

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 .

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).

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) <input type="radio"/> (b) <input checked="" type="radio"/>	
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) 0	
6	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 25,000
	8	SHARED VOTING POWER 8,819,683
	9	SOLE DISPOSITIVE POWER 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 0	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 12.9%	
14	TYPE OF REPORTING PERSON IN	

1	NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS Intrexon Corporation I.R.S. IDENTIFICATION NO.: 26-0084895	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF GROUP (a) <input type="radio"/> (b) <input checked="" type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) 0	
6	CITIZENSHIP OR PLACE OF ORGANIZATION Virginia	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 7,973,161
	9	SOLE DISPOSITIVE POWER 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	

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.

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.

Reporting Person	Amount of Common Stock Beneficially Owned	Percent of Class	Sole Power to Vote or Direct the Vote	Shared Power to Vote or Direct the Vote	Sole Power to Dispose or to Direct the Disposition	Shared Power to Dispose or to Direct the 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.

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

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

Joint Filing Agreement

In accordance with Rule 13d-1(k) promulgated under the Securities Exchange Act of 1934, as amended, the persons named below agree to the joint filing on behalf of each of them a Statement on Schedule 13D (including amendments thereto) with regard to the common stock of ZIOPHARM Oncology, Inc., and further agree that this Joint Filing Agreement be included as an exhibit to such joint filings. In evidence thereof, the undersigned, being duly authorized, hereby execute this agreement as of the 16th day of August, 2011.

/s/ Randal J. Kirk

Randal J. Kirk

INTREXON CORPORATION

By: /s/ Randal J. Kirk

Randal J. Kirk
Chief Executive Officer
