

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

FORM S-8
REGISTRATION STATEMENT
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)

13-3648318
(I.R.S. Employer
Identification No.)

352 KNOTTER DRIVE, CHESHIRE, CONNECTICUT 06410

(Address of principal executive offices) (Zip Code)

ALEXION PHARMACEUTICALS, INC.
PROLIFARION, INC. 1999 LONG TERM
INCENTIVE AND STOCK OPTION PLAN OPTIONS
OF PROLIFARON, INC.
(Full Title of the Plan)

LEONARD BELL, M.D.
ALEXION PHARMACEUTICALS, INC.
352 KNOTTER DRIVE
CHESHIRE, CONNECTICUT 06410
(203) 272-2596
(Name, address, including area code, and
telephone number of agent for service)

Copies of all communications, including all communications sent to the agent for service, should be sent to:

LAWRENCE M. BELL, ESQ.
GOLENBOCK, EISEMAN, ASSOR & BELL
437 MADISON AVENUE
NEW YORK, NEW YORK 10022
(212) 907-7300

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CALCULATION OF REGISTRATION FEE

TITLE OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED	PROPOSED MAXIMUM OFFERING PRICE PER SHARE(1)	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(1)	AMOUNT OF REGISTRATION FEE
Common Stock, par value of \$.0001 per share	44,292 shares	\$48.20	\$2,134,874.40	\$534.00

(1) The price, pursuant to Rule 457(h) of the Securities Act of 1933, as amended (the "Act") and solely for the purpose of calculating the registration fee, is the product resulting from multiplying 44,292, the number of shares registered by this Registration Statement which is the number of shares issuable upon exercise of the options granted under the Prolifaron, Inc. 1999 Long Term Incentive and Stock Option Plan, by the

highest applicable exercise price for options issued under the
Prolifarion, Inc. 1999 Long Term Incentive and Stock Option Plan.

PART I

INFORMATION REQUIRED IN THE SECTION 10(A) PROSPECTUS

In accordance with the rules and regulations of the Securities and Exchange Commission, the documents containing the information called for in Part I of Form S-8 has been given to the individuals who participated in the Prolifaron, Inc. 1999 Long Term Incentive and Stock Option Plan and are not being filed with or included in this Form S-8.

PROSPECTUS STATEMENT

The material which follows, up to but not including the page beginning Part II of this Registration Statement, constitutes a prospectus, prepared in accordance with the requirements of Part I of Form S-3 pursuant to General Instruction C to Form S-8, to be used in connection with resales of securities acquired by certain individuals and entities that received such options with respect thereto as a result of their participation, as employees and/or consultants of Prolifaron Inc. (now known as Alexion Antibody Technologies, Inc.), in the Prolifaron Inc. 1999 Long Term Incentive and Stock Option Plan which as a result of and in accordance with the acquisition of Prolifaron Inc. by the Registrant and the assumption by the Registrant of the issued stock options the stock options are exercisable for shares of Registrant's Common Stock. Such plan and the underlying option agreements being an employee benefit plan, as defined in Rule 405 under the Securities Act of 1933, as amended.

Description of the Options

General Information.

The stock options were granted to employees and/or consultants of Prolifaron, Inc. under its 1999 Long Term Incentive and Stock Option Plan ("1999 Plan") and were in connection with the acquisition by the Registrant of Prolifaron Inc. on September 23, 2000 through the merger (the "Merger") of a wholly-owned subsidiary of the Registrant with and into Prolifaron Inc. and the change of Prolifaron's name to Alexion Antibody Technologies, Inc. ("Alexion Antibody"). The stock options granted under the 1999 Plan were converted into options to acquire shares of Common Stock of the Registrant as previously reported on Form 8-K filed on October 3, 2000.

No options were or will be granted under the 1999 Plan from and after September 23, 2000, the effective date of the Merger. All of the unexercised options granted under the 1999 Plan that were issued and outstanding on such date became fully vested, and remain outstanding and exercisable in accordance with their respective terms until their respective expiration dates with the exception that they are now exercisable for shares of Common Stock of the Registrant.

In accordance with the terms of the Agreement and Plan of Merger dated as of September 22, 2000 by and among the Registrant, Prolifaron Inc., PI Acquisition Company, Inc. and certain major

shareholders of Prolifaron, Inc. the issued and outstanding stock options under the 1999 Plan exercisable for 855,000 shares were automatically converted upon the effectiveness of the Merger into stock options under the 1999 Plan to acquire 44,364 shares of Common Stock of the Registrant, determined by multiplying the number of shares of Prolifaron, Inc. for which the issued and outstanding stock options were exercisable by .05187 and rounding up to the nearest whole share. After the effective date of the merger two optionees that had left Alexion Antibody exercised the stock options held by them and received an aggregate of 72 shares of restricted Common Stock of the Registrant.

The following discussion is qualified in its entirety by the full text of the 1999 Plan.

The 1999 Plan is administered by the Board of Directors of Alexion Antibody or, if the Board of Directors so determines, a Committee thereof. Subject to the terms of the 1999 Plan, the Board (or the Committee, as the case may be), has the authority to determine to whom options shall be granted (subject to certain eligibility requirements for grants of ISOs), the number of shares covered by each such grant, the exercise or purchase price per share, the time or times at which options shall be granted, and other terms and provisions governing the options, as well as the restrictions, if any, applicable to shares of Common Stock issuable upon exercise of options. The Board of Directors may, from time to time, adopt amendments, certain of which are subject to stockholder approval, and may terminate the 1999 Plan at any time (although such action will not affect options previously granted). The number and exercise price of outstanding options are subject to adjustment in the event of a stock dividend, stock split, consolidation, merger, recapitalization, reorganization or similar transaction.

The 1999 Plan is not an employee benefit plan which is subject to the provisions of the Employee Retirement Income Security Act of 1974, and the provisions of Section 401(a) of the Code are not applicable to the 1999 Plan.

For additional information about the 1999 Plan, please contact Barry Luke at 352 Knotter Drive, Cheshire, Connecticut 06410, telephone number (203) 272-2596.

Securities to be Offered

A total of 44,292 shares of the Registrant's Common Stock are reserved for issuance upon the exercise of options under the 1999 Plan (subject to adjustment for capital changes). Shares subject to options which for any reason expire or are terminated unexercised will not be available for regrant under the 1999 Plan.

Employees Who May Participate in the 1999 Plan

Under the 1999 Plan, the key employees of Alexion Antibody and any subsidiary thereof may be granted options which qualify as ISOs; directors, officers, employees, and consultants of Alexion Antibody and "affiliates" may be granted Non-Qualified Options. The Committee may take into consideration a recipient's individual circumstances in determining such person's eligibility to participate in the 1999 Plan.

Purchase of Securities Pursuant to the 1999 Plan and Payment for Securities

The 1999 Plan requires that each option shall expire on the date specified by the Committee, but not more than ten years from its date of grant. However, in the case of any ISO granted to an employee or officer owning more than 10% of the total combined voting power of all classes of stock of the Registrant, the ISO will expire no more than five years from its date of grant. The 1999 Plan also requires that ISOs be exercised no later than 90 days following termination of the grantee's employment (twelve months in the case of death) including permanent disability (unless the exercise period upon a permanent disability is extended to up to twelve months after termination at the discretion of the Board of Directors)). ISOs not exercised within this time period automatically terminate.

Non-qualified options will terminate under such circumstances as the Board of Directors or the Committee may specify in connection with the particular option grant. In the case of Non-Qualified Options granted to employees, such options may terminate in the same circumstances as would ISO's, and/or the Committee may specify that such options shall be subject to such termination and cancellation provisions as the Committee may determine.

The exercise price per share specified in the agreement relating to each option granted under the 1999 Plan was not less than the fair market value per share of Common Stock on the date of such grant. In the case of an ISO granted to an employee owning stock possessing more than 10% of the total combined voting power of all classes of stock of the Registrant, the price per share specified in the agreement relating to such ISO were not be less than 110% of the fair market value per share of Common Stock on the date of grant.

For purposes of determining fair market value, if at the time an option is granted, the Common Stock is publicly traded,

fair market value is determined as of the last business day for which the prices or quotes discussed herein are available prior to the date such option is granted and means (i) the average (on that date) of the high and low prices of the Common Stock on the principal national securities exchange on which the Common Stock is traded or (ii) the last reported sale price (on that date) of the Common Stock on the NASDAQ National Market List or (iii) the average of the closing bid and asked prices last quoted (on that date) by an established quotation service for over-the-counter securities. If the Common Stock is not publicly traded at the time an option is granted, fair market value shall be determined by the Committee, which shall take into consideration all factors which it deems appropriate, including without limitation, recent sale and offer prices of the Common Stock in private transactions negotiated at arm's length.

Exercise of any option, in whole or in part, under the 1999 Plan is effected by a written notice of exercise delivered to Alexion Antibody at its principal office together with payment by cash or check for the Common Stock in full, or, if permitted by the Board of Directors or the Committee, in its discretion, by the delivery of shares of Common Stock of the Registrant, valued at fair market value. In the case of an ISO, the Board of Directors' or the Committee's discretion must be exercised at the time of grant of the ISO.

The 1999 Plan permits the Board of Directors or the Committee to require the termination and cancellation of options in the event a grantee's employment is terminated for gross or willful misconduct and to otherwise condition the exercise of options on other conditions.

The 1999 Plan contains terms providing for the exercise of options by or on behalf of former and deceased employees.

Resale Restrictions

If and so long as the offer and sale of shares upon the exercise of options is covered by an effective registration statement of the Registrant on Form S-8 under the Securities Act of 1933, as amended (the "Securities Act"), the shares of Common Stock issuable upon exercise of the options will be freely tradable upon issuance to participants in the 1999 Plan who are not officers, directors or "affiliates" of the Registrant (within the meaning of Rule 144 under the Securities Act). However, shares of Common Stock acquired pursuant to the exercise of options by any officer, director or "affiliate" of the Registrant may not be sold, transferred or otherwise disposed of unless (a) a registration statement is in effect under the Securities Act with respect to such shares or an exemption from the registration requirements of the Securities Act is available and the Registrant has received an

opinion of counsel satisfactory to the Registrant that such registration is not required or (b) the shares are sold pursuant to Rule 144 and the Registrant receives an opinion of counsel satisfactory to the Registrant to such effect.

In addition, shares of Common Stock which are not issued or sold by the Registrant under the 1999 Plan pursuant to an effective registration statement on Form S-8 would be characterized as "restricted securities" under the Federal securities laws and would not be permitted to be sold, transferred or otherwise disposed of unless (a) a registration statement is in effect under the Securities Act with respect to such issue or sale by the Registrant or an exemption from the registration requirements of the Securities Act is available and the Registrant receives an opinion of counsel satisfactory to the Registrant that such registration is not required or (b) the shares are sold pursuant to Rule 144 and the Registrant receives an opinion of counsel satisfactory to the Registrant to such effect. Moreover, grantees who receive shares from the Registrant which constitute restricted securities will be required to execute such undertakings and certificates as the Registrant shall require to assure compliance with the Securities Act. The Registrant may also require any certificate for such shares to bear a restrictive legend to effect compliance with the Securities Act and any other applicable regulatory requirements.

In particular, Rule 144 currently requires that the resale of any "restricted securities" not occur less than one year after the later of the date the securities were sold by the Registrant or the date the securities were sold by an affiliate of the Registrant within the meaning of Rule 144, and, in the case any securities held by an affiliate, or of restricted securities held by any person (whether or not an affiliate) who holds the securities less than two years, any such resale is subject to the satisfaction of the conditions specified by Rule 144, including: (1) the resale being made through a broker in an unsolicited "broker's transaction" or in transactions directly with a market maker (as that term is defined under the Securities Exchange Act of 1934); (2) the availability of certain public information about the Registrant; (3) the amount of securities being sold during any three month period not exceeding the limitations specified in Rule 144; and (4) the timely filing of Form 144, if applicable. Notwithstanding the fact that Rule 144 is not the exclusive means of exemption from the registration requirements of the Securities Act, the Staff of the Securities and Exchange Commission has expressed its opinion that persons proposing to sell restricted securities, or affiliates proposing to sell securities, other than in a registered offering and otherwise than pursuant to Rule 144, will have a substantial burden of proof in establishing that an exemption from registration is available for such offers or sales, and that such persons and their respective brokers who participate

in such transactions do so at their own risk. No assurances can be given that any other registration exemption will be available in such event. Holders of options are urged to consult with their personal advisors regarding the above matters.

Transfer of Interests

Options granted pursuant to the 1999 Plan are not assignable or transferable other than by will or by the laws of descent and distribution and are exercisable during the optionee's lifetime only by the optionee.

Certain Federal Tax Consequences

Set forth below is a brief summary of some of the Federal tax rules applicable to options granted pursuant to the 1999 Plan and the disposition of the shares acquired upon exercise of an Option. THIS SUMMARY IS NECESSARILY INCOMPLETE, AND THE TAX LAWS AND REGULATIONS ARE SUBJECT TO CHANGE. YOU SHOULD CONSULT A TAX ADVISER BEFORE EXERCISING AN OPTION OR DISPOSING OF SHARES.

Incentive Stock options. The following general rules are applicable for Federal income tax purposes under existing law to employees who receive and exercise ISOs granted under the 1999 Plan:

Generally, no taxable income results to the optionee upon the grant of an ISO or upon the issuance of shares to the optionee upon exercise of the ISO. (But see the discussion of possible taxation under "Minimum Tax" below.) If shares acquired upon exercise of an ISO are disposed of after the later of (i) two years following the date the option was granted, and (ii) one year following the date the shares are transferred to the optionee pursuant to the exercise of the option, the difference between the amount realized on such disposition of the shares and the exercise price will be treated as long-term capital gain or loss to the optionee.

If shares acquired upon exercise of an ISO are disposed of before the expiration of one or both of the requisite holding periods (a "disqualifying disposition"), then in most cases any excess of the fair market value of the shares at the time of exercise of the option over the exercise price, or, if less, the actual gain on disposition, will be treated as compensation to the optionee and will be taxed as ordinary income in the year of such disqualifying disposition. Any excess of the amount realized by the optionee as the result of a disqualifying disposition over the sum of (i) the exercise price and (ii) the amount of ordinary income recognized under the above rules will be treated as either long-term or short-term capital gain, depending upon the time elapsed between receipt and disposition of such shares. In

addition, ISOs granted under the 1999 Plan will be terminated if the optionee is not employed by Alexion Antibody at all times during the period from the date the option is granted through the date 90 days before the date the option is exercised (twelve months in the case of death (subject to certain limitations outlined in the Plan)).

In general, no tax deduction is allowed to Alexion Antibody upon either grant or exercise of an ISO under the 1999 Plan. However, in any year that an optionee recognizes compensation income on a disqualifying disposition of shares acquired by exercising an ISO, Alexion Antibody will generally be entitled to a corresponding deduction for income tax purposes.

An optionee may be entitled to exercise an ISO by delivering shares of the Registrant's Common Stock ("old stock") to Alexion Antibody in exchange for the Common Stock received upon exercise of the ISO ("option stock"), if the optionee's ISO grant so provides. In general, if an optionee exchanges old stock for option stock instead of, or in addition to, paying part or all of the exercise price in cash, no gain or loss will be recognized with respect to the exchange of the old stock, and shares acquired upon exercise of the ISO will not be subject to tax as explained above until the shares are sold. However, an exception exists to this rule when the old stock is a "statutory option stock" (as defined below) that has been held for a period less than the applicable holding periods under the Code. In that event, the optionee will realize ordinary compensation income with respect to the old stock in an amount equal to the lesser of (i) the excess of the fair market value of the option stock on the date of exercise of the ISO over the basis of the old stock, or (ii) the fair market value of the old stock on the date it was originally exercised over the original option exercise price. "Statutory option stock" consists of stock acquired through the exercise of a "qualified stock option," an "incentive stock option," an option acquired under an "employee stock purchase plan" or a "restricted stock option," as these terms are defined in the Code. Further, if the old stock used to exercise an ISO is Restricted Stock (as defined below), exercise of the ISO with such Restricted Stock may be treated as the lapse of the restrictions imposed on such Restricted Stock under the rules discussed below, and the optionee may recognize income as a result.

Non-Qualified Options. The following general rules are applicable for Federal income tax purposes under existing law to holders of Non-Qualified Options and to the Registrant.

The optionee generally does not realize any taxable income upon the grant of a Non-Qualified Option, and Alexion Antibody is not allowed a deduction by reason of such grant. The optionee will recognize ordinary compensation income at the time of exercise of a Non-Qualified Option in an amount equal to the excess, if any, of the fair market value of the shares on the date of exercise over the

exercise price. In accordance with the regulations under the Code and applicable state law, Alexion Antibody is obligated to withhold taxes in respect of such compensation income at the time of the exercise of the Option. The 1999 Plan permits Alexion Antibody to require the optionee to pay to Alexion Antibody an amount sufficient to satisfy such withholding taxes. If the Registrant withholds shares instead of cash to satisfy this withholding tax obligation, the optionee nonetheless will be required to include in income the compensation income attributable to the shares withheld. When the optionee sells the shares, such optionee will recognize a capital gain or loss in an amount equal to the difference between the amount realized upon the sale of the shares and such optionee's basis in the shares (i.e., the exercise price plus the amount taxed to the optionee as compensation income). If the optionee holds the shares for longer than the statutory holding period, this gain or loss will be a long-term capital gain or loss. The present statutory holding period is one year. In general, Alexion Antibody will be entitled to a tax deduction in the year in which compensation income attributed to the Non-Qualified Options is recognized by the optionee.

The foregoing rules applicable to Non-Qualified Options are based upon the assumptions that (i) the options do not have a readily ascertainable fair market value at the date of grant and (ii) the Common Stock acquired by exercising the Non-Qualified Option is either transferable or not subject to a "substantial risk of forfeiture" (as such terms are defined in regulations under Section 83 of the Code).

An optionee may be entitled to exercise a Non-Qualified Option by delivering shares of old stock to Alexion Antibody in exchange for the Common Stock of the Registrant received upon exercise of the option ("Non-Qualified Option stock"), if the optionee's Non-Qualified Option grant so provides. In general, if an optionee exchanges old stock for Non-Qualified Option stock instead of, or in addition to, paying part or all of the exercise price in cash, no gain or loss will be recognized with respect to the exchange of the old stock. However, if the fair market value of the Non-Qualified Option stock received exceeds the fair market value of the old stock (at the time of exercise) delivered to acquire the Non-Qualified Option stock, the transaction will be separated into two parts for tax purposes. In the first part, the number of shares of old stock delivered will be deemed exchanged, tax-free, for a like number of shares of the Non-Qualified Option stock received, and the basis of the shares so received will be the same as the basis of the shares of old stock delivered. In the second part of the transaction, the balance of the shares of Non-Qualified Option stock received will be treated as ordinary compensation income, and the fair market value of these shares will constitute both the amount of compensation income with respect to, and the basis for, such shares. Further, if the old stock used to exercise a Non-Qualified Option is Restricted Stock (as defined below), and the Common Stock of the Registrant acquired on exercise of the Non-Qualified Option is not subject to restrictions

substantially similar to those imposed on such Restricted Stock, exercise of the Non-Qualified Option with such Restricted Stock will be treated as the lapse of the restrictions imposed on such Restricted Stock under the rules discussed below, and the optionee may recognize income as a result.

Special Rules for Restricted Stock. Common Stock that is subject to restrictions on transfer and also to a substantial risk of forfeiture (as defined in regulations under Section 83 of the Code), referred to herein as "Restricted Stock," is subject to special tax rules. If the Common Stock of the Registrant acquired on the exercise of a Non-Qualified Option or pursuant to a purchase is Restricted Stock, the amount of income recognized by the optionee generally will be determined as of the time the restrictions lapse, and will be equal to the difference between the amount paid for the Restricted Stock and the fair market value of the Restricted Stock at that time. In that case, the payment to Alexion Antibody of withholding taxes will be required as the income arises, i.e., at the time the transfer restrictions on the stock lapse or the substantial risk of forfeiture no longer exists.

Due to certain securities law restrictions, the Common Stock acquired by officers or directors of Alexion Antibody, or "affiliates" (as defined pursuant to the Securities Act) of Alexion Antibody, who exercise Non-Qualified Options may be treated for tax purposes as Restricted Stock. Similarly, the Common Stock acquired by officers or directors of Alexion Antibody who exercise ISOs may be treated for alternative minimum tax purposes (but not regular tax purposes) as Restricted Stock.

If an optionee transfers Restricted Stock to Alexion Antibody to exercise an ISO, the restrictions on such Restricted Stock will be deemed to have lapsed on the date of transfer, and the optionee may recognize income at that time. Similarly, if the optionee transfers Restricted Stock to Alexion Antibody to exercise a Non-Qualified Option, and the stock received by the optionee on exercise is not subject to restrictions substantially similar to those imposed on such Restricted Stock, the restrictions on that Restricted Stock will be deemed to have lapsed on the date of transfer, and the optionee may recognize income at that time.

Under Section 83(b) of the Code, an election is available to the optionee to include in gross income, in the taxable year that Restricted Stock is first transferred to the optionee, the amount of any excess of the fair market value (as determined under Section 83) of the Restricted Stock over the amount (if any) paid for such stock. If this election is made and the optionee pays the tax in the year such election is made, no further tax liability will arise at the time the transfer restrictions on the Restricted Stock lapse or the substantial risk of forfeiture no longer exists. However, if shares of Restricted Stock for which a Section 83(b) election is in effect are

forfeited while such shares are both nontransferable and subject to a substantial risk of forfeiture, the loss realized by the optionee on the forfeiture, for federal income tax purposes, is limited to the amount paid for such shares (not including any compensation income recognized by the optionee at the time of transfer) less any amount realized by the optionee on such forfeiture. Restricted Stock acquired by exercising an ISO generally is not subject to the rules of Section 83, but rather the rules discussed above under Incentive Stock Options.

Minimum Tax. The exercise of ISOs granted under the 1999 Plan may result in a further "minimum tax" under the Code. The Code provides that an "alternative minimum tax" will be applied against a taxable base which is equal to regular taxable income, adjusted for certain limited deductions and losses, increased by items of tax preference, and reduced by a statutory exemption. The statutory exemption is phased out for certain higher income taxpayers. The bargain element at the time of exercise of an ISO, i.e., the amount by which the value of the Common Stock received upon exercise of the ISO exceeds the exercise price, is included in the optionee's alternative minimum taxable income for purposes of the minimum tax, subject to the rules applicable to Restricted Stock.

Thus, if upon exercise of an ISO an optionee receives stock which is not Restricted Stock, the bargain element is included in the optionee's alternative minimum taxable income in the year of exercise. If the optionee receives Restricted Stock on exercise of an ISO, the bargain element is measured in alternative minimum taxable income in the year(s) that the restrictions on the stock lapse(s), unless the optionee files a Section 83(b) election under the Code with the Internal Revenue Service within 30 days of the date of exercise of the ISO and thereby elects to include the bargain element in alternative minimum taxable income in the year of exercise. For purposes of determining alternative minimum taxable income (but not regular taxable income) for any subsequent year in which the taxpayer sells the stock acquired by exercise of the ISO, the basis of such stock will be its fair market value at the time the ISO was exercised. A taxpayer is required to pay the higher of his regular tax liability or the alternative minimum tax. A taxpayer who pays alternative minimum tax attributable to the exercise of an ISO may be entitled to a tax credit against regular tax liability in later years.

Part II

CAUTIONARY NOTICE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements contained in, or incorporated by reference in, this registration statement are forward-looking in nature. Such statements can be identified by the use of forward-looking terminology such as "believes," "expects," "may," "will," "should," or "anticipates" or the negative thereof or comparable terminology, or by discussions of strategy. You are cautioned that the Registrant's business and operations are subject to a variety of risks and uncertainties and, consequently, its actual results may materially differ from those projected by any forward-looking statements. Certain of such risks and uncertainties are discussed below under the heading "Risk Factors." The Registrant makes no commitment to revise or update any forward-looking statements in order to reflect events or circumstances after the date any such statement is made.

WHERE YOU CAN FIND MORE INFORMATION

The Registrant files reports, proxy statements, and other information with the SEC. Such reports, proxy statements, and other information can be read and copied at the SEC's Public Reference Room at 450 Fifth Street, N.W., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. The SEC maintains an internet site at <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC, including the Registrant.

INCORPORATION BY REFERENCE

The SEC allows the Registrant to "incorporate by reference" the documents that it files with the SEC. This means that the Registrant can disclose important information to you by referring you to those documents. Any information incorporated in this manner is considered part of this registration statement. Any information the Registrant files with SEC after the date of this registration statement will automatically update and supersede the information contained in this registration statement.

The Registrant incorporates by reference the following documents that have been filed with the SEC and any filings that it will make with the SEC in the future under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 until this offering is completed:

- (1) the Registrant's Annual Report on Form 10-K for the fiscal year ended July 31, 2000;
- (2) the Registrant's Quarterly Report on Form 10-Q for the three months ended October 31, 2000;

- (3) the Registrant's Current Report on Form 8-K filed on September 25, 2000;
- (4) the Registrant's Current Report on Form 8-K filed on October 3, 2000, as amended by Amendment No. 1 on Form 8-K/A filed on November 20, 2000;
- (5) the Registrant's Current Report on Form 8-K filed on October 27, 2000;
- (6) the description of the Common Stock, which is registered under Section 12 of the Exchange Act, contained in the Registrant's Registration Statement on Form 8-A, filed on February 21, 1997, as amended on October 6, 2000; and
- (7) the description of the Common Stock, which is registered under Section 12 of the Exchange Act, contained in the Registrant's Registration Statement on Form 8-A dated February 12, 1996.

We will provide you without charge, upon written or oral request, a copy of any or all of the documents which are incorporated by reference into this registration statement. Requests should be directed to: Alexion Pharmaceuticals, Inc., 352 Knotter Drive, Cheshire, Connecticut 06410 , Attention: Chief Executive Officer. The Registrant's telephone number is: (203) 272-2596.

ITEM 4. DESCRIPTION OF SECURITIES.

Not applicable.

ITEM 5. INTEREST OF NAMED EXPERTS AND COUNSEL.

Not applicable.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Section 145 of the General Corporation Law of the State of Delaware permits indemnification of directors, officers and employees of a corporation under certain conditions and subject to certain limitations. The Registrant's Certificate of Incorporation provides that the Registrant shall, to the fullest extent permitted by Section 145, indemnify any and all persons whom it shall have power to indemnify under said Section. In addition, the Registrant has entered into indemnity agreements with its directors and officers providing for the maximum indemnification allowed by Section 145.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED.

Not applicable.

ITEM 8. EXHIBITS.

Exhibit

No.	Description
5	Opinion of Golenbock, Eiseman, Assor & Bell
23.1	Consent of Arthur Andersen LLP
23.2	Consent of Golenbock, Eiseman, Assor & Bell (included in Exhibit 5)
24	Power of Attorney (included on signature page)

ITEM 9. UNDERTAKINGS

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in

the registration statement;

PROVIDED, HOWEVER, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-3, S-8 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) The undersigned Registrant hereby undertakes to deliver or cause to be delivered with the prospectus, to each person to whom the prospectus is sent or given, the latest annual report to security holders that is incorporated by reference in the prospectus and furnished pursuant to and meeting the requirements of Rule 14a-3 or Rule 14c-3 under the Securities Exchange Act of 1934; and, where interim financial information required to be presented by Article 3 of Regulation S-X is not set forth in the prospectus, to deliver, or cause to be delivered to each person to whom the prospectus is sent or given, the latest quarterly report that is specifically incorporated by reference in the prospectus to provide such interim financial information.

(d) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification

is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

(e) The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purposes of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the Town of Cheshire, State of Connecticut on December 28, 2000.

ALEXION PHARMACEUTICALS, INC.

By: /s/ Leonard Bell

Leonard Bell, M.D.
President, Chief Executive Officer,
Secretary and Treasurer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each individual whose signature appears below constitutes and appoints LEONARD BELL, M.D. and DAVID W. KEISER, or either of them, his true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement and to file the same with all exhibits thereto and all documents in connection therewith, with the Securities and Exchange Commission, granting said attorney-in-fact and agent and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed below by the following persons in the capacities and on the dates indicated.

/s/ LEONARD BELL President, Chief Executive Officer, December , 2000
----- Secretary, Treasurer and Director
Leonard Bell, M.D. (principal executive officer)

/s/ DAVID W. KEISER ----- David W. Keiser	Executive Vice President and Chief Operating Officer (principal financial officer)	December , 2000
/s/ BARRY P. LUKE ----- Barry P. Luke	Vice President of Finance and Administration (principal accounting officer)	December , 2000
/s/ JOHN H. FRIED ----- John H. Fried, Ph.D.	Chairman of the Board of Directors	December , 2000
/s/ JERRY T. JACKSON ----- Jerry T. Jackson	Director	December , 2000
/s/ MAX LINK ----- Max Link, Ph.D.	Director	December , 2000
/s/ JOSEPH A. MADRI ----- Joseph A. Madri, Ph.D., M.D.	Director	December , 2000
/s/ R. DOUGLAS NORBY ----- R. Douglas Norby	Director	December , 2000
/s/ ALVIN S. PARVEN ----- Alvin R. Parven	Director	December , 2000

INDEX TO EXHIBITS

Exhibit No.	Description
- - - - -	- - - - -
5	Opinion of Golenbock, Eiseman, Assor & Bell.
23.1	Consent of Arthur Andersen LLP
23.2	Consent of Golenbock, Eiseman, Assor & Bell (included in Exhibit 5)
24	Power of Attorney (included on signature page) 24

December 28, 2000

Alexion Pharmaceuticals, Inc.
352 Knotter Drive
Cheshire, Connecticut 06410

Dear Sirs or Madams:

We refer to the Registration Statement on Form S-8 (the "Registration Statement") to be filed with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Act"), on behalf of Alexion Pharmaceuticals, Inc. (the "Company"), relating to 44,292 shares of the Company's Common Stock, \$.0001 par value per share (the "Shares"), to be issued under the Prolifarion, Inc. 1999 Long Term Incentive And Stock Option Plan (the "Plan").

As counsel for the Company, we have examined such corporate records, other documents, and such questions of law as we have considered necessary or appropriate for the purposes of this opinion and, upon the basis of such examination, advise you that, in our opinion, all necessary corporate proceedings by the Company have been duly taken to authorize the issuance of the Shares pursuant to the Plan and that the Shares being registered pursuant to the Registration Statement, when issued and paid for under the Plan in accordance with the terms of the Plan, will be duly authorized, validly issued, fully paid and non-assessable.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. This consent is not be construed as an admission that we are a person whose consent is required to be filed with the Registration Statement under the provisions of the Act.

Very truly yours,

/s/ Golenbock, Eiseman, Assor & Bell

CONSENT OF INDEPENDENT PUBLIC ACCOUNTANTS

As independent public accountants, we hereby consent to the incorporation by reference in this registration statement of our report dated September 5, 2000 (except with respect to the matter discussed in Note 15 as to which the date is September 22, 2000) included in Alexion Pharmaceuticals, Inc.'s Form 10-K for the year ended July 31, 2000 and to all references to our Firm included in this registration statement.

/s/ ARTHUR ANDERSEN LLP

Hartford, Connecticut
December 28, 2000