UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, DC 20549

SCHEDULE 13D

(Amendment No. 2)*
Under the Securities Exchange Act of 1934

ZIOPHARM ONCOLOGY, INC.

(Name of Issuer)

Common Stock, par value \$0.001 per share (Title of Class of Securities)

98973P101 (CUSIP Number)

Third Security, LLC
1881 Grove Avenue
Radford, Virginia 24141
Attention: Marcus E. Smith, Esq.
(540) 633-7900
(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

Copy to:
Intrexon Corporation
Attention: Legal
20358 Seneca Meadows Parkway
Germantown, Maryland 20876
(301) 556-9809

August 9, 2011 (Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition which is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(b)(3) or (4), check the following box o.

NOTE: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See §240.13d-7 for other parties to whom copies are to be sent.

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of
Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act
but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP No. 89365K206 Page 2 of 7

1 NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS

Randal J. Kirk

- 2 CHECK THE APPROPRIATE BOX IF A MEMBER OF GROUP
 - (a) o
 - (b) x
- 3 SEC USE ONLY
- 4 SOURCE OF FUNDS

PF

5 CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e)

O

6 CITIZENSHIP OR PLACE OF ORGANIZATION

United States

7 SOLE VOTING POWER

NUMBER OF 25,000

SHARES 8 SHARED VOTING POWER

BENEFICIALLY

OWNED BY 8,819,683

EACH 9 SOLE DISPOSITIVE POWER

REPORTING

PERSON WITH 25,000

10 SHARED DISPOSITIVE POWER

8,819,683

- 11 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 8,844,683
- 12 CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES
- 13 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 12.9%
- 14 TYPE OF REPORTING PERSON IN

CUSIP No. 98973P101 Page 3 of 7

1 NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS

Intrexon Corporation

I.R.S. IDENTIFICATION NO.: 26-0084895

- CHECK THE APPROPRIATE BOX IF A MEMBER OF GROUP
 - (a) o
 - (b) x
- SEC USE ONLY
- SOURCE OF FUNDS

WC

- CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e)
- CITIZENSHIP OR PLACE OF ORGANIZATION

Virginia

SOLE VOTING POWER

NUMBER OF

8 SHARED VOTING POWER

SHARES BENEFICIALLY

OWNED BY

7,973,161

0

EACH

9 SOLE DISPOSITIVE POWER

REPORTING

PERSON WITH 0

10 SHARED DISPOSITIVE POWER

7,973,161

- 11 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 7,973,161
- 12 CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES **CERTAIN SHARES**
- 13 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 11.7%
- 14 TYPE OF REPORTING PERSON CO

o

CUSIP No. 98973P101 Page 4 of 7

This Amendment No. 2 (the "Amendment") amends and supplements the Statement on Schedule 13D, dated January 12, 2011 and filed on January 20, 2011, as amended by Amendment No. 1 dated February 3, 2011 and filed on February 11, 2011 (the "Original Schedule 13D"), relating to the Common Stock, par value \$0.001 per share (the "Common Stock"), of ZIOPHARM Oncology, Inc., a Delaware corporation (the "Company"). Mr. Randal J. Kirk ("Mr. Kirk") and Intrexon Corporation, a Virginia corporation ("Intrexon" and, together with Mr. Kirk, the "Reporting Persons"), are filing this Amendment to disclose the acquisition by an affiliate of Mr. Kirk of 846,522 shares of Common Stock in open market purchases. Mr. Kirk could be deemed to have indirect beneficial ownership of the shares of Common Stock directly beneficially owned by such affiliate.

Except as set forth below, there are no changes to the information set forth in the Original Schedule 13D.

CUSIP No. 98973P101 Page 5 of 7

Item 3. Source and Amount of Funds or Other Consideration.

Item 3 of the Original Schedule 13D is hereby amended and supplemented as follows:

Between August 5, 2011 and August 9, 2011, Kapital Joe, LLC ("Kapital Joe"), an affiliate of Mr. Kirk, utilized its working capital to purchase the 846,522 shares of Common Stock disclosed herein through open market purchases for an aggregate purchase price of approximately \$4.04 million.

Item 5. Interest in Securities of the Issuer.

Items 5(a) and (b) of the Original Schedule 13D are hereby amended and restated to read in their entirety as follows:

(a) and (b) See Items 11 and 13 of the cover pages to this Statement for the aggregate number of shares and percentage of issued and outstanding shares of Common Stock of the Company owned by the Reporting Persons. The percentage ownership is calculated based on 68,402,009 shares of Common Stock issued and outstanding as of July 27, 2011, based upon the number of shares disclosed by the Company as of such date in its Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2011.

					Sole Power	
	Amount of			Shared	to	Shared
	Common		Sole Power	Power to	Dispose or	Power to
	Stock		to Vote or	Vote or	to	Dispose or to
	Beneficially	Percent	Direct	Direct	Direct the	Direct the
Reporting Person	Owned	of Class	the Vote	the Vote	Disposition	Disposition
Randal J. Kirk	8,844,683	12.9 %	25,000	8,819,683 (1)	25,000	8,819,683 (1)
Intrexon Corporation	7,973,161	11.7 %		7,973,161		7,973,161

(1) Includes 7,973,161 shares of Common Stock held by Intrexon and 846,522 shares of Common Stock held by Kapital Joe.

Mr. Kirk could be deemed to have indirect beneficial ownership of the shares of Common Stock directly beneficially owned by Intrexon and Kapital Joe.

Item 5(c) of the Original Schedule 13D is hereby supplemented and amended as follows:

(c) Kapital Joe made the following purchases on the open market during the past 60 days:

Date of Purchase	Purchase Price	Number of Shares
8/5/2011	\$4.65	116,112
8/8/2011	\$4.58	444,892
8/9/2011	\$5.13	285,518

Other than the purchases as reported herein, the Reporting Persons have not engaged in any transactions in shares of Common Stock since the filing of Amendment No. 1 with the Securities and Exchange Commission on February 11, 2011.

CUSIP No. 98973P101 Page 6 of 7

Item 7. Material to be Filed as Exhibits.

Exhibit 1 Joint Filing Agreement, dated as of August 16, 2011, by and between Mr. Kirk and Intrexon

CUSIP No. 98973P101 Page 7 of 7

SIGNATURES

After reasonable inquiry and to the best of their knowledge and belief, the undersigned certify that the information set forth in this statement is true, complete and correct.

Date: August 16, 2011

/s/ Randal J. Kirk Randal J. Kirk

INTREXON CORPORATION

By: /s/ Randal J. Kirk

Randal J. Kirk

Chief Executive Officer

EXHIBIT INDEX

Exhibit 1 Joint Filing Agreement, dated as of August 16, 2011, by and between Mr. Kirk and Intrexon