

As filed with the Securities and Exchange Commission on July 22, 2021

Registration No. 333-29617
 Registration No. 333-41397
 Registration No. 333-47645
 Registration No. 333-36738
 Registration No. 333-52886
 Registration No. 333-59702
 Registration No. 333-123828
 Registration No. 333-226838

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

POST-EFFECTIVE AMENDMENT NO. 1 TO FORM S-3 REGISTRATION STATEMENT NO. 333-29617
 POST-EFFECTIVE AMENDMENT NO. 1 TO FORM S-3 REGISTRATION STATEMENT NO. 333-41397
 POST-EFFECTIVE AMENDMENT NO. 1 TO FORM S-3 REGISTRATION STATEMENT NO. 333-47645
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 POST-EFFECTIVE AMENDMENT NO. 1 TO FORM S-3 REGISTRATION STATEMENT NO. 333-226838

UNDER THE SECURITIES ACT OF 1933

ALEXION PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware
 (State or other jurisdiction of
 incorporation or organization)

85-4136092
 (I.R.S. Employer
 Identification No.)

120 Seaport Boulevard
Boston, Massachusetts 02210
 (Address of principal executive offices)

David E. White
Treasurer
Alexion Pharmaceuticals, Inc.
1800 Concord Pike
Wilmington, DE 19850
 (Name and address of agent for service)

(302) 886-6994
 (Telephone number, including area code, of agent for service)

With copies to:

Sebastian L. Fain
 Freshfields Bruckhaus Deringer US LLP
 601 Lexington Avenue, 31st Floor
 New York, New York 10022
 1-212-277-4000

Approximate date of commencement of proposed sale to the public: Not applicable.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective on filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

DEREGISTRATION OF SECURITIES

This Post-Effective Amendment (the “**Post-Effective Amendment**”), filed by Alexion Pharmaceuticals, Inc., a Delaware corporation (f/k/a AstraZeneca Rare Disease Holdings Inc., f/k/a Delta Omega Sub Holdings Inc.) (the “**Registrant**”) and successor in interest to Alexion Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), relates to the following registration statements on Form S-3 (the “**Registration Statements**”) of the Company, previously filed with the Securities and Exchange Commission (the “**Commission**”):

- Registration Statement on Form S-3 (Registration No. 333-29617), filed on June 19, 1997 and amended on July 7, 1997, pertaining to the registration for resale by stockholders of the Company of 1,974,744 shares of common stock, par value \$0.0001 per share.
- Registration Statement on Form S-3 (Registration No. 333-41397), filed on December 3, 1997, pertaining to the registration for resale by stockholders of the Company of 1,062,762 shares of common stock, par value \$0.0001 per share.
- Registration Statement on Form S-3 (Registration No. 333-47645), filed on March 10, 1998 and amended on March 17, 1998, pertaining to the registration for resale by stockholders of the Company of 960,831 shares of common stock, par value \$0.0001 per share.
- Registration Statement on Form S-3 (Registration No. 333-36738), filed on May 10, 2000 and amended on July 18, 2000 and August 9, 2000, pertaining to the registration by the Company of 1,127,555 shares of common stock, par value \$0.0001 per share, issuable upon conversion of notes.
- Registration Statement on Form S-3 (Registration No. 333-52886), filed on December 28, 2000, pertaining to the registration for resale by the stockholders of the Company of 151,898 shares of common stock, par value \$0.0001 per share.
- Registration Statement on Form S-3 (Registration No. 333-59702), filed on April 27, 2001 and amended on June 28, 2001 and July 25, 2001, pertaining to the registration for resale by the stockholders of the Company of 187,114 shares of common stock, par value \$0.0001 per share.
- Registration Statement on Form S-3 (Registration No. 333-123828) filed on April 4, 2005 and amended on May 25, 2005, pertaining to the registration for resale by the securityholders of the Company of notes, convertible into 4,768,710 shares of common stock, par value \$0.0001 per share.
- Registration Statement on Form S-3 (Registration No. 333-226838) filed on August 14, 2018, pertaining to the registration by the Company of 8,485,736 shares of common stock, par value \$0.0001 per share.

On December 12, 2020, AstraZeneca PLC (“**AstraZeneca**”), the Registrant, the Company, Delta Omega Sub Holdings Inc. 1, a direct, wholly owned subsidiary of the Registrant (“**Merger Sub I**”) and Alexion Rare Disease LLC (f/k/a Delta Omega Sub Holdings LLC 2), a direct, wholly owned subsidiary of the Registrant (“**Merger Sub II**”), entered into an Agreement and Plan of Merger (the “**Merger Agreement**”) that provided for the acquisition of the Company by AstraZeneca. On the terms and subject to the conditions set forth in the Merger Agreement, on July 21, 2021 (1) Merger Sub I merged with and into the Company (the “**First Merger**”) with the Company surviving the First Merger as a wholly owned subsidiary of the Registrant, and (2) immediately following the effective time of the First Merger, the Company merged with and into Merger Sub II (the “**Second Merger**”) with Merger Sub II surviving the Second Merger as a direct wholly owned subsidiary of the Registrant and an indirect wholly owned subsidiary of AstraZeneca. Effective on July 22, 2021, Merger Sub II merged with and into the Registrant, at which point the Registrant’s name was changed from AstraZeneca Rare Disease Holdings Inc. to Alexion Pharmaceuticals, Inc. (such merger, together with the First Merger and the Second Merger, the “**Mergers**”).

As a result of the Mergers, any offering pursuant to the Registration Statements has been terminated and the Registrant hereby terminates the effectiveness of the Registration Statements. In accordance with an undertaking made by the Company in the Registration Statements to remove from registration, by means of a post-effective amendment, any of the securities registered under each Registration Statement that remain unsold at the termination of the offerings, the Registrant hereby removes from registration the securities registered but unsold under the Registration Statements, if any.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, and Rule 478 thereunder, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing this Post-Effective Amendment to the Registration Statements and has duly caused this Post-Effective Amendment to the Registration Statements to be signed on its behalf by the undersigned, thereunto duly authorized, in the Town of Wilmington, State of Delaware, the 22nd day of July, 2021.

ALEXION PHARMACEUTICALS, INC.

By: /s/ David E. White

Name: David E. White

Title: Treasurer
