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): May 23, 2012

ALEXION PHARMACEUTICALS, INC.

(Exact Name of Registrant as Specified in Charter)

Delaware (State or Other Jurisdiction of Incorporation) 0-27756 (Commission File Number) 13-3648318 (IRS Employer Identification No.)

352 Knotter Drive Cheshire Connecticut (Address of principal executive offices)

06410 (Zip code)

(203) 272-2596 (Registrant's telephone number, including area code)

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))

D Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 7.01 Regulation FD Disclosure

On May 23, 2012, Alexion Pharmaceuticals, Inc. commenced an underwritten public offering of 5,000,000 shares of its common stock. All of the shares are being offered by Alexion. Alexion intends to use the net proceeds from the offering for general corporate purposes and to repay the outstanding borrowings under the revolving credit facility of its credit agreement. Alexion may also use a portion of the proceeds of the offering for the license or acquisition of products, technologies or businesses complementary to its business; however, Alexion has no current plans to effect any specific license or acquisition. The offering is subject to market and other conditions, and there can be no assurance as to whether or when the offering may be completed, or as to the actual size or terms of the offering.

Goldman, Sachs & Co. and J.P. Morgan are acting as joint book-running managers for the offering. Cowen and Company is acting as co-manager for the offering.

The offering may be made only by means of a prospectus supplement and the accompanying prospectus. A preliminary prospectus supplement and accompany prospectus related to the offering will be filed with the SEC and will be available on the Securities and Exchange Commission's website located at www.sec.gov. Copies of the preliminary prospectus supplement and the accompanying prospectus may also be obtained by sending a request to Goldman, Sachs & Co., Attn: Prospectus Department, 200 West Street, New York, New York 10282, or by email at prospectus-ny@ny.email.gs.com or to J.P. Morgan Securities LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, New York 11717, or by telephone at (866) 803-9204.

The securities described above are being offered by Alexion pursuant to an automatically effective shelf registration statement that was previously filed with the SEC. This Current Report on Form 8-K shall not constitute an offer to sell, or the solicitation of an offer to buy, any of the securities, nor shall there be any sale of these securities, in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: May 23, 2012

ALEXION PHARMACEUTICALS, INC.

By: /s/ Michael V. Greco

Name: Michael V. Greco Title: Associate General Counsel and Corporate Secretary