

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

OMB APPROVAL	
OMB Number:	3235-0287
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1. Name and Address of Reporting Person* <u>MATHIS LARRY</u> (Last) (First) (Middle) 352 KNOTTER DR C/O ALEXION PHARMACEUTICALS INC (Street) CHESHIRE CT 06410 (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>ALEXION PHARMACEUTICALS INC [ALXN]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner Officer (give title below) Other (specify below)
	3. Date of Earliest Transaction (Month/Day/Year) 09/08/2010	
4. If Amendment, Date of Original Filed (Month/Day/Year)		

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock, par value \$.0001 per share	09/08/2010		M		3,000	A	\$11.11	10,965	D	
Common Stock, par value \$.0001 per share	09/08/2010		S		3,000	D	\$58.98 ⁽¹⁾	7,965	D	
Common Stock, par value \$.0001 per share	09/08/2010		M		2,000	A	\$9.87	9,965	D	
Common Stock, par value \$.0001 per share	09/08/2010		S		2,000	D	\$58.98 ⁽¹⁾	7,965	D	
Common Stock, par value \$.0001 per share	09/10/2010		M		3,000	A	\$11.11	10,965	D	
Common Stock, par value \$.0001 per share	09/10/2010		S		3,000	D	\$60.64 ⁽²⁾	7,965	D	

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)	
				Code	V	(A)	(D)	Date Exercisable	Expiration Date						Title
Option to Purchase Common Stock	\$11.11	09/08/2010		S			3,000	03/10/2005	12/10/2014	Common Stock, par value \$.0001 per share	3,000	\$0	12,000	D	
Option to Purchase Common Stock	\$9.87	09/08/2010		S			2,000	03/09/2006	12/09/2015	Common Stock, par value \$.0001 per share	2,000	\$0	13,000	D	
Option to Purchase Common Stock	\$11.11	09/10/2010		S			3,000	03/10/2005	12/10/2014	Common Stock, par value \$.0001 per share	3,000	\$0	9,000	D	

Explanation of Responses:

- This transaction was executed in multiple trades through a broker-dealer at prices ranging from \$58.97 - \$59.04. The price reported in this column reflects the weighted average sales price. Upon request, the reporting person will provide to the SEC staff full information regarding the number of shares sold at each price.
- This transaction was executed in multiple trades through a broker-dealer at prices ranging from \$60.64 - \$60.64. The price reported in this column reflects the weighted average sales price. Upon request, the reporting person will provide to the SEC staff full information regarding the number of shares sold at each price.

/s/ Larry Mathis

09/10/2010

** Signature of Reporting Person

Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.