTC Pink Sheets: SPOR), which he joined in April 2009. Mr. Sems also served on the Board of Directors of EMAK Worldwide, Inc. from February 2010 to April 2010.

Only a holder of our Preferred Stock as of the record date is entitled to vote with respect to the election of Mr. Sems.

Continuing Class 3 Directors (Terms to Expire in 2012)

Paul McBarron. Mr. McBarron joined Cyclacel in January 2002 and has over 20 years of experience with pharmaceutical and biotechnology companies. He has served as a financial executive at Sterling Drug, Sanofi-Winthrop and SmithKline Beecham and most recently, from 1996 to 2001, as a senior member of the finance team at Shire Pharmaceuticals plc, where he held the positions of Director of Corporate Finance and Group Financial Controller. He joined Shire when it was an emerging public company. He qualified as a chartered accountant with Ernst & Young and serves on the Life Sciences Industry Advisory Board for the Scottish Government.

Mr. McBarron is qualified for service on our Board of Directors based on his financial expertise and his extensive experience in the pharmaceutical industry. As the Company's Chief Financial Officer and Chief Operating Officer, Mr. McBarron also provides the Board of Directors with unique insight into the Company's financial and operations, as well as the Company's strategy.

Nicholas Bacopoulos, Ph.D. Dr. Bacopoulos joined the Board of Directors of Cyclacel in September 2008. He is currently the Chief Executive Officer of. Mersana Therapeutics, a private biotechnology company. Prior to that, Mr. Bacopoulos was a consultant to biotech and pharmaceutical companies. His previous leadership roles include Chief Executive Officer and President of Aton Pharma, Inc., where he led the development of Zolinza®, approved for the treatment of cutaneous T-cell lymphoma. Aton was subsequently acquired by Merck & Co., Inc. He was previously President and Head of Research and Development at OSI Pharmaceuticals, Inc. where he was involved with the global development of Tarceva®, approved for the treatment of non-small cell lung cancer and pancreatic cancer. Dr. Bacopoulos also worked for 17 years at Pfizer, where he held senior positions within Pfizer Central Research

| 1 | 7 |
|---|---|
| Т | _ |
| | |

Table of Contents

and Corporate Strategic Planning. He led the company's Cancer and Neuroscience Research groups, which developed several marketed drugs, including Geodon® and Zoloft®, and produced a significant pipeline of oncology drug candidates, several of which are in clinical trials. Dr. Bacopoulos also serves on the board of directors of Mersana Therapeutics, Inc. and Medexis Biotech, S.A., both privately-held biotechnology companies. He received his B.A. degree from Cornell College and his Ph.D. from the University of Iowa. He completed additional coursework and obtained a postdoctoral fellowship at Yale University School of Medicine.

Dr. Bacopoulos is qualified for service on our Board of Directors based on his senior executive level experience in pharmaceutical companies, his educational background and his breadth of knowledge in the development of drugs for cancer, which enable Dr. Bacopoulos to contribute to the Company's strategy and strategic initiatives.

Christopher S. Henney, Ph.D. D.Sc. Dr. Henney had served as one of Xcyte's directors since March 2005, and continued on as Vice Chairman of the Company. Previously, Dr. Henney co-founded three major publicly held U.S. biotechnology companies, Immunex, ICOS and Dendreon, and held a seat on the board of directors and executive positions at each company. From 1995 to January 2003, Dr. Henney was Chairman and Chief Executive Officer of Dendreon Corporation. Dr. Henney currently serves as the Chairman of Oncothyreon, Inc. and Anthera Pharmaceuticals, Inc. Dr. Henney received a Ph.D. in experimental pathology from the University of Birmingham and a D.Sc. from the same university for contributions to the field of immunology.

Dr. Henney is qualified for service on our Board of Directors based on his senior executive experience in biotechnology companies. Dr. Henney has extensive knowledge and educational background in the relevant industry and he provides the Board of Directors with valuable leadership skills.

Director Independence

Our Board of Directors has reviewed the materiality of any relationship that each of our directors has with the Company, either directly or indirectly. Based upon this review, our Board of Directors has determined that each of the following directors is an "independent director" as such term is defined by rules of The NASDAQ Stock Market, Inc., or NASDAQ:

· Nicholas Bacopoulos, Ph.D.

- · Sir John Banham
- · Christopher Henney, Ph.D, D.Sc.
- · Daniel K. Spiegelman, M.B.A.
- · David U'Prichard, Ph.D.

The Board of Directors has established three standing committees, (1) the Compensation and Organization Development Committee, (2) the Audit Committee, and (3) the Nominating and Corporate Governance Committee. The Board of Directors has also determined that each member of these committees meets the independence requirements applicable to each such committee as prescribed by NASDAQ and the SEC.

Committees of the Board of Directors and Meetings

Meeting Attendance. During the fiscal year ended December 31, 2010, there were five meetings of our Board of Directors, and the various committees of the Board of Directors met a total of seven times. No director attended fewer than 80% of the total number of meetings of the Board of Directors and of committees of the Board of Directors on which he served during fiscal year 2010. Seven of our directors attended, in person, our annual meeting of stockholders held in 2010.

Audit Committee. Our Audit Committee met four times during fiscal 2010. The Audit Committee currently has three members, Daniel K. Spiegelman (Chairman), Sir John Banham and Dr. Christopher Henney. All members of the Audit Committee satisfy the current independence standards promulgated by the NASDAQ and SEC, as such standards apply specifically to members of audit committees. The Board of Directors has determined that Mr. Spiegelman is an "audit committee financial expert," as the SEC has defined that term in Item 407 of Regulation S-K.

13

Table of Contents

Our Audit Committee oversees and monitors the processes management has in place to maintain the reliability and integrity of our accounting policies and financial reporting processes, to ensure the adequacy of internal accounting, financial reporting and disclosure controls, and to comply with legal and regulatory requirements that may impact our financial reporting and disclosure obligations. The Audit Committee is also responsible for reviewing the qualifications, independence and performance of, and selecting or replacing, if necessary, our independent registered public accounting firm and approving all audit and non-audit services and fees related thereto. In addition, the Audit Committee is responsible for reviewing, in consultation with our management and independent registered public accounting firm, the scope and results of (1) reviews of our quarterly financial statements, (2) audits of our annual financial statements, and (3) audits of our system of internal control over financial reporting and management's assessment of the effectiveness thereof. The Audit Committee may also perform other duties and responsibilities as the Audit Committee or the Board of Directors deems appropriate or necessary, including reviewing, evaluating and approving related-party or similar transactions or relationships. Please also see the report of the Audit Committee set forth elsewhere in this proxy statement.

The Audit Committee maintains a written charter that outlines its responsibilities, which it reviews and reassesses annually and recommends any changes to the Board of Directors for approval. A copy of the Audit Committee's written charter is publicly available on our website at *www.cyclacel.com*.

Compensation and Organization Development Committee. Our Compensation and Organization Development Committee met three times during fiscal 2010. The Compensation and Organization Development Committee is composed entirely of directors who are not our current or former employees, all of whom qualify as independent under the definition promulgated by the NASDAQ and SEC. The Compensation and Organization Development Committee currently has three members: Dr. Christopher Henney (Chairman), Dr. Nicholas Bacopoulos and Dr. David U'Prichard. Generally, our Compensation and Organization Development Committee reviews, approves and makes recommendations regarding our compensation policies, practices and procedures to ensure that legal and fiduciary responsibilities of the Board of Directors are carried out and that such policies, practices and procedures contribute to our success. The Compensation and Organization Development Committee also develops and implements policies, principles and procedures for the selection and performance review of the Company's executive officers (including our Chief Executive Officer), other officers, directors, employees, consultants, and advisors; interprets and administers our Amended and Restated 2006 Equity Incentive Plan.

A copy of the Compensation and Organization Development Committee's written charter is publicly available on our website at www.cyclacel.com.

Nominating and Corporate Governance Committee. Our Nominating and Corporate Governance Committee conducted its affairs during meetings of our Board of Directors, including a self-evaluation process which was undertaken by our Board of Directors, and did not meet separately. The Nominating and Corporate Governance Committee has two members, Sir John Banham (Chairman) and Mr. Daniel K. Spiegelman, both of whom qualify as independent under the definition promulgated by the NASDAQ and SEC. The functions of the Nominating and Corporate Governance Committee include making recommendations to the full Board of Directors as to particular nominees for election or appointment to the Board of Directors; making recommendations to the full Board of Directors as to particular and operations of the committees of the Board of Directors; reviewing and assessing the adequacy of our corporate governance guidelines, principles and practices and recommending changes to the full Board of Directors for approval; monitoring compliance with our Corporate Code of Conduct and Ethics; and reviewing and maintaining oversight of matters relating to the independence, operation and effectiveness of the Board of Directors and committee members.

The Nominating and Corporate Governance Committee may consider candidates recommended by stockholders as well as from other sources, such as other directors or officers, third party search firms or other appropriate sources for all potential candidates. The Nominating and Corporate Governance Committee may consider all factors it deems relevant, such as a candidate's personal integrity and sound judgment, business and professional skills and experience, independence, knowledge of the industry in which we operate, possible conflicts of interest, diversity, the extent to which the candidate would fill a present need on the Board of Directors, and concern for the long-term interests of the stockholders. In general, persons recommended by stockholders will be considered on the same basis as candidates from other sources. If a stockholder wishes to nominate a candidate to be considered for election as a director at our 2011 annual meeting of stockholders, such a recommendation should be submitted in writing to the Nominating and Corporate Governance Committee, c/o Paul McBarron, Secretary, Cyclacel Pharmaceuticals, Inc., 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey 07922. Any such written recommendation should include a minimum of the

Table of Contents

following: (a) all information relating to such person that would be required to be disclosed pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended, or the Exchange Act (including such person's consent to being named in the proxy statement as a nominee and to serving as a director, if elected); (b) the name(s) and address(es) of the stockholder(s) making the recommendation; and (c)(i) the name, age, business address and residence address of such nominee, (ii) the principal occupation or employment of such nominee, (iii) the class and number of shares of the Company which are beneficially owned by such person and (iv) any other information relating to such nominee that is required to be disclosed in solicitations of proxies for election of directors. Any such recommendation should be submitted in the time frame for stockholder proposals which are to be included in proxy materials for the annual meeting to be held in 2012 under the caption, "Stockholder Proposals and Nominations for Director" set forth elsewhere in this proxy statement.

We have no formal policy regarding board diversity. Our Nominating and Corporate Governance Committee and Board of Directors may therefore consider a broad range of factors relating to the qualifications and background of nominees, which may include diversity, which is not only limited to race, gender or national origin. Our Nominating and Corporate Governance Committee and Board of Directors' priority in selecting members is identification of persons who will further the interests of our stockholders through his or her established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members and professional and personal experiences and expertise relevant to our growth strategy.

A copy of the Nominating and Corporate Governance Committee's written charter is publicly available on the Company's website at www.cyclacel.com.

Board Leadership Structure

Dr. U'Prichard serves as the Chairman of our Board of Directors and Mr. Rombotis serves as our President and Chief Executive Officer. Dr. U'Prichard is an independent director under the definition promulgated by the NASDAQ and SEC and we believe that it is preferable for one of our independent directors to serve as Chairman of the Board of Directors. We also believe that this structure is the most effective structure for us and our stockholders at this time because a separate chairman (i) can provide the Chief Executive Officer with guidance and feedback on his performance, (ii) provides a more effective channel for the Board of Directors to express its views on management, and (iii) allows the Chairman to focus on stockholder interests and corporate governance while providing Mr. Rombotis with the ability to focus his attention on managing our day-to-day operations. As Dr. U'Prichard has significant senior level pharmaceutical industry experience, he is particularly well-suited to serve as Chairman.

We recognize that different board leadership structures may be appropriate for companies in different situations. We will continue to re-examine our corporate governance policies and leadership structures on an ongoing basis to ensure that they continue to meet the Company's needs.

Role in Risk Oversight

Management is responsible for managing the risks that we face. The Board of Directors is responsible for overseeing management's approach to risk management that is designed to support the achievement of organizational objectives, including strategic objectives and risks associated with our clinical trials, to improve long-term organizational performance and enhance stockholder value. The involvement of the full Board of Directors in reviewing our strategic objectives and plans, including with respect to our clinical trials, is a key part of the Board of Directors' assessment of management's approach and tolerance to risk. 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 us. In setting our business strategy, our Board of Directors assesses the various risks being mitigated by management and determines what constitutes an appropriate level of risk for us.

While the Board of Directors has ultimate oversight responsibility for overseeing management's risk management process, various committees of the Board of Directors assist it in fulfilling that responsibility.

The Audit Committee assists the Board of Directors in its oversight of risk management in the areas of financial reporting, internal controls and compliance with legal and regulatory requirements, the Nominating and Corporate Governance Committee reviews legal and regulatory compliance risks and the Compensation and Organization Development Committee assists the Board of Directors in its oversight of the evaluation and management of risks related to our compensation policies and practices.

Table of Contents

Stockholder Communications to the Board of Directors

Generally, stockholders who have questions or concerns should contact our Investor Relations department at (908) 517-7330 or email at ir@cyclacel.com. However, stockholders wishing to submit written communications directly to the Board of Directors should send their communications to our Secretary, Paul McBarron, Cyclacel Pharmaceuticals, Inc., 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey 07922. All stockholder communications will be considered by the independent members of our Board of Directors.

Executive Officers

The following table sets forth certain information regarding our current executive officers who are not also members of our Board of Directors. All such executive officers are at-will employees.

| Name | Age | Position |
|------------------|-----|---|
| Dr. Judy Chiao | 51 | Vice President, Clinical Development and Regulatory Affairs |
| Robert Sosnowski | 52 | Vice President, Sales & Marketing |

Judy Chiao, M.D. Dr. Chiao joined Cyclacel in December 2004. From September 2002 to December 2004, she was at Aton Pharma, Inc., a wholly owned subsidiary of Merck & Co. Inc., most recently as Vice President, Oncology Clinical Research and Development. Prior to Aton's acquisition by Merck, she was responsible for leading the clinical development of Zolinza®, a histone deacetylase inhibitor, for hematologic and solid tumor indications. From July

2000 to December 2001, Dr. Chiao was a Senior Medical Reviewer, Division of Oncology Drug Products, Center for Drug Evaluation and Research, U.S. Food and Drug Administration, where she was the agency's primary reviewer for a range of oncology drugs and regulatory subjects. She also presented the FDA's views in several New Drug Application reviews at Oncology Drug Advisory Committees. Dr. Chiao earned her Bachelor of Science in Chemistry (*summa cum laude*) at Columbia University, New York, and received her medical degree from Harvard Medical School. Her internship and residency in internal medicine was carried out at Columbia-Presbyterian Medical Center, New York and she held a Research Fellowship in Molecular Pharmacology at Sloan Kettering Institute for Cancer Research and a Clinical Fellowship in Hematology/Oncology at Memorial Sloan Kettering Cancer Center both in New York City. She has also been a member of a number of FDA-related working groups and has also been a Core Member of the Pharsight-FDA Cooperative Research and Development Agreement (CRADA) on clinical trial simulation and population pharmacokinetic analysis software for drug development.

Robert Sosnowski. Mr. Sosnowski joined Cyclacel in April 2008 and has more than 28 years experience in sales and marketing roles at several pharmaceutical and major biotechnology companies. Prior to joining Cyclacel, Mr. Sosnowski was President, Chief Executive Officer and Co-Founder, Dexgen Pharmaceuticals, Inc., a specialty pharmaceutical company, and Vice President, Sales and Marketing, Algos Pharmaceutical Corporation. In addition, he has held senior sales and marketing roles with Genentech, Inc., Centocor, Inc., The Liposome Company, Inc., Amgen, Inc. and The Upjohn Company. Mr. Sosnowski earned his Bachelor of Science degree in 1980 from the University of Connecticut.

16

Table of Contents

EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

Summary Compensation Table

The following table shows the compensation paid or accrued during the last two fiscal years ended December 31, 2009 and 2010 to (1) our President and Chief Executive Officer, (2) our Executive Vice President, Finance, Chief Financial Officer and Chief Operating Officer, and (3) our next most highly compensated executive officer, other than our President and Chief Executive Officer and our Executive Vice President, Finance, Chief Financial Officer and Chief Operating Officer, who earned more than \$100,000 during the year ended December 31, 2010.

A 11

| Name and Principal Position | Year | Salary (\$) | Bonus (\$)(1) | Stock Awards (\$)(2) | Option Awards (\$)(3) | All Other Compensation (\$)(4) | Total (\$) |
|------------------------------------|------|----------------|------------------|----------------------------|-----------------------------|---|---------------|
| Spiro Rombotis | 2010 | 476,100 | 59,500 | | 92,250 | 32,506 | 660,356 |
| President and Chief Executive | | | | | | | |
| Officer | 2009 | 460,000 | 138,000 | | | 32,188 | 630,188 |
| Paul McBarron(5) | 2010 | 289,768 | 36,350 | | 92,250 | 17,732 | 436,100 |
| Executive Vice President, Finance, | | | | | | | |
| Chief Operating Officer, Chief | | | | | | | |
| Financial Officer, and Secretary | 2009 | 288,297 | 86,489 | — | — | 17,903 | 392,689 |
| Judy Chiao, MD | 2010 | 312,570 | 75,000 | | 76,875 | 19,624 | 484,069 |
| Vice President, Clinical | | | | | | | |
| Development and Regulatory Affairs | 2009 | 302,000 | 72,480 | | | 20,552 | 395,032 |
| | | | | | | | |

(1) Bonuses earned in 2009 were paid during fiscal year 2010 and were not accrued in the Company's Financial Statements. Bonuses earned in 2010 were paid during fiscal year 2010 and were not accrued in the Company's Financial Statements.

- (2) This column represents the dollar amount recognized for financial statement reporting purposes for the fair value of stock awards. The fair value, a non-cash expense, was estimated using the Black-Scholes option-pricing method in accordance with ASC Topic 718. See Note 13 to our Financial Statements reported in our Form 10-K/A for our fiscal year ended December 31, 2009 and Note 11 to our Financial Statements reported in our Form 10-K/A for details as to the assumptions used to determine the fair value of the stock awards and stock options. See also our discussion of stock-based compensation under "Management's Discussion and Analysis of Financial Condition and Results of Operations —Critical Accounting Policies and Estimates."
- (3) These amounts represent the aggregate grant date fair value for option awards for fiscal years 2009 and 2010, respectively, computed in accordance with FASB ASC Topic 718. The grant date fair value of performance awards is determined based on the probable outcome of such performance conditions as of the grant date. A discussion of the assumptions used in determining grant date fair value may be found in Note 11 to our Financial Statements, included in our Annual Report on Form 10-K for the year ended December 31, 2010.
- (4) Consists of the following for all executive officers: Payments for private medical and health insurance, life insurance and permanent health insurance; matching contributions made under the Company's UK Group Personal Pension Plan and the U.S. 401(k) Plan.
- (5) Mr. McBarron's compensation was translated from British pound sterling to the U.S. dollar using the exchange rate of \$1.59280 as of December 31, 2009 and \$1.54679 as of December 31, 2010.

Table of Contents

Narrative Disclosure to Summary Compensation Table

The Compensation and Organization Development Committee of our Board of Directors makes decisions regarding the compensation of our President and Chief Executive Officer. The Compensation and Organization Development Committee is composed entirely of independent directors and meets in executive session to discuss and formulate its recommendation for the Chief Executive Officer's base salary and bonus. The Compensation and Organization Development Committee does not rely solely on any predetermined formula or a limited set of criteria in evaluating the Chief Executive Officer's performance for the year. The evaluation is based on the Chief Executive Officer's success in achieving his performance goals, which include financial, strategic and leadership objectives. The Chief Executive Officer also provides the Compensation and Organization Development Committee with a self review of his performance as part of the Company's review process.

The Compensation and Organization Development Committee also approves the annual compensation (including base salary, bonus, and stock-based compensation) for our other named executive officers based on:

- the executive's scope of responsibilities;
- · an informed market assessment of competitive practices for similar roles within peer group companies;
- evaluations of performance for the year, as assessed by the Chief Executive Officer, supported by the Company's performance review process and the executive's self assessment; and
- recommendations by our Chief Executive Officer for each named executive officer with respect to base salary, cash bonus, and stock-based compensation.

The Compensation and Organization Development Committee is authorized to engage and retain independent third party compensation and legal advisors to obtain advice and assistance on all matters related to executive compensation and benefit plans. During 2008, the Compensation and Organization Development Committee selected and engaged a representative of Radford Surveys and Consulting, a business unit of AON, to be the independent compensation consultant to the Committee to assess our 2007 and 2008 executive compensation program. Using this extensive analysis, the Compensation and Organization Development Committee acted on the recommendations made to determine executive compensation and implement our compensation program structures for 2009 and 2010. Although no external compensation consultant was engaged during 2009 or 2010, the Compensation and Organization Development Committee did consult independent external compensation survey data as part of the decision making process relating to such periods.

The Company intends to engage periodically an external consultant to provide independent verification of market position and ensure the appropriateness of executive compensation.

No stock options were granted to our named executive officers during 2009. On December 10, 2010, our Board of Directors, at the recommendation of the Compensation and Organization Development Committee, made stock option grants under our Amended and Restated 2006 Equity Incentive Plan to our executive officers. The stock options were granted at an exercise price of \$1.59 per share, and are exercisable over a four-year period, such options vesting ratably on a monthly basis over 48 months.

During 2009, the Company granted 221,000 stock options to employees and directors of the Company with a weighted value exercise price of \$0.39 per share. During 2010, the Company granted 607,300 stock options to employees and directors of the Company with a weighted value exercise price of \$1.82 per share.

We currently have employment agreements with two of our named executive officers, Spiro Rombotis, our President and Chief Executive Officer, and Paul McBarron, our Executive Vice President—Finance, Chief Financial Officer, Chief Operating Officer and Secretary.

On March 20, 2008, we entered into a three-year employment agreement with Mr. Spiro Rombotis, effective January 1, 2008, which agreement was renewed on substantially the same terms, effective January 1, 2011, for an additional three years. This agreement provides for an initial annual base salary of \$490,383, which salary may be increased in the future. Mr. Rombotis's annual base salary was \$460,000 and \$476,100, respectively, for 2009 and 2010. Mr. Rombotis is also eligible for a yearly incentive cash bonus, based on a percentage of his then current base

18

Table of Contents

salary, if he meets certain corporate and individual performance criteria set by the Compensation and Organization Development Committee at the beginning of each year of employment, subject to the approval of our Board of Directors. The agreement had been amended effective December 31, 2008, to make certain payments to be made under the agreement compliant with Section 409A of the Internal Revenue Code of 1986, as amended, and similar regulations.

On March 31, 2008, we entered into a three-year employment agreement with Mr. Paul McBarron effective January 1, 2008, which agreement was renewed on substantially the same terms, effective January 1, 2011, for an additional three years. This agreement provides for an initial annual base salary of £192,955, which salary may be increased in the future. Mr. McBarron's base salary was £181,000 and £187,278 for 2009 and 2010, respectively. Mr. McBarron is also eligible for a yearly incentive cash bonus, based on a percentage of his then current base salary, if he meets certain corporate and individual performance criteria set by the Compensation and Organization Development Committee at the beginning of each year of employment, subject to the approval of our Board of Directors.

Outstanding Equity Awards At Fiscal Year-End

The following table shows grants of stock options and grants of unvested stock or unvested stock units outstanding on the last day of the fiscal year ended December 31, 2010, including non-performance based awards, to each of the executive officers named in the Summary Compensation Table. The Company does not have any unearned equity incentive awards.

| | Option Awards | | | | | Stock Awards | | |
|----------------|--|--|----|-----------------------------|----------------------|--|--|--|
| | Number of Securities Underlying Unexercised Options # | Number of Securities Underlying Unexercised Options # | | Option Exercise Price | Option Expiration | Number of Shares or Units of Stock That Have Not Vested | Market Value of Shares or Units of Stock That Have Not Vested(1) | |
| Name | Exercisable | Unexercisable | | (\$) | Date | # | \$ | |
| Spiro Rombotis | 97,834 | 0 | \$ | 6.40 | 06/13/2016 | | | |
| | 160,000 | 0(2) | \$ | 6.95 | 12/20/2016 | | | |
| | 150,000 | 50,000(3) | \$ | 5.53 | 12/06/2017 | | | |

| | 29,171 | 45,829(4) \$ | 0.44 | 11/18/2018 | | |
|---------------|---------|----------------------|------|--------------|------------|--------|
| | 0 | 75,000(5) \$ | 1.59 | 12/10/2020 | 23,954(6) | 35,212 |
| Paul McBarron | 63,680 | 0 \$ | 6.40 | 06/13/2016 | | |
| | 100,000 | 0(7) \$ | 6.95 | 12/20/2016 | | |
| | 75,000 | 25,000(8) \$ | 5.53 | 12/06/2017 | | |
| | 104,171 | 45,829(9) \$ | 0.44 | 11/18/2018 | | |
| | 0 | 75,000(10) \$ | 1.59 | 12/10/2020 | | |
| | | | | | 23,954(11) | 35,212 |
| Judy Chiao | 48,967 | 0 \$ | 6.40 | 06/13/2016 | | |
| | 80,000 | 0(12) \$ | 6.95 | 12/20/2016 | | |
| | 75,000 | 25,000(13) \$ | 5.53 | 12/06/2017 | | |
| | 52,085 | 22,915(14) \$ | 0.44 | 11/18/2018 | | |
| | 0 | 62,500(15) \$ | 1.59 | 12/10/2020 | | |
| | | | | | 11,977(16) | 17,606 |
| | Ū | σ <u></u> ,σσσ(10) φ | 1.00 | 12, 10, 2020 | 11,977(16) | 17,606 |

(1) The market value of the shares is determined by multiplying the number of shares by \$1.47, the closing price of our common stock on the NASDAQ Global Market on December 31, 2010, the last day of our fiscal year.

19

Table of Contents

- (2) These options were granted on December 21, 2006, and are exercisable over a four-year period with one-fourth (1/4) of the options granted vesting on December 21, 2007, the first anniversary of the grant date, and the balance of the options granted vesting ratably on a monthly basis over the following 36 months.
- (3) These options were granted on December 6, 2007, and are exercisable over a four-year period with one-fourth (1/4) of the options granted vesting on December 6, 2008, the first anniversary of the grant date, and the balance of the options granted vesting ratably on a monthly basis over the following 36 months.
- (4) These options were granted on November 18, 2008, and vest over a three-year period, with one-third (1/3) of the options granted vesting on November 18, 2009, the first anniversary of the grant date, and the balance of the options granted vesting ratably on a monthly basis over the following 24 months.
- (5) These options were granted on December 10, 2010, and vest over a four-year period, such options vesting ratably on a monthly basis over 48 months.
- (6) These options were granted on December 10, 2010, and vest over a four-year period, such options vesting ratably on a monthly basis over 48 months.
- (7) These options were granted on December 21, 2006, and are exercisable over a four-year period with one-fourth (1/4) of the options granted vesting on December 21, 2007, the first anniversary of the grant date, and the balance of the options granted vesting ratably on a monthly basis over the following 36 months.
- (8) These options were granted on December 6, 2007, and are exercisable over a four-year period with one-fourth (1/4) of the options granted vesting on December 6, 2008, the first anniversary of the grant date, and the balance of the options granted vesting ratably on a monthly basis over the following 36 months.
- (9) These options were granted on November 18, 2008, and vest over a three-year period, with one-third (1/3) of the options granted vesting on November 18, 2009, the first anniversary of the grant date, and the balance of the options granted vesting ratably on a monthly basis over the following 24 months.
- (10) These options were granted on December 10, 2010, and vest over a four-year period, such options vesting ratably on a monthly basis over 48 months.
- (11) These shares of common stock represent restricted stock and are subject to forfeiture; the restrictions shall lapse over a four-year period, as follows: the restrictions with respect to one-fourth (1/4) of the restricted stock granted shall lapse on November 18, 2009, the first anniversary of the grant date, and the restrictions with respect to the balance of the restricted stock granted shall lapse ratably on a monthly basis over the following 36 months.
- (12) These options were granted on December 21, 2006, and are exercisable over a four-year period with one-fourth (1/4) of the options granted vesting on December 21, 2007, the first anniversary of the grant date, and the balance of the options granted vesting ratably on a monthly basis over the following 36 months.
- (13) These options were granted on December 6, 2007, and are exercisable over a four-year period with one-fourth (1/4) of the options granted vesting on December 6, 2008, the first anniversary of the grant date, and the balance of the options granted vesting ratably on a monthly basis over the following 36 months.
- (14) These options were granted on November 18, 2008, and vest over a three-year period, with one-third (1/3) of the options granted vesting on November 18, 2009, the first anniversary of the grant date, and the balance of the options granted vesting ratably on a monthly basis over the following 24 months.
- (15) These options were granted on December 10, 2010, and vest over a four-year period, such options vesting ratably on a monthly basis over 48 months.
- (16) The restricted stock units were granted on November 18, 2008, and vest over a four-year period, with one-fourth (1/4) of the restricted stock units granted vesting on November 18, 2009, the first anniversary of the grant date, and the balance of the restricted stock units granted vesting ratably on a monthly basis over the following 36 months.

Table of Contents

Nonqualified Deferred Compensation

We do not have any non-qualified deferred compensation plans.

Potential Payments Upon Termination or Change-in-Control

We have entered into agreements that require us to make payments and/or provide benefits to certain of our executive officers in the event of a termination of employment or change-in-control. Our Amended and Restated 2006 Equity Incentive Plan already provides for payments to named executive officers in connection with a termination or a change-in-control of the Company.

The following summarizes the potential payments to each named executive officer for which we have entered into such an agreement, assuming that one of the events identified below occurs. The discussion assumes that the event occurred on December 31, 2010, the last business day of our fiscal year, at which time the closing price of our common stock as listed on the NASDAQ Global Market was \$1.47 per share. Our change-in-control arrangements with our executive officers are currently being reviewed and assessed by our Compensation and Organization Development Committee, in consultation with our Board of Directors. The reviewing process is on-going and has not yet been finalized.

Spiro Rombotis, President and Chief Executive Officer

On March 20, 2008, we entered into a three-year employment agreement with Mr. Spiro Rombotis, effective January 1, 2008, which agreement was renewed on substantially the same terms, effective January 1, 2011, for an additional three years. Mr. Rombotis's current base salary is \$490,383, which may be increased in the future. Mr. Rombotis is also eligible for a yearly incentive cash bonus, based on a percentage of his then current base salary, if he meets certain corporate and individual performance criteria set by the Compensation and Organization Development Committee at the beginning of each year of employment, subject to the approval of our Board of Directors. The agreement also provides for reimbursement of reasonable and necessary expenses incurred by Mr. Rombotis in connection with the performance of his services. In addition, Mr. Rombotis is entitled to certain employment benefits.

The agreement also provides for certain severance arrangements for Mr. Rombotis. In the event that Mr. Rombotis's employment is terminated "without cause," other than termination for a "change of control" (each as defined in the Agreement), we will be required to pay Mr. Rombotis (i) all accrued but unpaid compensation up to the time of such termination; (ii) for a period of twelve months following such termination, severance payments in the form of continuation of his base salary as in effect immediately prior to such termination (the "Severance Payments"), including coverage of his medical care and life insurance pursuant to COBRA, on the same terms as applicable to other executive employees, unless Mr. Rombotis obtains substitute coverage; and (iii) a period of six months in which to exercise all vested options held by Mr. Rombotis. In the event that Mr. Rombotis's employment is terminated within six months following a "change in control" event, Mr. Rombotis will be entitled to (i) all accrued but unpaid compensation up to the time of such termination; (ii) Severance Payments for a period of 24 months; (iii) out-of-pocket expenses reasonably incurred by Mr. Rombotis in connection with his and his family's relocation to London; and (iv) 18 months' accelerated vesting of any options held by him. In the event of termination due to his death or disability, we will pay Mr. Rombotis (or his estate, as the case may be) (i) all accrued but unpaid compensation up to the time of such termination; (ii) Severance Payments for a period of twelve months; and (iii) he will be entitled to a period of twelve months in which all of his vested options can be exercised.

In addition, Mr. Rombotis also agreed to certain confidentiality and assignment of inventions obligations and will be subject to certain non-competition obligations for a period of one year following termination of his employment.

Mr. Rombotis's employment agreement was amended effective December 31, 2008, to make certain payments to be made under the agreement compliant with Section 409A of the Internal Revenue Code of 1986, as amended, and then amended again effective January 1, 2011 to extend its term for an additional three years.

21

Table of Contents

Paul McBarron, Executive Vice President—Finance, Chief Financial Officer, Chief Operating Officer and Secretary

On March 31, 2008, we entered into a three-year employment agreement with Mr. Paul McBarron effective January 1, 2008, which agreement was renewed on substantially similar terms, effective January 1, 2011, for an additional three years. Mr. McBarron's current base salary is £192,955, which may be increased in the future. Mr. McBarron is also eligible for a yearly incentive cash bonus, based on a percentage of his then current base salary, if he meets certain corporate and individual performance criteria set by the Compensation and Organization Development Committee at the beginning of each year of employment, subject to the approval of our Board of Directors. The agreement also provides for reimbursement of reasonable and necessary expenses incurred by Mr. McBarron in connection with the performance of his services. In addition, Mr. McBarron is entitled to certain employment benefits.

The agreement also provides for certain severance arrangements for Mr. McBarron. In the event that Mr. McBarron's employment is terminated "without cause," other than termination for a "change of control" (each as defined in the Agreement), we will be required to pay Mr. McBarron (i) all accrued but unpaid compensation up to the time of such termination; (ii) Severance Payments for a period of twelve months following such termination; and (iii) a period of six months in which to exercise all vested options held by Mr. McBarron. In the event that Mr. McBarron's employment is terminated within six months following a "change in control" event, Mr. McBarron will be entitled (i) all accrued but unpaid compensation up to the time of such termination; (ii) Severance Payments for a period of 12 months; and (iii) 18 months' accelerated vesting of any options held by him and, in the event of termination due to his death or disability, we will pay Mr. McBarron (or his estate, as the case may be) (i) all accrued but unpaid compensation up to the time of such termination certains (ii) Severance Payments for a period of twelve months; and (iii) he will be entitled to a period of twelve months in which all of his vested options can be exercised.

In addition, Mr. McBarron also agreed to certain confidentiality and assignment of inventions obligations and will be subject to certain non-competition obligations for a period of one year following termination of his employment.

Dr. Judy Chiao, Vice President, Clinical Development and Regulatory Affairs

On December 10, 2010, we entered into a Change in Control Agreement, or the CIC Agreement, with Dr. Chiao.

In the event of a Change in Control (as defined below) of the Company, and Dr. Chiao's employment with the continuing or surviving company, or the Controlling Company, is terminated (including if Dr. Chiao voluntarily terminates her employment for Good Reason, as defined below) at any time within six months following the effective date of a Change in Control, unless such termination is For Cause, death, disability or Dr. Chiao voluntarily leaves without Good Reason (as each such term is defined below), Dr. Chiao will be entitled to receive the following benefits from the Controlling Company in lieu of any further salary and bonus payments to Dr. Chiao for certain periods subsequent to the date of termination in consideration for Dr. Chiao's execution and delivery of a general release in favor of the Controlling Company: (i) payment by the Controlling Company of al lump sum severance payment equal to Dr. Chiao's annual salary for a period of twelve months from the date of termination; (ii) payment by the Controlling Company of all unpaid, accrued vacation through the date of termination; (iii) all options to purchase shares of the Company's Common Stock held by Dr. Chiao shall be vested and exercisable for twelve months following the effective date of the Change in Control; and (iv) the Controlling Company shall arrange coverage for Dr. Chiao and her dependents, as the case may be, under medical care and life insurance benefit plans substantially similar to those which Dr. Chiao and her dependents were entitled immediately prior to the effective date of the Change in Control for a period of up to twelve months after the effective date of the Change in Control, subject to certain exceptions as set forth in more detail in the CIC Agreement.

Under the terms of the CIC Agreement, a "Change in Control" shall be deemed to have taken place in the event of: (i) any consolidation or merger of the Company is consummated in which Company is not the continuing or surviving corporation or pursuant to any transaction in which shares of the Company's capital stock are converted into cash, securities or other property, or any sale, lease, exchange or other transfer in one transaction or a series of transactions contemplated or arranged by any party as a single plan of all or substantially all of the assets of the Company, or the approval of a plan of complete liquidation or dissolution of the Company adopted by the stockholders of the Company; (ii) any person (as such term is used in Sections 13(d) and 14(d)(2) of the Exchange

22

Table of Contents

Act, shall, after the date of the CIC Agreement, become the beneficial owner (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of securities of the Company representing 35% or more of the voting power of all then outstanding securities of the Company having the right under ordinary circumstances to vote in an election of the board of directors; or (iii) individuals who, at the date of the CIC Agreement, constitute the entire Board and any new directors whose election by the Board, or whose nomination for election by the Company's stockholders, shall have been approved by a vote of at least a majority of the directors then in office who either were directors as of such date or whose election or nomination for election shall have been so approved shall cease for any reason to constitute a majority of the members of the Board.

Dr. Chiao's employment shall have been terminated "For Cause" if the Controlling Company shall have terminated Dr. Chiao as a result of: (A) improper conduct, consisting of any willful act or omission with the intent of obtaining, to the material detriment of the Controlling Company, any benefit to which Dr. Chiao would not otherwise be entitled; (B) gross negligence, consisting of wanton and reckless acts or omissions in the performance of Dr. Chiao's duties to the material detriment of the Controlling Company; (C) addiction to drugs or chronic alcoholism; or (D) any conviction of, or plea of *nolo contendere* to, a crime (other than a traffic violation) under the laws of the United States or any political subdivision thereof, subject to certain requirements, as set forth in more detail in the CIC Agreement.

Dr. Chiao shall be deemed to have terminated her employment for "Good Reason" if the Controlling Company (A) materially reduces Dr. Chiao's duties, responsibilities or authority commensurate with his or her position immediately prior to the effective date of the Change in Control; (B) reduces Dr. Chiao's base salary in effect immediately prior to the effective date of the Change of Control; (C) requires Dr. Chiao to relocate to another office more than 50 miles of her office location immediately prior to the effective date of the Change of Control, subject to certain exceptions, as more fully set forth in detail in the CIC Agreement; or (D) fails to offer Dr. Chiao all material benefits offered to all other employees of the Controlling Company, and the Controlling Company fails to correct or cure the acts giving rise to the termination of Dr. Chiao's employment for "Good Reason," after receipt of Dr. Chiao's notice of such acts.

Potential payments to each named executive officer under our Amended and Restated 2006 Equity Incentive Plan in connection with a termination or a change-in-control of the Company

The following summarizes the potential payments to each named executive officer under our Amended and Restated 2006 Equity Incentive Plan in connection with a termination or a change-in-control of the Company.

Termination

Termination For Cause - If an award recipient's service relationship with the Company terminates for "cause" (as defined in the Amended and Restated 2006 Equity Incentive Plan, or the 2006 Plan), then any unexercised award shall terminate immediately upon his or her termination of service.

Termination Without Cause - If an award recipient's service relationship with the Company terminates for any reason other than for "cause" (excluding death or disability), then the recipient generally may exercise the award, to the extent vested, within 30 days of such termination to the extent that the award is vested on the date of termination (but in no event later than the expiration of the term of the award as set forth in the award agreement). If the recipient dies within three months following such a termination, the award generally may be exercised, to the extent vested, within 180 days' of the recipient's death.

Death - If an award recipient's service relationship with the Company terminates due to his or her death, the award recipient's personal representative, estate, or the person who acquires the right to exercise the award by bequest or inheritance, as the case may be, generally may exercise the award, to the extent the award was vested on the date of termination, within one year from the date of the recipient's death.

Disability - If an award recipient's service relationship with the Company terminates due to his or her disability, the recipient, the recipient's personal representative, estate, or the person who acquires the right to exercise the award by bequest or inheritance, as the case may be, generally may exercise the award, to the extent the award was vested on the date of termination, within one year from the date of the recipient's termination, or if the recipient dies

during such one-year period, within the later of one year from the date of the recipient's termination and 180 days from the recipient's death. In no event may an award be exercised later than the expiration of the term of the award as set forth in the award agreement.

Table of Contents

Change in Control

Pursuant to the terms of the Amended and Restated 2006 Equity Incentive Plan, in the event of a change in control (as defined in the 2006 Plan), all outstanding options, SARs and other awards granted under the 2006 Plan will be either:

- · assumed by the successor corporation or a parent or subsidiary of the successor corporation; or
- · substituted with an equivalent award by the successor corporation or a parent or subsidiary of the successor corporation.

However, in the event that the successor corporation refuses to assume or substitute an award:

- awards consisting of options, SARs and rights to purchase restricted stock will become fully vested and immediately exercisable, including awards that would not otherwise have become vested or exercisable; and
- · all other awards will become fully earned and eligible to receive a payout.

For the purposes of the Amended and Restated 2006 Equity Incentive Plan, a participant's award will be considered assumed if, following the change in control, the assumed award confers, for each share of the Company's Common Stock subject to the award immediately prior to the change in control, the right to receive the consideration (whether stock, cash, or other securities or property) received in the change in control for each share of Common Stock held on the effective date of the transaction; provided, however, that if the consideration received in the change of control is not solely common stock of the successor corporation or its parent, the committee administering the plan may, with the consent of the successor corporation, provide for the consideration per share to be received upon the exercise of the award, to be solely common stock of the successor corporation or its parent equal in fair market value to the per share consideration received by holders of the Company's Common Stock in the change of control.

Under the 2006 Plan, a change of control is the occurrence of one of the following events:

- a person, partnership, joint venture, corporation or other entity, or two or more of any of the foregoing acting as a group (or any "person" within the meaning of Sections 13(d)(3) and 14(d) of the Exchange Act), other than the Company, a Subsidiary, or an employee benefit plan (or related trust) of the Company or a Subsidiary, become(s) the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act) of 30% or more of the then-outstanding voting stock of the Company;
- during any period of two consecutive years, individuals who at the beginning of such period constitute the Board of Directors (together with any new director whose election by the Board of Directors or whose nomination for election by the Company's stockholders, was approved by a vote of at least two-thirds of the directors then still in office who either were directors at the beginning of such period or whose election or nomination for election was previously so approved) cease for any reason to constitute a majority of the directors then in office;
- all or substantially all of the business of the Company is disposed of pursuant to a merger, consolidation or other transaction in which the Company is not the surviving corporation or the Company combines with another Company and is the surviving corporation (unless the stockholders of the Company immediately following such merger, consolidation, combination, or other transaction beneficially own, directly or indirectly, more than 50% of the aggregate voting stock or other ownership interests of (x) the entity or entities, if any, that succeed to the business of the Company or (y) the combined company);
- the Company is a party to a merger, consolidation, sale of assets or other reorganization, or a proxy contest, as a consequence of which the Board of Directors in office immediately prior to such transaction or event constitutes less than a majority of the Board of Directors thereafter; or
- the stockholders of the Company approve a sale of all or substantially all of the assets of the Company or a liquidation or dissolution of the Company.

24

Table of Contents

Director Compensation

The following table shows the total compensation paid or accrued during the fiscal year ended December 31, 2010 to each of our non-employee directors:

| Name | Fees Earned or Paid in Cash (\$) | Option Awards (\$)(1) | Total (\$) |
|-------------------------------------|--|-----------------------------|---------------|
| David U'Prichard, Ph.D. | 66,000 | 89,500(2) | 155,500 |
| Sir John Banham | 37,000 | 44,750(3) | 81,750 |
| Nicholas Bacopoulos, Ph.D. | 29,000 | 44,750(4) | 73,750 |
| Christopher S. Henney, Ph.D., D.Sc. | 56,000 | 89,500(5) | 145,500 |
| Daniel K. Spiegelman | 43,000 | 62,650(6) | 105,650 |

- (1) These amounts represent the grant date fair value of stock awards granted to each director in 2010 computed in accordance with FASB ASC Topic 718. The grant date fair value of performance awards is determined based on the probable outcome of such performance conditions as of the grant date. A discussion of the assumptions used in determining grant date fair value may be found in Note 11 to our Financial Statements, included in our Annual Report on Form 10-K for the year ended 2010, as amended.
- (2) Fair value of the options granted on March 29, 2010 was \$1.79 per share. 250,000 options remain outstanding as of December 31, 2010.
- (3) Fair value of the options granted on March 29, 2010 was \$1.79 per share. 125,000 options remain outstanding as of December 31, 2010.
- (4) Fair value of the options granted on March 29, 2010 was \$1.79 per share. 75,000 options remain outstanding as of December 31, 2010.
- (5) Fair value of the options granted on March 29, 2010 was \$1.79 per share. 271,000 options remain outstanding as of December 31, 2010.
- (6) Fair value of the options granted on March 29, 2010 was \$1.79 per share. 156,500 options remain outstanding as of December 31, 2010

Director Compensation Program

Since the consummation of our reverse merger with Xcyte Therapies, Inc. in March 2006, our non-employee directors have been compensated for their services as members of the Board of Directors and any committee of the Board of Directors, each in the amount of an annual cash retainer of \$20,000. The Chairmen of the Compensation and Organization Development Committee and the Nominating and Corporate Governance Committee have each been paid an additional annual cash retainer of \$7,000. The Chairman of the Audit Committee has also been paid an additional annual cash retainer of \$10,000. The Chairman of our Board of Directors has received a \$54,000 annual cash retainer for his services, and the Vice Chairman has received a \$34,000 annual cash retainer for his services.

In addition to the annual cash retainers, the non-employee members of our Board of Directors have received \$2,000 for each Board of Directors meeting attended in person and \$1,000 for each Board of Directors meeting attended telephonically. The non-employee directors have also been reimbursed for certain customary business expenses in connection with attending Board of Directors and committee meetings.

In addition to the cash compensation outlined above, the Chairman and Vice Chairman of the Board of Directors have each received annually an option to purchase 50,000 shares of our Common Stock. Each of the other non-employee directors has received annually an option to purchase 25,000 shares of our Common Stock, and the Chairman of the Audit Committee has received annually an option to purchase 10,000 shares of our Common Stock.

On April 19, 2011, our Board of Directors unanimously approved, at the recommendation of the Compensation and Organization Committee of our Board of Directors, the adoption of a new Director Compensation Program

| າ | |
|---|---|
| 2 | J |
| | |

Table of Contents

pursuant to which the compensation of our non-employee directors will be changed to an annual retainer-based system. Effective as of July 1, 2011, the nonemployee members of our Board of Directors will be paid a fixed annual fee, payable on a quarterly basis, in arrears, on the first day of each quarter, as follows:

| Chairman of the Board | \$ 85,000 |
|------------------------------------|--------------|
| Vice Chairman of the Board | \$ 65,000 |
| Chairman - Audit Committee | \$ 55,000 |
| Other Non-Management Board Members | \$ 45,000 |

In addition, the non-employee members of our Board of Directors would also be entitled to receive stock options on an annual basis on the date of the Company's annual meeting as follows:

| Chairman and Vice Chairman | 50,000 |
|---------------------------------|--------|
| Chairman of the Audit Committee | 35,000 |
| Other Board Members | 25,000 |

The non-employee directors will also be reimbursed for customary business expenses in connection with attending Board of Directors and committee meetings.

26

Table of Contents

REPORT OF AUDIT COMMITTEE

The Audit Committee of the Board of Directors, which consists entirely of directors who meet the independence and experience requirements of NASDAQ Global Market, has furnished the following report:

The Audit Committee assists the Board of Directors in overseeing and monitoring the integrity of our financial reporting process, compliance with legal and regulatory requirements and the quality of internal and external audit processes. The Audit Committee's role and responsibilities are set forth in our charter adopted by the Board of Directors. The Audit Committee reviews and reassesses our charter annually and recommends any changes to the Board of Directors for approval.

In fiscal 2010, the Audit Committee met with management to consider the adequacy of the Company's internal controls and the objectivity of its financial reporting. The Audit Committee discussed these matters with the Company's independent registered public accounting firm and with appropriate Company

financial personnel.

The Audit Committee is responsible for overseeing our overall financial reporting process, and for the appointment, retention, and oversight of the work of Ernst & Young LLP (UK), or E&Y UK.

The Audit Committee reviewed and discussed the audited financial statements for the fiscal year ended December 31, 2010 with management and E&Y UK, our independent registered public accounting firm.

The Audit Committee discussed with E&Y UK the matters required to be discussed by Statement on Auditing Standards No. 61, as amended, as adopted by the Public Company Accounting Oversight Board in Rule 3200T, relating to the conduct of the audit.

The Audit Committee received written disclosures and the letter from E&Y UK regarding its independence as required by applicable requirements of the Public Company Accounting Oversight Board regarding E&Y UK's communications with the Audit Committee and the Audit Committee further discussed with E&Y UK their independence. The Audit Committee also considered the status of pending litigation, taxation matters and other areas of oversight relating to the financial reporting and audit process that the Audit Committee determined appropriate.

Based on the Audit Committee's review of the audited consolidated financial statements and discussions with management and E&Y UK, the Audit Committee recommended to the Board of Directors that the audited financial statements be included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2010 for filing with the SEC.

Members of the Audit Committee

Daniel K. Spiegelman (Chairman) Sir John Banham Dr. Christopher Henney

27

Table of Contents

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Securities Exchange Act of 1934, as amended, requires our officers and directors, and persons who own more than 10% of a registered class of our equity securities to file reports of ownership and changes in ownership with the SEC. These persons are required by regulation to furnish us with copies of all Section 16(a) reports that they file. Based on our review of the copies of these reports received by us, or written representations from the reporting persons that no other reports were required, we believe that, during fiscal year 2010, all reports to be filed pursuant to Section 16(a) of the Exchange Act were filed on a timely basis, except that two reports, covering an aggregate of two transactions, were filed late by Austin W. Marxe and David M. Greenhouse, filing jointly, and an initial report of ownership was filed late by Austin W. Marxe and David M. Greenhouse, filing jointly.

28

Table of Contents

CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

Our Audit Committee reviews and approves in advance all related-party transactions. There have been no transactions during our last two fiscal years with our directors and officers and beneficial owners of more than 5% of our voting securities and their affiliates.

29

Table of Contents

PROPOSALS TO BE VOTED UPON BY STOCKHOLDERS

PROPOSAL 1: ELECTION OF CLASS 2 DIRECTORS BY HOLDERS OF COMMON STOCK

Background

Under our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, as amended, the number of directors is fixed from time to time by the Board of Directors. We have a staggered Board of Directors comprised of three classes, and each director serves until the annual meeting in which his term expires. Spiro Rombotis and David C. U'Prichard Ph.D. are Class 2 directors, the term of which class expires at the 2011 annual meeting, and, if elected, would serve until our 2014 annual meeting.

The Board of Directors has voted to nominate Spiro Rombotis and David C. U'Prichard Ph.D. for re-election at the 2011 annual meeting to serve as Class 2 directors until the 2014 annual meeting of stockholders and until their respective successors have been elected and qualified.

Unless authority to vote for either of the nominees named above is withheld, the shares represented by the enclosed proxy will be voted FOR the election as directors of Spiro Rombotis and David C. U'Prichard Ph.D. In the event that any nominee shall become unable or unwilling to serve, the shares represented by the enclosed proxy will be voted for the election of such other person as the Board of Directors may recommend in his place. The Board of Directors has no reason to believe that any nominee will be unable or unwilling to serve.

Unless authority to vote for either of the nominees named above is withheld, the shares of Common Stock represented by the enclosed proxy will be voted FOR the election as directors of Spiro Rombotis and David C. U'Prichard Ph.D.

Required Vote

A plurality of the votes cast at the annual meeting by the holders of our Common Stock is required to elect each nominee as a director.

Recommendation

THE BOARD OF DIRECTORS RECOMMENDS THE ELECTION BY HOLDERS OF COMMON STOCK OF SPIRO ROMBOTIS AND DAVID C. U'PRICHARD PH.D. AS CLASS 2 DIRECTORS, AND PROXIES SOLICITED BY THE BOARD OF DIRECTORS WILL BE VOTED IN FAVOR THEREOF UNLESS A STOCKHOLDER HAS INDICATED OTHERWISE ON THE PROXY CARD.

30

Table of Contents

PROPOSAL 2: RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM BY HOLDERS OF COMMON STOCK

The Audit Committee has appointed Ernst & Young (US) LLP, or E&Y US, independent registered public accounting firm, to audit our consolidated financial statements for the fiscal year ending December 31, 2011. The Board of Directors proposes that the stockholders ratify this appointment. We expect that representatives of E&Y US will be present at the annual meeting via conference call, will be able to make a statement if they so desire, and will be available to respond to appropriate questions.

Effective April 19, 2011, Ernst & Young LLP (UK), or E&Y UK, who audited our consolidated financial statements for the fiscal year ended December 31, 2010, resigned as our independent registered public accounting firm, which resignation was accepted by our Board of Directors as of the same date.

E&Y UK's audit reports on our financial statements for the years ended December 31, 2010 and 2009 did not contain an adverse opinion or a disclaimer of opinion and were not qualified or modified as to uncertainty, audit scope or accounting principles.

During our two most recent fiscal years and any subsequent interim period prior to the date of this Proxy Statement, there were no disagreements with E&Y UK on any matter of accounting principles or practices, financial statement disclosure or auditing scope or procedure, which disagreements, if not resolved to the satisfaction of E&Y UK, would have caused it to make reference to the subject matter thereof in connection with its report.

During our two most recent fiscal years and any subsequent interim period prior to the date of this Proxy Statement, none of the events described in paragraphs (A) through (D) of Item 304(a)(1)(v) of Regulation S-K under the Exchange Act, occurred, except that, as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2010 and the Annual Report on Form 10-K/A for the year ended December 31, 2009, E&Y UK advised us that we did not have an effectively-designed control in operation over the accounting for, presentation of and disclosure of cumulative preferred stock dividends to prevent or detect on a timely basis material misstatements in the computation of net loss per share and the financial statement presentation of preferred stock dividends.

During our two most recent fiscal years and any subsequent interim period prior to the date of this Proxy Statement, neither we nor anyone acting on our behalf consulted E&Y US regarding (a) the application of accounting principles to a specified transaction, either completed or proposed or the type of audit opinion that might be rendered on our financial statements or (b) any (i) matter that was the subject of a disagreement with E&Y UK on any matter of accounting principles or practices, financial statement disclosure or auditing scope or procedure, which disagreement, if not resolved to the satisfaction of E&Y UK, would have caused it to make reference to the subject matter thereof in connection with its report or (ii) events described in paragraphs (A) through (D) of Item 304(a)(1)(v) of Regulation S-K under the Exchange Act.

The following table presents fees for professional audit services rendered by E&Y for the audit of Cyclacel's annual financial statements for the years ended December 31, 2009 and 2010, and fees billed for other services rendered by E&Y during those periods.

| | | 2009 | 2010 | | |
|---------------------|----|---------|---------------|--|--|
| Audit fees: (1) | \$ | 417,237 | \$ 500,272 | | |
| Audit related fees: | | | | | |
| Tax fees: (2) | | 72,914 | 31,850 | | |
| All other fees: | | | _ | | |
| Total | \$ | 490,151 | \$ 532,122 | | |
| | | | | | |
| | 31 | | | | |

Table of Contents

⁽¹⁾ Audit fees represent fees of E&Y for the audit of the Company's annual consolidated financial statements; reviews of the Company's quarterly results of operations and reports on Form 10-Q; the audit of management's assessment of the effectiveness of the Company's internal control over financial reporting and the audit of internal control over financial reporting; and the services that an independent auditor would customarily provide in connection with subsidiary audits, other regulatory filings, and similar engagements for each fiscal year shown, such as attest services, consents, and assistance with review of documents filed with the SEC.

⁽²⁾ Tax fees represent tax compliance and return preparation and tax planning and advice.

Policy on Audit Committee Pre-Approval of Audit and Permissible Non-audit Services of Independent Auditors. Consistent with SEC policies regarding auditor independence, the Audit Committee has responsibility for appointing, setting compensation, and overseeing the work of the independent auditor. In recognition of this responsibility, the Audit Committee has established a policy to pre-approve all audit and permissible non-audit services provided by the independent auditor.

Prior to engagement of the independent auditor for the next year's audit, management will submit an aggregate of services expected to be rendered during that year for each of four categories of services to the Audit Committee for approval.

1. *Audit* services include audit work performed in the preparation of financial statements, as well as work that generally only the independent auditor can reasonably be expected to provide, including comfort letters, statutory audits, and attest services and consultation regarding financial accounting and/or reporting standards.

2. *Audit-Related* services are for assurance and related services that are traditionally performed by the independent auditor, including due diligence related to mergers and acquisitions, employee benefit plan audits, and special procedures required to meet certain regulatory requirements.

3. *Tax* services include all services performed by the independent auditor's tax personnel except those services specifically related to the audit of the financial statements, and includes fees in the areas of tax compliance, tax planning, and tax advice.

4. *Other Fees* are those associated with services not captured in the other categories. The Company generally does not request such services from the independent auditor.

Prior to engagement, the Audit Committee pre-approves these services by category of service. The fees are budgeted and the Audit Committee requires the independent auditor and management to report actual fees versus the budget periodically throughout the year by category of service. During the year, circumstances may arise when it may become necessary to engage the independent auditor for additional services not contemplated in the original pre-approval. In those instances, the Audit Committee requires specific pre-approval before engaging the independent auditor.

The Audit Committee may delegate pre-approval authority to one or more of its members. The member to whom such authority is delegated must report, for informational purposes only, any pre-approval decisions to the Audit Committee at its next scheduled meeting.

In the event the stockholders do not ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm, the Audit Committee will reconsider its appointment.

Required Vote

The affirmative vote of a majority of the votes cast by holders of our Common Stock is required to ratify the appointment of the independent registered public accounting firm.

Recommendation

THE BOARD OF DIRECTORS RECOMMENDS A VOTE TO RATIFY THE APPOINTMENT OF ERNST & YOUNG, LLP OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM, AND PROXIES SOLICITED BY THE BOARD OF DIRECTORS WILL BE VOTED IN FAVOR OF SUCH RATIFICATION UNLESS A STOCKHOLDER INDICATES OTHERWISE ON THE PROXY CARD.

32

Table of Contents

PREFERRED DIRECTOR ELECTION PROPOSAL:

ELECTION OF CLASS 1 AND 2 DIRECTORS BY HOLDERS OF PREFERRED STOCK

Background

Pursuant to the terms of the Company's Certificate of the Powers, Designations, Preferences and Rights of the 6% Convertible Exchangeable Preferred Stock (the "**Certificate**"), holders of the Preferred Stock are entitled to receive, when, as and if declared by the Board of Directors, out of the funds of the Company legally available therefor, cash dividends payable in equal quarterly installments on February 1, May 1, August 1 and November 1. The Certificate further provides that, if the Company is in arrears in an aggregate amount equal to at least six quarterly dividends (whether or not consecutive), the number of members of the Company's Board of Directors will be increased by two, effective as of the time of election of such directors, and the holders of Preferred Stock, voting separately as a class, will have the right to vote and elect such two additional directors. This right accrued to the holders of our Preferred Stock as of August 2, 2010. Although a dividend was paid on February 1, 2011, the Company is still in arrears in an aggregate amount equal to six quarterly dividends on the Preferred Stock.

Mr. Miller has nominated Lloyd Sems and Gregory T. Hradsky as the two additional directors. We have not received any other nominations for directors by the holders of the Preferred Stock. Pursuant to the terms of the Certificate, the Board of Directors shall determine which class of directors on the Company's classified board to appoint any individuals elected by the holders of Preferred Stock. The Board of Directors has determined that Mr. Sems, if elected, would be appointed to Class 2, with a term expiring at the Company's 2014 annual meeting of stockholders, and Mr. Hradsky, if elected, would be appointed to Class 1, with a term expiring at the Company's 2013 annual meeting of stockholders. If elected, Messrs. Sems and Hradsky would serve as directors until the earlier of (a) the annual meeting of stockholders of the class of directors to which such individual has been appointed and his successor is duly elected and qualified, and (b) such time as all accrued and unpaid dividends on the Preferred Stock have been declared and paid or set apart for payment.

Unless authority to vote for either of the nominees named above is withheld, the shares of Preferred Stock represented by the enclosed proxy will be voted FOR the election as directors of Lloyd Sems and Gregory T. Hradsky.

Required Vote

A plurality of the votes cast by the holders of our Preferred Stock at the annual meeting is required to elect each nominee as a director.

Recommendation

THE BOARD OF DIRECTORS DOES NOT MAKE A RECOMMENDATION IN FAVOR OF OR AGAINST THE ELECTION OF LLOYD SEMS AS A CLASS 2 DIRECTOR OR GREGORY T. HRADSKY AS A CLASS 1 DIRECTOR.

33

Table of Contents

CODE OF CONDUCT AND ETHICS

We have adopted a code of conduct and ethics that applies to all of our employees, including our chief executive officer and chief financial and accounting officers. The text of the code of conduct and ethics is posted on our website at *www.cyclacel.com*, is filed as an exhibit to our Annual Report on Form 10-K, and will be made available to stockholders without charge, upon request, in writing to the Corporate Secretary at 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey 07922, Attention: Paul McBarron, Executive Vice President—Finance, Chief Financial Officer, Chief Operating Officer and Secretary. Disclosure regarding any amendments to, or waivers from, provisions of the code of conduct and ethics that apply to our directors, principal executive and financial officers will be included in a Current Report on Form 8-K within four business days following the date of the amendment or waiver, unless website posting of such amendments or waivers is then permitted by the rules of NASDAQ.

OTHER MATTERS

The Board of Directors knows of no other business which will be presented to the annual meeting, and the Company's Amended and Restated Bylaws, as amended, provide that only such business shall be conducted at the annual meeting of stockholders as shall have been brought before the meeting pursuant to the Company's notice of meeting. If any other business is properly brought before the annual meeting, proxies in the enclosed form will be voted in accordance with the judgment of the persons voting the proxies.

STOCKHOLDER PROPOSALS AND NOMINATIONS FOR DIRECTOR

To be considered for inclusion in the proxy statement relating to our 2012 Annual Meeting of Stockholders, stockholder proposals must be received no later than December 30, 2011. To be considered for presentation at the 2012 Annual Meeting of Stockholders, although not included in the proxy statement, proposals and nominations must be received no earlier than January 20, 2012 and no later than February 18, 2012. Proposals that are not received in a timely manner will not be presented or voted on at the 2012 Annual Meeting of Stockholders. If a proposal is received on time, the proxies that management solicits for the meeting may still exercise discretionary voting authority on the proposal under circumstances consistent with the proxy rules of the SEC. All stockholder proposals should be marked for the attention of Secretary, Cyclacel Pharmaceuticals, Inc., 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey 07922.

Berkeley Heights, New Jersey April 26, 2011

Our Annual Report on Form 10-K for the fiscal year ended December 31, 2010, as amended, (other than exhibits thereto) filed with the SEC, which provides additional information about us, is available on the Internet at *www.cyclacel.com* and is available in paper form to beneficial owners of our stock without charge upon written request to 200 Connell Drive, Suite 1500, Berkeley Heights, New Jersey 07922, Attention: Paul McBarron, Executive Vice President—Finance, Chief Financial Officer, Chief Operating Officer and Secretary.

34

CYCLACEL PHARMACEUTICALS INC. 200 CONNELL DRIVE SUITE 1500 BERKELEY HEIGHTS, NJ 07922

VOTE BY INTERNET - www.proxyvote.com Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 P.M. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS

ELECTIONING DELIVERY OF HUTURE PROXY MATERIALS If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

1422020-010204

VOTE BY PHONE - 1-800-690-6903 Use any touch-tone telephone to transmit your voting instructions up until 11-59 P.M. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

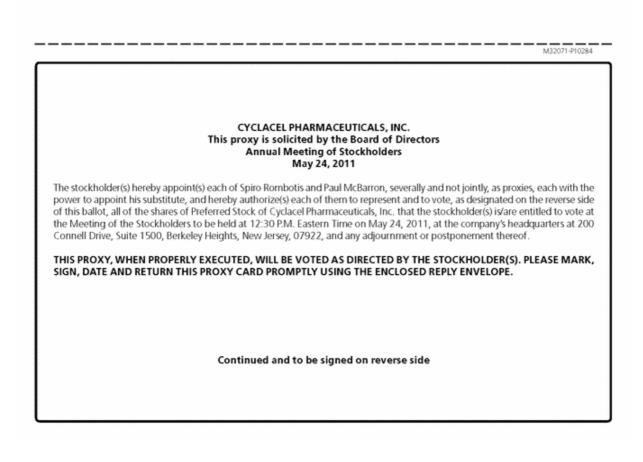
Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, do Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

| | | | | M32070-P10284 | KEEP THIS PORTION FOR YOUR DETACH AND RETURN THIS PORT |
|---|------------------|------------|------------|-------------------------------------|---|
| CLACEL PHARMACEUTICALS INC. | HIS PROXY CAR | ID IS VA | LID ONL | WHEN SIGNED AND DATED. | |
| CLACEL PHARMACEOTICALS INC. | | | | | |
| | | | | | |
| The Board of Directors does not hav | e a recommend | ation fo | or voting | on the following: | |
| 1. Election of Directors | For | Against | Abutain | | |
| Nominees | Pol | Against | Abstant | | |
| 1a. Lloyd Sems | 0 | 0 | 0 | | |
| 1a. Gregory T. Hradsky | 0 | 0 | O | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Please sign exactly as your name(s) appear Joint owners should each sign personally. | (c) haroon. When | sianina | as attorne | y, executor, administrator, or othe | r fiduciary, please give full title as su |
| authorized officer. | All holders must | sign. If | a corporat | ion or partnership, please sign in | full corporate or partnership name, |
| authorized officer. | All holders must | siğn. If i | a corporat | íon or partnership, please sign in | full corporate or partnership name, |

Important Notice Regarding the Availability of Proxy Materials for the Special Meeting:

The Notice and Proxy Statement is available at www.proxyvote.com.



CYCLACEL PHARMACEUTICALS INC. 200 CONNELL DRIVE **SUITE 1500** BERKELEY HEIGHTS, NJ 07922

VOTE BY INTERNET - www.proxyvote.com Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 PM. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS

ELECTIONIC DELIVERT OF FUTURE FROXY MATERIALS If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic deliveny, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

VOTE BY PHONE - 1-800-699-6903 Use any fouch-tone telephone to transmit your voting instructions up until 11:59 PM. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, d'o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

| | | | | | EP THIS PORTIO | | |
|---|------------------|-------------------------|-----------------------|--|---------------------------------|--------------------------|----------------|
| THIS PROX | (Y CA | RD IS VA | LID ON | ILY WHEN SIGNED AND DATED. | CH AND RETUR | IN THIS POP | TION ONI |
| CYCLACEL PHARMACEUTICALS INC. | For | All | For All Except | To withhold authority to vote for any individual nominee(s), mark "For All Except" and write the | | | |
| The Board of Directors recommends you vote FOR the following: 1. Election of Directors Nominees 01) Spiro Rombotis 02) David C, U ^o Prichard, Ph.D. | 0 | 0 | 0 | number(s) of the nominee(s) on the line below. | | _ | |
| The Board of Directors recommends you vote 2. Proposal to ratify the selection of Ernst & Young ending December 31, 2011. | | | | proposal: andent registered public accounting firm for the | For year O | Against | Abstain |
| NOTE: The shares represented by this proxy, when pro Stockholder(s). If no direction is made, this proxy before the meeting, the person(s) named in this proxy | iv wil | be vot | ed FOR | items 1 and 2. If any other matters properly of | igned come | | |
| | | | | | | | |
| Please sign exactly as your name(s) appear(s) hereon. Joint owners should each sign personally. All holders authorized officer. | . Wher s must | n signing sign. If a | as attori a corpor | ney, executor, administrator, or other fiduciary, pl ation or partnership, please sign in full corporat | lease give ful te or partner | l title as : ship nam | such. e, by |
| | | | | | | | |
| Signature [PLEASE SIGN WITHIN BOX] Date | | | | Signature (Joint Owners) Date | | | |

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting: The Notice and Proxy Statement, Form 10-K are available at <u>www.proxyvote.com</u>.

