

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	
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1. Name and Address of Reporting Person* BRENNAN MURRAY (Last) (First) (Middle) MEMORIAL SLOAN KETTERING CANCER CENTER 1275 YORK AVENUE (Street) NEW YORK NY 10021 (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol ZIOPHARM ONCOLOGY INC [ZIOP]	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) 09/23/2009	
	4. If Amendment, Date of Original Filed (Month/Day/Year)	6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person

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, \$.001 par value	09/23/2009		A ⁽⁶⁾		30,000	A	\$0	45,000	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					
Director Stock Option	\$4.31							(1)	12/22/2014	Common Stock, \$.001 par value	15,029	15,029	D	
Stock Option (right to buy)	\$5.01							04/26/2006	04/26/2016	Common Stock	15,000	15,000	D	
Stock Option (right to buy)	\$6.49							(2)	12/13/2016	Common Stock	15,000	15,000	D	
Stock Option (right to buy)	\$4.85							(3)	06/18/2017	Common Stock	15,000	15,000	D	
Stock Option (right to buy)	\$2.73							(4)	12/12/2017	Common Stock	20,000	20,000	D	
Stock Option (right to buy)	\$0.7							(5)	05/13/2019	Common Stock	15,000	15,000	D	

Explanation of Responses:

- 7,515 shares vest on 12/22/05 and 7,514 shares vest on 12/22/06.
- 5,000 shares vest on each of 12/13/07, 12/13/08 and 12/13/09.
- 5,000 shares vest on each of 6/18/08, 6/18/09 and 6/18/10.
- 6,667 shares vest on each of 12/12/08 and 12/12/09; 6,666 shares vest on 12/12/10.
- 5,000 shares vest on each of 12/31/09, 6/30/10 and 12/31/10.
- Grant of restricted stock; restrictions lapse on 9/23/2010.

/s/ Murray Brennan

09/24/2009

** 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.