

453,166 Shares of Common Stock

of

CYCLACEL PHARMACEUTICALS, INC.

Issuable Upon Exercise of Outstanding Warrants
Issued in Registered Direct Offerings

This Prospectus Supplement No. 3 supplements and amends the prospectus dated April 26, 2012, as supplemented by the Prospectus Supplement No. 1 dated May 16, 2012 and Prospectus Supplement No. 2 dated August 14, 2012, collectively referred to herein as the Prospectus, relating to the registration of 453,166 shares of common stock, par value \$0.001 per share, of Cyclacel Pharmaceuticals, Inc. (“we,” “us,” “our company,” or “the Company”), which we may issue upon exercise of warrants to purchase common stock we issued as part of “registered direct” offerings, as follows: (i) warrants to purchase up to 151,773 shares of common stock at an exercise price of \$59.08 per share we issued on February 16, 2007, such warrants expiring on February 16, 2014. We refer to these warrants as the February 2007 Warrants; (ii) warrants to purchase up to 98,893 shares of common stock at an exercise price of \$7.00 per share we issued on July 29, 2009, such warrants expiring on July 29, 2014. We refer to these warrants as July 2009 Warrants; (iii) warrants to purchase up to 101,785 shares of common stock at an exercise price of \$22.82 per share we issued on January 13, 2010, such warrants expiring on January 13, 2015. We refer to these warrants as the January 13, 2010 Warrants; and (iv) warrants to purchase up to 100,714 shares of common stock at an exercise price of \$19.95 per share we issued on January 25, 2010, such warrants expiring on January 25, 2015. We refer to these warrants as the January 25, 2010 Warrants, and collectively with the February 2007 Warrants, July 2009 Warrants and the January 13, 2010 Warrants, the “outstanding registered direct warrants.”

To the extent any holder of our outstanding registered direct warrants determines to exercise its warrants, we will receive the payment of the exercise price in connection with such exercise. We will not receive any proceeds from the sale of the common stock issuable upon exercise of the outstanding registered direct warrants by the holders of the outstanding registered direct warrants.

This prospectus supplement should be read in conjunction with the Prospectus, including any supplements or amendments to it. This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the Prospectus, including any supplements or amendments to it. The share amounts and prices included herein give effect to the 1-for-7 reverse stock split of our common stock which became effective on August 24, 2012.

On August 24, 2012, we filed our Current Report on Form 8-K. That Current Report on Form 8-K, without exhibits, is attached hereto.

Investing in our common stock involves risks. See “Risk Factors” beginning on page 19 of the Prospectus, as well as the section entitled “Risk Factors” included in our recent quarterly and annual reports filed with the Securities and Exchange Commission.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the Prospectus to which it relates are truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is August 24, 2012.

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

FORM 8-K

CURRENT REPORT

**Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): **August 24, 2012**

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

200 Connell Drive, Suite 1500
Berkeley Heights, NJ 07922
(Address of principal executive offices and zip code)

Registrant's telephone number, including area code: (908) 517-7330

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 3.03 Material Modifications to Rights of Securities Holders.

- (a) The information contained in Items 5.03 and 8.01 of this Current Report on Form 8-K is incorporated herein by reference.

Item 5.03 Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year.

- (a) On August 23, 2012, Cyclacel Pharmaceuticals, Inc. (the "**Company**") filed an Amended and Restated Certificate of Incorporation, amending and restating the Company's Amended and Restated Certificate of Incorporation, as amended (the "**A&R COI**"), with the Secretary of State of the State of Delaware to effect a 1-for-7 reverse stock split (the "**Reverse Stock Split**") of the Company's issued and outstanding common stock, \$0.001 par value per share (the "**Common Stock**"). The Reverse Stock Split became effective at 5:00 pm on August 24, 2012. The A&R COI was approved by the Company's stockholders at the Company's Annual Meeting of Stockholders held on May 23, 2012. A copy of the A&R COI is attached hereto as Exhibit 3.1 and incorporated herein by reference.

As a result of the Reverse Stock Split, each seven (7) shares of the Company's issued and outstanding Common Stock has been automatically combined and converted into one (1) issued and outstanding share of Common Stock, par value \$0.001 per share. The Reverse Stock Split has affected all issued and outstanding shares of Common Stock, as well as Common Stock underlying stock options, warrants, the Company's 6% Convertible Exchangeable Preferred Stock and other convertible securities outstanding immediately prior to the effectiveness of the Reverse Stock Split. The Reverse Stock Split has reduced the number of outstanding shares of the Common Stock outstanding prior to the Reverse Stock Split from 59,009,553 shares to 8,429,936 shares. The number of authorized shares of Common Stock was not affected by the Reverse Stock Split.

No fractional shares will be issued in connection with the Reverse Stock Split. Stockholders who would otherwise hold a fractional share of Common Stock will receive a cash payment in lieu of such fractional share based on the closing price of the Common Stock on the NASDAQ Global Market on August 23, 2012, the day immediately preceding the effective date of the Reverse Stock Split, which was \$0.55.

Stockholders with shares held in book-entry form or through a bank, broker, or other nominee are not required to take any action and will see the impact of the Reverse Stock Split reflected in their accounts after August 24, 2012. Beneficial holders may contact their bank, broker, or nominee for more information. Stockholders with shares held in certificate form are required to exchange their stock certificates for book-entry shares representing the shares of Common Stock resulting from the Reverse Stock Split. Shortly after August 24, 2012, registered holders who hold shares in certificate form will receive a Letter of Transmittal and instructions for exchanging their certificates from the Company's transfer agent, American Stock Transfer & Trust Company, LLC.

The Common Stock will begin to trade on NASDAQ on a post-split basis on August 27, 2012. It is expected that NASDAQ will append a "D" to the Company's ticker symbol ("CYCCD") to indicate the completion of the Reverse Stock Split, and that after a 20 trading-day period following effectiveness of the Reverse Stock Split, the ticker symbol will revert to "CYCC." In addition, the shares of Common Stock will also trade under the new CUSIP number 23254L306 effective on August 27, 2012.

The Reverse Stock Split is intended to increase the per share trading price of the Company's shares of Common Stock to satisfy the \$1.00 minimum bid price requirement for continued listing on the NASDAQ Global Market. As previously announced, in order to maintain the Company's listing on NASDAQ, on or before September 11, 2012, the Company's Common Stock must have a closing bid price of \$1.00 or more for a minimum of 10 consecutive trading days prior to September 11, 2012. There can be no assurance that the reverse stock split will have the desired effect of raising the closing bid price of the Company's Common Stock prior to September 11, 2012, to meet this requirement.

