Neumayer Matthew Paul Form 4 March 16, 2010

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB Number:

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OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or

Form 5 obligations may continue.

See Instruction

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

2. Issuer Name and Ticker or Trading

OSIRIS THERAPEUTICS, INC.

(Print or Type Responses)

1(b).

(Last)

1. Name and Address of Reporting Person *

Neumayer Matthew Paul

(First)

(Middle)

OSIRIS THERAPEUTICS.

INC., 7015 ALBERT EINSTEIN DRIVE

(Street)

4. If Amendment, Date Original

3. Date of Earliest Transaction

Filed(Month/Day/Year)

Symbol

[OSIR]

(Month/Day/Year)

03/12/2010

5. Relationship of Reporting Person(s) to

Issuer

(Check all applicable)

Director 10% Owner Other (specify X_ Officer (give title

below) Principal Accounting Officer

6. Individual or Joint/Group Filing(Check

Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting

COLUMBIA, MD 21046

(City)

(State)

(Zip)

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

1.Title of Security (Instr. 3)

(Month/Day/Year)

2. Transaction Date 2A. Deemed Execution Date, if

3. Code (Month/Day/Year) (Instr. 8)

4. Securities TransactionAcquired (A) or Disposed of (D) (Instr. 3, 4 and 5)

5. Amount of Securities Beneficially Owned Following Reported

6. Ownership 7. Nature of Form: Direct Indirect (D) or Indirect Beneficial Ownership (Instr. 4) (Instr. 4)

(A) Transaction(s)

(Instr. 3 and 4) Code V Amount (D) Price

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

Persons who respond to the collection of SEC 1474 information contained in this form are not (9-02)required to respond unless the form displays a currently valid OMB control number.

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

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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. Transactic Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisab Expiration Date (Month/Day/Year		7. Title and A Underlying S (Instr. 3 and	Securities
				Code V	(A) (D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares
Incentive Stock Option	\$ 7.74	03/12/2010		A	4,000	03/12/2011(1)	03/12/2020	Common Stock	4,000

Reporting Owners

Reporting Owner Name / Address Relationships

Director 10% Owner Officer Other

Neumayer Matthew Paul OSIRIS THERAPEUTICS, INC. 7015 ALBERT EINSTEIN DRIVE COLUMBIA, MD 21046

Principal Accounting Officer

Signatures

Matthew P. 03/16/2010 Neumayer

**Signature of Date
Reporting Person

Explanation of Responses:

- * 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).
- (1) Option vests in four equal installments commencing upon the first anniversary of the grant date.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.

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