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

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2014

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____.

Commission File Number: 001-36042

INTREXON CORPORATION
(Exact name of registrant as specified in its charter)

Virginia	**26-0084895**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**
20374 Seneca Meadows Parkway Germantown, Maryland	**20876**
(Address of principal executive offices)	**(Zip Code)**

(301) 556-9900
(Registrant's telephone number, including area code)

(Former name, former address and former fiscal year, if changed since last report date)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒ (Do not check if a smaller reporting company)	Smaller reporting company	☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of August 8, 2014, 100,477,548 shares of common stock, no par value per share, were outstanding.

INTREXON CORPORATION

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RheoSwitch Therapeutic System® is our registered trademark in the United States and *LEAP™ and mAbLogix™* are our common law trademarks in the United States. Other trademarks, trade names and service marks appearing in this report are the property of their respective owners.

Special Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of the federal securities laws, which statements involve substantial risks and uncertainties. All statements, other than statements of historical facts, included in this Quarterly Report on Form 10-Q regarding our strategy, future events, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth are forward-looking statements. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, among other things, statements about:

- our current and future exclusive channel collaborations ("ECCs");
- developments concerning our collaborators;
- our ability to successfully enter new markets or develop additional products, whether with our collaborators or independently;
- competition from existing technologies and products or new technologies and products that may emerge;
- actual or anticipated variations in our operating results;
- actual or anticipated fluctuations in our competitors' or our collaborators' operating results or changes in their respective growth rates;
- our cash position;
- market conditions in our industry;
- our ability, and the ability of our collaborators, to protect our intellectual property and other proprietary rights and technologies;
- our ability, and the ability of our collaborators, to adapt to changes in laws or regulations and policies;
- the ability of our collaborators to secure any necessary regulatory approvals to commercialize any products developed under the ECCs;
- the rate and degree of market acceptance of any products developed by a collaborator under an ECC;
- our ability to retain and recruit key personnel;
- our expectations related to the use of proceeds from our initial public offering; and
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing.

Forward-looking statements may also concern our expectations relating to AquaBounty Technologies, Inc. and Trans Ova Genetics, L.C. We caution you that the foregoing list may not contain all of the forward-looking statements made in this Quarterly Report on Form 10-Q.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this Quarterly Report on Form 10-Q, particularly in Part II, Item 1A. "Risk Factors," that could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments that we may make.

You should read this Quarterly Report on Form 10-Q, the documents that we reference in this Quarterly Report on Form 10-Q, our Annual Report on Form 10-K for the year ended December 31, 2013 and the documents that we have filed as exhibits to our filings with the Securities and Exchange Commission completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

PART I. FINANCIAL INFORMATION

Item 1. Consolidated Financial Statements

Intrexon Corporation and Subsidiaries
Consolidated Balance Sheets
(Unaudited)

(Amounts in thousands, except share data)	June 30, 2014	December 31, 2013
Assets		
Current assets		
Cash and cash equivalents	$ 74,505	$ 49,509
Short-term investments	101,046	127,980
Receivables		
Trade	806	790
Related parties	8,304	5,285
Other	698	1,282
Prepaid expenses and other	2,944	2,710
Total current assets	188,303	187,556
Long-term investments	73,545	60,581
Equity securities	134,895	141,525
Property, plant and equipment, net	17,389	16,629
Intangible assets, net	45,406	41,956
Goodwill	34,865	13,823
Investments in affiliates	4,997	6,284
Other assets	1,137	1,118
Total assets	$ 500,537	$ 469,472
Liabilities and Total Equity		
Current liabilities		
Accounts payable	$ 1,799	$ 1,057
Accrued compensation and benefits	4,094	5,157
Other accrued liabilities	3,998	4,217
Deferred revenue	10,706	7,793
Related party payables	95	1,605
Total current liabilities	20,692	19,829
Long term debt	2,001	1,653
Deferred revenue	88,747	65,778
Other long term liabilities	731	869
Total liabilities	112,171	88,129
Commitments and contingencies (Note 14)		
Total equity		
Common stock, no par value, 200,000,000 shares authorized as of June 30, 2014 and December 31, 2013; 99,013,018 and 97,053,712 shares issued and outstanding as of June 30, 2014 and December 31, 2013, respectively	—	—
Additional paid-in capital	797,516	743,084
Accumulated deficit	(424,342)	(376,414)
Accumulated other comprehensive income	81	52
Total Intrexon shareholders' equity	373,255	366,722
Noncontrolling interests	15,111	14,621
Total equity	388,366	381,343
Total liabilities and total equity	$ 500,537	$ 469,472

The accompanying notes are an integral part of these consolidated financial statements.

Intrexon Corporation and Subsidiaries
Consolidated Statements of Operations
(Unaudited)

(Amounts in thousands, except share and per share data)	Three months ended June 30, 2014	Three months ended June 30, 2013	Six months ended June 30, 2014	Six months ended June 30, 2013
Revenues				
Collaboration revenues	$ 11,764	$ 6,674	$ 19,601	$ 10,538
Other revenues	23	16	40	37
Total revenues	11,787	6,690	19,641	10,575
Operating Expenses				
Research and development	14,479	13,510	26,570	24,921
General and administrative	15,390	7,434	29,025	13,914
Total operating expenses	29,869	20,944	55,595	38,835
Operating loss	(18,082)	(14,254)	(35,954)	(28,260)
Other Income (Expense)				
Unrealized appreciation (depreciation) in fair value of equity securities	(33,777)	7,734	(11,855)	(21,635)
Gain on previously held equity investment	—	—	—	7,415
Interest expense	(40)	(11)	(79)	(25)
Investment income	110	15	198	20
Other expense	(74)	(3)	(82)	(6)
Total other income (expense)	(33,781)	7,735	(11,818)	(14,231)
Equity in net loss of affiliates	(1,355)	—	(1,891)	(390)
Loss before income taxes	(53,218)	(6,519)	(49,663)	(42,881)
Income tax benefit (expense)	283	—	(23)	—
Net loss	$ (52,935)	$ (6,519)	$ (49,686)	$ (42,881)
Net loss attributable to the noncontrolling interests	892	556	1,758	607
Net loss attributable to Intrexon	$ (52,043)	$ (5,963)	$ (47,928)	$ (42,274)
Accretion of dividends on redeemable convertible preferred stock	—	(7,942)	—	(14,347)
Net loss attributable to common shareholders	$ (52,043)	$ (13,905)	$ (47,928)	$ (56,621)
Net loss attributable to common shareholders per share, basic and diluted	$ (0.53)	$ (2.45)	$ (0.49)	$ (10.00)
Weighted average shares outstanding, basic and diluted	98,892,601	5,667,557	98,113,493	5,664,665

The accompanying notes are an integral part of these consolidated financial statements.

Intrexon Corporation and Subsidiaries
Consolidated Statements of Comprehensive Loss
(Unaudited)

(Amounts in thousands)	Three months ended June 30, 2014	Three months ended June 30, 2013	Six months ended June 30, 2014	Six months ended June 30, 2013
Net loss	$(52,935)	$(6,519)	$(49,686)	$(42,881)
Other comprehensive income (loss):				
Unrealized gain (loss) on investments	22	(15)	91	(15)
Foreign currency translation adjustments	(108)	71	(67)	54
Comprehensive loss	(53,021)	(6,463)	(49,662)	(42,842)
Comprehensive loss attributable to the noncontrolling interests	915	523	1,763	582
Comprehensive loss attributable to Intrexon	$(52,106)	$(5,940)	$(47,899)	$(42,260)

The accompanying notes are an integral part of these consolidated financial statements.

Intrexon Corporation and Subsidiaries
Consolidated Statements of Shareholders' and Total Equity
(Unaudited)

(Amounts in thousands, except share data)	Common stock Shares	Common stock Amount	Additional paid-in capital	Accumulated other comprehensive income	Accumulated deficit	Total Intrexon shareholders' equity	Noncontrolling interests	Total equity
Balances at December 31, 2013	97,053,712	$ —	$743,084	$ 52	$ (376,414)	$ 366,722	$ 14,621	$381,343
Stock-based compensation expense	—	—	10,530	—	—	10,530	92	10,622
Exercises of stock options	273,945	—	970	—	—	970	6	976
Contribution of services by shareholder	—	—	977	—	—	977	—	977
Shares issued to nonemployee members of the Board of Directors	16,908	—	486	—	—	486	—	486
Shares issued in private placement	972,004	—	25,000	—	—	25,000	—	25,000
Shares issued in Medistem, Inc. acquisition, net	696,449	—	18,880	—	—	18,880	—	18,880
Adjustments for noncontrolling interest	—	—	(2,411)	—	—	(2,411)	2,155	(256)
Net loss	—	—	—	—	(47,928)	(47,928)	(1,758)	(49,686)
Other comprehensive income (loss)	—	—	—	29	—	29	(5)	24
Balances at June 30, 2014	99,013,018	$ —	$797,516	$ 81	$ (424,342)	$ 373,255	$ 15,111	$388,366

The accompanying notes are an integral part of these consolidated financial statements

Intrexon Corporation and Subsidiaries
Consolidated Statements of Cash Flows
(Unaudited)

(Amounts in thousands)	Six months ended June 30, 2014	2013
Cash flows from operating activities		
Net loss	$(49,686)	$(42,881)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	3,773	3,694
Loss on disposal of property and equipment	81	6
Unrealized depreciation on equity securities	11,855	21,635
Amortization of discount/premium on investments	792	51
Equity in net loss of affiliates	1,891	390
Gain on previously held equity investment	—	(7,415)
Stock-based compensation expense	10,622	1,196
Contribution of services by shareholder	977	775
Shares issued to nonemployee members of the Board of Directors	486	85
Other noncash items	71	—
Changes in operating assets and liabilities:		
Receivables:		
Trade	(18)	(112)
Related parties	(3,019)	(489)
Other	(121)	(184)
Prepaid expenses and other	(235)	747
Other assets	71	(7,547)
Accounts payable	339	722
Accrued compensation and benefits	(1,147)	(537)
Other accrued liabilities	(1,422)	39
Deferred revenue	20,657	2,311
Related party payables	(10)	(89)
Other long term liabilities	(128)	(10)
Net cash used in operating activities	(4,171)	(27,613)
Cash flows from investing activities		
Purchases of investments	(60,478)	(95,246)
Maturities of investments	73,747	—
Acquisition of business, net of cash received	(4,912)	512
Investment in affiliate	(1,500)	—
Purchases of property and equipment	(3,751)	(776)
Proceeds from sale of property and equipment	151	—
Issuance of related party note receivable	—	(300)
Proceeds from related party notes receivable	—	500
Net cash provided by (used in) investing activities	3,257	(95,310)

The accompanying notes are an integral part of these consolidated financial statements.

Intrexon Corporation and Subsidiaries
Consolidated Statements of Cash Flows
(Unaudited)

(Amounts in thousands)	Six months ended June 30, 2014	2013
Cash flows from financing activities		
Proceeds from issuance of Series F redeemable convertible preferred shares	—	150,000
Proceeds from issuance of shares in a private placement	25,000	—
Payments of capital lease obligations	(17)	(34)
Proceeds from long term debt	268	171
Payments of long term debt	—	(18)
Proceeds from stock option exercises	976	9
Payment of stock issuance costs	(256)	(3,148)
Net cash provided by financing activities	25,971	146,980
Effect of exchange rate changes on cash and cash equivalents	(61)	1
Net increase in cash and cash equivalents	24,996	24,058
Cash and cash equivalents		
Beginning of period	49,509	10,403
End of period	$74,505	$ 34,461
Supplemental disclosure of cash flow information		
Cash paid during the period for interest	$ 14	$ 48
Significant noncash financing and investing activities		
Accretion of dividends on redeemable convertible preferred shares	$ —	$ 14,347
Stock received as consideration for collaboration agreements	5,225	3,732
Stock issued in Medistem, Inc. acquisition, net	18,880	—
IPO fees included in accrued expenses	—	1,526

The accompanying notes are an integral part of these consolidated financial statements.

Intrexon Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)
(Amounts in thousands, except share and per share data)

1. Organization and Basis of Presentation

Intrexon Corporation (the "Company" or "Intrexon") is a Virginia corporation focused on forming collaborations to create biologically based products and processes using synthetic biology. At June 30, 2014, the Company owned approximately 60% of AquaBounty Technologies, Inc. ("AquaBounty"), a biotechnology company focused on improving productivity in commercial aquaculture (Note 4), and 51% of Biological & Popular Culture, Inc. ("BioPop") (Note 4). The Company has operations in California, Florida, Maryland, Virginia, and Budapest, Hungary. There have been no commercialized products derived from the Company's collaborations to date.

Effective July 26, 2013, the Company's board of directors and shareholders approved a reverse stock split of 1-for-1.75 of the Company's shares of common stock. Shareholders entitled to fractional shares as a result of the reverse stock split received a cash payment in lieu of receiving fractional shares. Shares of common stock underlying outstanding stock options and warrants were proportionately reduced and the respective exercise prices were proportionately increased in accordance with the terms of the agreements governing such securities. All share and per share data of the Company's common stock, including shares of common stock underlying stock options and warrants, have been retroactively adjusted in the accompanying consolidated financial statements to reflect the reverse stock split.

On August 13, 2013, the Company completed its initial public offering ("IPO"), whereby the Company sold 11,499,998 shares of common stock, inclusive of 1,499,999 shares of common stock sold by the Company pursuant to the full exercise of an overallotment option granted to the underwriters in connection with the IPO, at a price of $16.00 per share. The shares began trading on the New York Stock Exchange ("NYSE") on August 8, 2013. The aggregate proceeds from the IPO were approximately $168,300, net of underwriting discounts and commissions of approximately $12,900 and offering expenses paid by the Company of approximately $2,800 (of which $2,300 were capitalized). Upon the closing of the IPO, all shares of the Company's redeemable convertible preferred stock, including accrued but unpaid dividends thereon, converted into 79,705,130 shares of common stock. Additionally, in connection with the closing of the IPO, the Company amended and restated its articles of incorporation to increase the number of authorized shares of common stock to 200,000,000 and decrease the number of authorized shares of undesignated preferred stock to 25,000,000.

These consolidated financial statements are presented in United States dollars and are prepared under accounting principles generally accepted in the United States of America ("U.S. GAAP").

2. Summary of Significant Accounting Policies

Principles of Consolidation

The accompanying consolidated financial statements reflect the operations of the Company and its subsidiaries. All intercompany accounts and transactions have been eliminated.

Unaudited Financial Information

The accompanying interim consolidated financial statements are unaudited and have been prepared in accordance with U.S. GAAP. Certain information and footnote disclosures normally included in the Company's annual financial statements have been condensed or omitted. These interim consolidated financial statements, in the opinion of management, reflect all normal recurring adjustments necessary for fair statement of the Company's financial position as of June 30, 2014 and results of operations and cash flows for the interim periods ended June 30, 2014 and 2013. These interim financial results are not necessarily indicative of the results to be expected for the year ending December 31, 2014, or for any other future annual or interim period. The accompanying interim unaudited consolidated financial statements should be read in conjunction with the audited consolidated financial statements and related notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2013.

Revenue Recognition

The Company generates revenue through contractual agreements with collaborators (known as exclusive channel collaborations, "ECC" or "ECCs") whereby the collaborators obtain exclusive access to the Company's proprietary technologies for use in the research, development and commercialization of products and/or treatments in a contractually specified field of use. Generally, the terms of these collaborative agreements provide that the Company receives some or all of the following: (i) upfront payments upon consummation of the agreement, (ii) reimbursements for costs incurred by the Company for research and development and/or manufacturing efforts related to specific applications provided for in the agreement, (iii) milestone payments upon the achievement of specified development, regulatory and commercial activities, and (iv) royalties on sales of products arising from the collaboration.

The Company's collaboration agreements typically contain multiple elements, or deliverables, including technology licenses, research and development services, and in certain cases manufacturing services. The Company applies the provisions of Accounting Standards Update ("ASU") No. 2009-13, *Revenue Recognition (Topic 605): Multiple Deliverable Revenue Arrangements* ("ASU 2009-13"). In accordance with the provisions of ASU 2009-13, the Company identifies the deliverables within the agreements and evaluates which deliverables represent separate units of accounting. Analyzing the agreements to identify deliverables requires the use of judgment. A deliverable is considered a separate unit of accounting when the deliverable has value to the collaborative partner on a standalone basis based on the consideration of the relevant facts and circumstances for each agreement.

Consideration received is allocated at the inception of the agreement to all identified units of accounting based on their relative selling price. When available, the relative selling price for each deliverable is determined using vendor specific objective evidence ("VSOE") of the selling price or third-party evidence of the selling price, if VSOE does not exist. If neither VSOE nor third-party evidence of the selling price exists, the Company uses its best estimate of the selling price ("BESP") for the deliverable. The amount of allocable consideration is limited to amounts that are fixed or determinable. The consideration received is allocated among the separate units of accounting, and the applicable revenue recognition criteria are applied to each of the separate units. The Company recognizes the revenue allocated to each unit of accounting as the Company delivers the related goods or services. If the Company determines that certain deliverables should be treated as a single unit of accounting, then the revenue is recognized using either a proportional performance or straight-line method, depending on whether the Company can reasonably estimate the level of effort required to complete its performance obligations under an arrangement and whether such performance obligations are provided on a best-efforts basis. As the Company cannot reasonably estimate its performance obligations related to its collaborators, the Company recognizes revenue on a straight-line basis over the period it expects to complete its performance obligations.

The terms of the Company's agreements may provide for milestone payments upon achievement of certain defined events. The Company applies ASU No. 2010-17, *Revenue Recognition — Milestone Method* ("ASU 2010-17" or "Milestone Method"). Under the Milestone Method, the Company recognizes consideration that is contingent upon the achievement of a milestone in its entirety as revenue in the period in which the milestone is achieved only if the milestone is substantive in its entirety. A milestone is considered substantive when it meets all of the following criteria:

(1) The consideration is commensurate with either the entity's performance to achieve the milestone or the enhancement of the value of the delivered item or items as a result of a specific outcome resulting from the entity's performance to achieve the milestone;

(2) The consideration relates solely to past performance; and

(3) The consideration is reasonable relative to all of the deliverables and payment terms within the arrangement.

In the event that a milestone is not considered substantive, the Company recognizes the milestone consideration as revenue using the same method applied to upfront payments.

Research and development services are a deliverable satisfied by the Company in accordance with the terms of the collaboration agreements and the Company considers these services to be inseparable from the license to the core technology; therefore, reimbursements of services performed are recognized as revenue. Because reimbursement (i) is contingent upon performance of the services by the Company, (ii) does not include a profit component, and (iii) does not relate to any future deliverable, the revenue is recognized during the period in which the related services are performed and collection of such amounts is reasonably assured. Payments received for manufacturing services will be recognized when the earnings process related to the manufactured materials has been completed. Royalties to be received under the agreements will be recognized as earned.

Research and Development

The Company considers that regulatory and other uncertainties inherent in the research and development of new products preclude it from capitalizing such costs. Research and development expenses include salaries and related costs of research and development personnel, and the costs of consultants, facilities, materials and supplies associated with research and development projects as well as various laboratory studies. Indirect research and development costs include depreciation, amortization and other indirect overhead expenses.

The Company has research and development arrangements with third parties that include upfront and milestone payments. At June 30, 2014 and December 31, 2013, the Company had research and development commitments with third parties totaling $2,647 and $2,445, respectively, of which $1,049 and $957, respectively, had not yet been incurred. The commitments are generally cancellable by the Company at any time upon written notice.

Cash and Cash Equivalents

All highly liquid investments with an original maturity of three months or less at the date of purchase are considered to be cash equivalents. Cash balances at a limited number of banks may periodically exceed insurable amounts. The Company believes that it mitigates its risk by investing in or through major financial institutions with high quality credit ratings. Recoverability of investments is dependent upon the performance of the issuer. At June 30, 2014 and December 31, 2013, the Company had cash equivalent investments in highly liquid money market accounts at major financial institutions of $67,792 and $43,733, respectively.

Short-term and Long-term Investments

Short-term and long-term investments include U.S. government debt securities, commercial paper and certificates of deposit. The Company determines the appropriate classification as short-term or long-term at the time of purchase based on original maturities and management's reasonable expectation of sales and redemption. The Company reevaluates such classification at each balance sheet date. The Company's written investment policy requires investments to be explicitly rated by two of the three following rating services: Standard & Poor's, Moody's and/or Fitch and to have a minimum rating of A1, P1 and/or F-1, respectively, from those agencies. In addition, the investment policy limits the amount of credit exposure to any one issuer.

Equity Securities

The Company holds equity securities received and/or purchased from certain collaborators. Other than investments accounted for using the equity method, the Company elected the fair value option to account for its equity securities held in these collaborators. These equity securities are recorded at fair value at each reporting date and are subject to market price volatility. Unrealized gains and losses resulting from fair value adjustments are reported in the consolidated statement of operations. The fair value of these equity securities is subject to fluctuation in the future due to the volatility of the stock market, changes in general economic conditions and changes in the financial conditions of these collaborators. These equity securities are classified as noncurrent in the consolidated balance sheet since the Company does not intend to sell these equity securities within one year. The Company has not sold any of these equity securities to date.

The Company records the fair value of securities received on the date the collaboration is consummated or the milestone is achieved using the closing, quoted price of the collaborator's security on that date, assuming the transfer of consideration is considered perfunctory. If the transfer of the consideration is not considered perfunctory, the Company considers the specific facts and circumstances to determine the appropriate date on which to evaluate fair value. The Company also evaluates whether any discounts for trading restrictions or other basis for lack of marketability should be applied to the fair value of the securities at inception of the collaboration. In the event the Company concludes that a discount should be applied, the fair value of the securities is adjusted at inception of the collaboration and re-evaluated at each reporting period thereafter.

Fair Value of Financial Instruments

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset and liability. As a basis for considering such assumptions, the Company uses a three-tier fair value hierarchy that prioritizes the inputs used in its fair value measurements. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are as follows:

Level 1: Quoted prices in active markets for identical assets and liabilities;

Level 2: Other than quoted prices included in Level 1 inputs that are observable for the asset or liability, either directly or indirectly; and

Level 3: Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available.

Concentrations of Risk

Due to the Company's mix of fixed and variable rate securities holdings, the Company's investment portfolio is susceptible to changes in interest rates. As of June 30, 2014, gross unrealized losses on the Company's investments were not material. From time to time, the Company may liquidate some or all of its investments to fund operational needs or other activities, such as capital expenditures or business acquisitions. Depending on which investments the Company liquidates to fund these activities, the Company could recognize a portion, or all, of the gross unrealized losses.

Equity Method Investments

Through March 15, 2013, the Company accounted for its investment in AquaBounty using the equity method of accounting since the Company had the ability to exercise significant influence, but not control, over the operating activities of AquaBounty. The excess of the investment over the Company's pro-rata share of AquaBounty's net assets represented identifiable intangible assets and equity-method goodwill. On March 15, 2013, the Company acquired additional ownership interests in AquaBounty which resulted in the Company gaining control over AquaBounty, thereby requiring consolidation effective on that date (Note 4).

The Company has entered into three strategic joint ventures (Note 5). The Company accounts for its investments in these joint ventures using the equity method of accounting since the Company has the ability to exercise significant influence, but not control, over the operating activities of these entities.

The Company determined that it has significant influence over two of its collaborators, Ziopharm Oncology, Inc. ("Ziopharm") and Oragenics, Inc. ("Oragenics"), as of June 30, 2014 and December 31, 2013, based on its ownership interests, representation on the board of directors of the collaborators and other qualitative factors. The Company accounts for its investments in Ziopharm and Oragenics using the fair value option. The fair value of the Company's equity securities of Ziopharm was $66,053 and $71,134 as of June 30, 2014 and December 31, 2013, respectively, and is included as equity securities in the respective consolidated balance sheets. The Company's ownership percentage of Ziopharm is 16.3% and 16.4% at June 30, 2014 and December 31, 2013, respectively. Unrealized appreciation (depreciation) in the fair value of the Company's equity securities held in Ziopharm was $(9,015) and $3,789 for the three months ended June 30, 2014 and 2013, respectively, and $(5,081) and $(27,743) for the six months ended June 30, 2014 and 2013, respectively. Summarized unaudited financial information for Ziopharm for the three and six months ended June 30, 2014 and 2013 are as follows:

	Three months ended June 30,		Six months ended June 30,	
	2014	2013	2014	2013
Revenues	$ 200	$ 200	$ 400	$ 400
Operating expenses	11,377	18,496	21,361	42,279
Loss from operations	(11,177)	(18,296)	(20,961)	(41,879)
Other	5,601	(396)	5,674	10,388
Net loss	$ (5,576)	$(18,692)	$(15,287)	$(31,491)

In September 2013, the Company increased its investment in Oragenics, upon which the Company concluded it had significant influence over the operations of Oragenics. The fair value of the Company's equity securities of Oragenics was $15,758 and $22,161 as of June 30, 2014 and December 31, 2013, respectively, and is included as equity securities in the respective consolidated balance sheets. The Company's ownership interest in Oragenics was 24.4% and 24.6% at June 30, 2014 and December 31, 2013, respectively. Unrealized appreciation (depreciation) in the fair value of the Company's equity securities held in Oragenics was $(7,113) and $(865) for the three months ended June 30, 2014 and 2013, respectively, and $(6,403) and $2,028 for the six months ended June 30, 2014 and 2013, respectively. Summarized unaudited financial information for Oragenics for the three and six months ended June 30, 2014 and 2013 are as follows:

	Three months ended June 30,		Six months ended June 30,	
	2014	2013	2014	2013
Revenues, net	$ 304	$ 168	$ 518	$ 344
Gross profit	178	81	313	194
Operating expenses	2,081	2,156	3,864	4,005
Loss from operations	(1,903)	(2,075)	(3,551)	(3,811)
Other	7	1	15	147
Net loss	$ (1,896)	$ (2,074)	$(3,536)	$(3,664)

Variable Interest Entities

The Company identifies entities that (1) do not have sufficient equity investment at risk to permit the entity to finance its activities without additional subordinated financial support or (2) in which the equity investors lack an essential characteristic of a controlling financial interest as variable interest entities ("VIE" or "VIEs"). The Company performs an initial and on-going evaluation of the entities with which the Company has variable interests to determine if any of these entities are a VIE. If an entity is identified as a VIE, the Company performs an assessment to determine whether the Company has both (1) the power to direct activities that most significantly impact the VIE's economic performance and (2) have the obligation to absorb losses from or the right to receive benefits of the VIE that could potentially be significant to the VIE. If both of these criteria are satisfied, the Company is identified as the primary beneficiary of the VIE.

As of June 30, 2014, the Company determined that Genopaver, LLC ("Genopaver") and Intrexon Energy Partners, LLC ("Intrexon Energy Partners") were VIEs. The Company was not the primary beneficiary for these entities since it did not have the power to direct the activities that most significantly impact the economic performance of the VIEs. As of December 31, 2013, the Company determined that Genopaver was a VIE. The Company was not the primary beneficiary for this entity since it did not have the power to direct the activities that most significantly impact the economic performance of the VIE.

Property, Plant and Equipment

Property, plant and equipment are stated at cost, less accumulated depreciation and amortization. Major additions or betterments are capitalized and repairs and maintenance are generally expensed as incurred. Depreciation and amortization is calculated using the straight-line method over the estimated useful lives of the assets. The estimated useful lives of these assets are as follows:

	Years
Building	13
Furniture and fixtures	7
Lab equipment	2–7
Computer hardware	5–7
Software	3–5

Leasehold improvements are amortized over the shorter of the useful life of the asset or the applicable lease term, generally one to four years.

Goodwill

Goodwill represents the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized (Notes 3 and 10). Goodwill is reviewed for impairment at least annually. The Company performs a qualitative assessment to determine whether it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount prior to performing the two-step goodwill impairment test. If this is the case, the two-step goodwill impairment test is required. If it is more-likely-than-not that the fair value of a reporting unit is greater than the carrying amount, the two-step goodwill impairment test is not required.

If the two-step goodwill impairment test is required, first, the fair value of the reporting unit is compared with its carrying amount (including goodwill). If the fair value of the reporting unit is less than its carrying amount, an indication of goodwill impairment exists for the reporting unit and the entity must perform step two of the impairment test. Under step two, an impairment loss is recognized for any excess of the carrying amount of the reporting unit's goodwill over the implied fair value of that goodwill. The implied fair value of goodwill is determined by allocating the fair value of the reporting unit in a manner similar to a purchase price allocation and the residual fair value after this allocation is the implied fair value of the reporting unit goodwill. Fair value of the reporting unit is determined using a discounted cash flow analysis. If the fair value of the reporting unit exceeds its carrying amount, step two does not need to be performed.

The Company performs its annual impairment review of goodwill in the fourth quarter, or sooner if a triggering event occurs prior to the annual impairment review.

Intangible Assets

Intangible assets subject to amortization consist of patents and related technologies acquired as a result of mergers and acquisitions (Note 3). These intangible assets are subject to amortization, were recorded at fair value at the date of acquisition and are stated net of accumulated amortization. Indefinite-lived intangible assets consist of in-process research and development acquired in mergers and acquisitions (Notes 3 and 4) and was recorded at fair value at the dates of the respective acquisitions.

The Company applies the provisions of ASC Topic 350, *Intangibles, Goodwill and Other*, which requires the amortization of long-lived intangible assets to reflect the pattern in which the economic benefits of the intangible asset are expected to be realized. The intangible assets are amortized over their remaining estimated useful lives, ranging from seven to fourteen years for the patents and related technologies.

Impairment of Long-Lived Assets

Long-lived assets to be held and used, including property, plant and equipment and intangible assets subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. Conditions that would necessitate an impairment assessment include a significant decline in the observable market value of an asset, a significant change in the extent or manner in which an asset is used, or a significant adverse change that would indicate that the carrying amount of an asset or group of assets is not recoverable.

Indefinite-lived intangible assets, including in-process research and development, are tested for impairment annually, or more frequently if events or circumstances between annual tests indicate that the asset may be impaired. Impairment losses on indefinite-lived intangible assets are recognized based solely on a comparison of their fair value to carrying value, without consideration of any recoverability test. The Company monitors the progression of its in-process research and development, as the likelihood of success is contingent upon commercial development or regulatory approval.

Foreign Currency Translation

The assets and liabilities of foreign subsidiaries, where the local currency is the functional currency, are translated from their respective functional currencies into United States dollars at the exchange rates in effect at the balance sheet date, with resulting foreign currency translation adjustments recorded in the consolidated statement of comprehensive loss. Revenue and expense amounts are translated at average rates during the period.

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to both differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases as well as operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date of the change. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized.

The Company identifies any uncertain income tax positions and recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. The Company records interest, if any, related to unrecognized tax benefits as a component of interest expense. Penalties, if any, are recorded in general and administrative expenses.

Net Loss per Share

Basic net loss per share is calculated by dividing net loss attributable to common shareholders by the weighted average shares outstanding during the period, without consideration of common stock equivalents. Diluted net loss per share is calculated by adjusting weighted average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period, using the treasury-stock method. For purposes of the diluted net loss per share calculation, preferred stock, stock options and warrants are considered to be common stock equivalents but are excluded from the calculation of diluted net loss per share because their effect would be anti-dilutive and, therefore, basic and diluted net loss per share were the same for all periods presented.

Segment Information

The Company has determined that it operates as one segment. The Company uses synthetic biology for the creation of distinct products developed in collaboration with third parties. For the three and six months ended June 30, 2014 and 2013, substantially all of the Company's revenues are derived in the United States of America. As of June 30, 2014 and December 31, 2013, substantially all of the Company's assets are located in the United States of America. As of June 30, 2014, the Company has $1,390 of property and equipment in Hungary.

Recently Issued Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued ASU 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09"). The FASB issued ASU 2014-09 to clarify the principles for recognizing revenue and to develop a common revenue standard for U.S. GAAP. The standard outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes the most current revenue recognition guidance. This guidance is effective for fiscal years and interim periods within those years beginning after December 15, 2016, which is effective for the Company for the year ending December 31, 2017. The Company is currently evaluating the impact that the implementation of this standard will have on the Company's consolidated financial statements.

In June 2014, the FASB issued ASU 2014-10, *Development Stage Entities (Topic 915): Elimination of Certain Financial Reporting Requirements, Including an Amendment to Variable Interest Entities Guidance in Topic 810, Consolidation* ("ASU 2014-10"). The provisions of ASU 2014-10 related to Topic 915 will not have a significant impact to the Company. ASU 2014-10 removes an exception provided to development-stage entities in Consolidation (Topic 810) for determining whether an entity is a variable interest entity. The revisions to Consolidation (Topic 810) are effective for interim and annual periods beginning after December 15, 2015, which are effective for the Company for the year ending December 31, 2016. The Company is currently evaluating the impact that the implementation of this standard will have on the Company's consolidated financial statements.

Reclassifications

Certain insignificant reclassifications have been made to the prior interim period consolidated financial statements to conform to the current interim period presentation.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

3. Mergers and Acquisitions

Medistem Acquisition

On March 6, 2014, the Company acquired 100% of the outstanding common stock and securities convertible into common stock of California-based Medistem, Inc. ("Medistem"), a pioneer in the development of Endometrial Regenerative Cells ("ERCs"), for a combination of cash and Company common stock. The acquisition allows the Company to employ its synthetic biology platforms to engineer a diverse array of cell-based therapeutic candidates using Medistem's multipotent ERCs. Pursuant to the terms of the merger agreement, Medistem equity holders received 714,144 shares of the Company's common stock and $4,920 in cash in exchange for the outstanding Medistem common stock and securities convertible into common stock. Additionally, Medistem had issued the Company two promissory notes in the amount of $707, including accrued interest, which were settled upon closing of the merger. Certain members of Medistem's management surrendered a total of 17,695 shares of their merger consideration to reimburse the Company for required payroll tax withholdings. The results of Medistem's operations subsequent to March 6, 2014 have been included in the consolidated financial statements.

The fair value of the total consideration transferred was $24,995. The acquisition date fair value of each class of consideration transferred was as follows:

Cash	$ 4,920
Common shares	19,368
Settlement of promissory notes	707
	$24,995

The fair value of the shares of the Company's common stock issued was based on the quoted closing price of the Company's common stock on March 6, 2014. The preliminary estimated fair value of assets acquired and liabilities assumed at the acquisition date is shown below:

Cash	$ 8
Intangible assets	4,824
Total assets acquired	4,832
Accounts payable	644
Accrued compensation and benefits	85
Other accrued expenses	150
Total liabilities assumed	879
Net assets acquired	3,953
Goodwill	21,042
Total consideration	$24,995

The fair value of assets acquired and liabilities assumed at the acquisition date are considered preliminary and is subject to revision when the valuation of intangible assets is finalized upon receipt of the final valuation report from a third party valuation expert. The preliminary fair value of acquired intangible assets was determined using the cost approach, which establishes value based on the cost of reproducing or replacing the asset. The acquired intangible assets consist of in-process research and development, which is an indefinite-lived intangible asset. The goodwill consists of buyer-specific synergies between the Company's and Medistem's technologies present. The goodwill is not expected to be deductible for tax purposes.

As of June 30, 2014, the Company has incurred $680 of acquisition related costs, of which $20 and $310 is included in general and administrative expenses in the accompanying consolidated statement of operations for the three and six months ended June 30, 2014, respectively.

The results of operations of Medistem are included in the consolidated statement of operations beginning on the day after the acquisition date. The following unaudited condensed pro forma financial information for the three months ended June 30, 2013 and the six months ended June 30, 2014 and 2013 is presented as if the acquisition had been consummated on January 1, 2013:

	Three Months Ended June 30,	Six Months Ended June 30,	
	2013	2014	2013
	Pro forma		
Revenues	$ 6,690	$ 19,641	$ 10,575
Loss before income taxes	(6,839)	(50,245)	(43,470)
Net loss	(6,839)	(50,268)	(43,470)
Net loss attributable to the noncontrolling interests	556	1,758	607
Net loss attributable to Intrexon	(6,283)	(48,510)	(42,863)
Accretion of dividends on redeemable convertible preferred stock	$ (7,942)	$ —	$(14,347)
Net loss attributable to common shareholders	$ (14,225)	$(48,510)	$(57,210)

4. Consolidated Majority-Owned Subsidiaries

AquaBounty

On November 16, 2012, the Company acquired 48,631,444 shares of AquaBounty common stock, representing 47.56% of the then outstanding shares of AquaBounty, for $6,000 through a definitive purchase agreement with an existing AquaBounty shareholder and its affiliate. On November 29, 2012, the Company executed a promissory note purchase agreement ("promissory note") with AquaBounty. The promissory note allowed for the Company to loan up to $500 to AquaBounty. Draws on the promissory note by AquaBounty accrued annual interest of 3% and matured no later than May 28, 2013. Between December 2012 and February 2013, AquaBounty drew $500 on the promissory note. On March 15, 2013, AquaBounty repaid the $500 promissory note plus accrued interest.

On March 15, 2013, the Company acquired 18,714,814 shares of AquaBounty for $4,907 in a private subscription offering, thereby increasing the Company's ownership in AquaBounty to 53.82%, resulting in the Company consolidating AquaBounty pursuant to the step acquisition guidance in ASC 805. The Company recognized a gain of $7,415 to account for the difference between the carrying value and the fair value of the previously held 47.56% equity interest. The fair value of the consideration transferred included:

Consideration paid	$ 4,907
Fair value of noncontrolling interest	15,153
Fair value of the Company's investment in affiliate held before the business combination	12,751
Fair value of the consideration transferred	$32,811

The Company used the private subscription price to measure fair value of the Company's previously held investment and noncontrolling interest. The estimated fair value of assets acquired and liabilities assumed at the acquisition date is shown in the table below along with subsequent adjustments during the measurement period to the fair value of assets acquired and liabilities assumed. The adjustments were due to the completed valuation of intangible assets and long-term debt.

	Initial estimated fair value	Adjustments	Adjusted fair value
Cash	$ 5,419	$ —	$ 5,419
Short-term investments	14	—	14
Trade receivables	4	—	4
Other receivables	9	—	9
Prepaid expenses and other	200	—	200
Property, plant and equipment	1,241	—	1,241
Intangible assets	14,900	—	14,900
Other assets	22	—	22
Total assets acquired	21,809	—	21,809
Accounts payable	156	—	156
Accrued compensation	94	—	94
Other accrued liabilities	395	—	395
Long term debt	2,199	(845)	1,354
Total liabilities assumed	2,844	(845)	1,999
Net assets acquired	18,965	845	19,810
Goodwill	13,846	(845)	13,001
Total consideration	$32,811	$ —	$32,811

The fair value of acquired intangible assets was determined using the multi-period excess earnings method, a variation of the income approach that estimates the value of an intangible asset equal to the present value of the incremental after-tax cash flows attributable to the intangible asset. The acquired intangible assets consist of in-process research and development until regulatory approval is obtained, at which point the intangible assets will be

accounted for as definite lived intangible assets and amortized over the expected useful life of fifteen years. The goodwill represents future revenue opportunities and the potential for expansion of AquaBounty products and is not expected to be deductible for tax purposes.

The results of operations of AquaBounty are included in the consolidated statement of operations beginning on the acquisition date. The following unaudited condensed pro forma financial information for the six months ended June 30, 2013 is presented as if the acquisition had been consummated on January 1, 2012:

	Six Months Ended June 30, 2013
	Pro forma
Revenues	$ 10,575
Net loss	(50,418)
Net loss attributable to noncontrolling interest	989
Net loss attributable to Intrexon	(49,429)
Accretion of dividends on redeemable convertible preferred stock	(14,347)
Net loss attributable to Intrexon common shareholders	$ (63,776)

The pro forma net loss for the six months ended June 30, 2013 excludes the $7,415 non-recurring gain on remeasurement of the Company's previously held investment in AquaBounty.

On March 20, 2014, the Company acquired 19,040,366 additional shares of AquaBounty common stock for $10,000 in a private subscription offering, thereby increasing the Company's aggregate ownership in AquaBounty to 59.85% upon closing.

See Note 6 for a discussion of the Company's ECC with AquaBounty.

BioPop

On October 1, 2013, the Company paid $1,300 to acquire 51% of the outstanding common stock of BioPop, and effective on that date, the Company began consolidating BioPop in its consolidated results of operations and financial position pursuant to ASC 805, *Business Combinations* ("ASC 805"). In connection with the transaction, the Company recorded goodwill of $822 and intangible assets of $430. The intangible assets consist of acquired technology and are being amortized over the expected useful life of four years.

5. Investments in Joint Ventures

Intrexon Energy Partners

On March 26, 2014, the Company and certain investors (the "Investors"), including an affiliate of Third Security, LLC ("Third Security"), entered into a Limited Liability Company Agreement which governs the affairs and conduct of business of Intrexon Energy Partners, a joint venture formed to optimize and scale-up the Company's gas-to-liquid bioconversion platform for the production of certain fuels and lubricants. The Company contributed technology for a 50% membership interest in Intrexon Energy Partners. The Investors made initial capital contributions, totaling $25,000 in the aggregate, in exchange for pro rata membership interests in Intrexon Energy Partners totaling 50%. In addition, Intrexon has committed to make additional capital contributions of up to $25,000, and the Investors, as a group and pro rata in accordance with their respective membership interests in Intrexon Energy Partners, have committed to make additional capital contributions of up to $25,000, at the request of Intrexon Energy Partners' Board of Managers (the "IEP Board") and subject to certain limitations. The Company and the Investors have the right, but not the obligation, to make additional capital contributions above these limits when and if solicited by the IEP Board.

Intrexon Energy Partners is governed by the IEP Board which has five members. Two members of the IEP Board are designated by the Company and three members of the IEP Board are designated by a majority of the Investors.

Intrexon Energy Partners incurred a net loss of $1,210 for the three months ended June 30, 2014 for research and development services provided by the Company. It is expected that the Company and the Investors will make additional capital contributions to Intrexon Energy Partners during the third quarter of 2014.

See discussion of the Company's ECC with Intrexon Energy Partners at Note 6. See discussion of a concurrent private placement securities purchase made by the Investors at Note 12.

OvaXon

On December 18, 2013, the Company and OvaScience, Inc. ("OvaScience") entered into a Limited Liability Company Agreement ("OvaXon LLC Agreement") which governs the affairs and conduct of business of OvaXon, LLC ("OvaXon"), a joint venture to create new applications for improving human and animal health. OvaXon leverages experience and technology from both the Company and OvaScience. Both the Company and OvaScience made an initial capital contribution of $1,500 in January 2014 for a 50% membership interest in OvaXon. In cases in which the board of managers of OvaXon ("OvaXon Board") determines that additional capital contributions are necessary in order for OvaXon to conduct business and comply with its obligations under the ECC (Note 6), each of the Company and OvaScience have the right, but not the obligation, to make additional capital contributions to OvaXon subject to the OvaXon LLC Agreement.

OvaXon is governed by the OvaXon Board which has four members. The Company, as well as OvaScience, has the initial right to appoint two members to the OvaXon Board. For so long as OvaScience and/or any of its affiliates is a member of OvaXon and holds at least 25% interest in OvaXon, OvaScience will have the sole authority to select and appoint on behalf of OvaXon each of the representatives of OvaXon on the ECC committees, and one such appointee will be an "Executive Officer" of OvaXon under the terms of the ECC with final authority to resolve certain ECC committee disputes.

As of June 30, 2014 OvaXon had net assets of $2,216. OvaXon incurred a net loss of $590 and $784 for the three and six months ended June 30, 2014, respectively. The Company's investment in OvaXon was $1,108 as of June 30, 2014.

S & I Ophthalmic

On September 30, 2013, the Company and an indirect subsidiary ("Sun Pharmaceutical Subsidiary") of Sun Pharmaceutical Industries Ltd. ("Sun Pharmaceutical") entered into a Limited Liability Company Agreement ("Sun LLC Agreement") which governs the affairs and the conduct of business of S & I Ophthalmic, LLC ("S & I Ophthalmic"), a joint venture to develop therapies for the treatment of ocular diseases. S & I Ophthalmic leverages experience and technology from both the Company and Sun Pharmaceutical. Both the Company and Sun Pharmaceutical Subsidiary made an initial capital contribution of $5,000 in October 2013 for a 50% membership interest in S & I Ophthalmic. In cases in which the board of managers of S & I Ophthalmic ("S & I Board") determines that additional capital contributions are necessary in order for S & I Ophthalmic to conduct business and comply with its obligations under the ECC (Note 6), each of the Company and Sun Pharmaceutical Subsidiary have committed to making additional capital contributions to S&I Ophthalmic subject to certain limits defined in the agreement. Each has the right, but not the obligation, to make additional capital contributions above the defined limits when and if solicited by the S & I Board.

Beginning on the seventh anniversary of the effective date of the Sun LLC Agreement, and upon the second anniversary thereafter, the Company, as well as Sun Pharmaceutical Subsidiary, may make a cash offer to purchase all of the other party's interest in S & I Ophthalmic. Upon receipt of such an offer, the other party must either agree to tender its interests at the offered price or submit a counteroffer at a price higher than the original offer. Such offer and counteroffer may continue until one party agrees to the other's price.

S & I Ophthalmic is governed by the S & I Board which has four members. The Company, as well as Sun Pharmaceutical Subsidiary, has the initial right to appoint two members to the S & I Board. For so long as Sun Pharmaceutical Subsidiary and/or any of its affiliates is a member of S & I Ophthalmic and holds a percentage interest in S & I Ophthalmic that is at least equal to the percentage held by the Company and/or its affiliates, Sun Pharmaceutical Subsidiary will have the sole authority to select and appoint on behalf of S & I Ophthalmic each of the representatives of the S & I Ophthalmic on the ECC committees, and one such appointee will be an "Empowered Representative" of the S & I Ophthalmic under the terms of the ECC with final authority to resolve certain ECC committee disputes.

As of June 30, 2014 and December 31, 2013, S & I Ophthalmic had net assets of $7,779 and $9,567, respectively. S & I Ophthalmic incurred a net loss of $910 and $1,788 for the three and six months ended June 30, 2014, respectively. The Company's investment in S & I Ophthalmic was $3,889 and $4,784 as of June 30, 2014 and December 31, 2013, respectively.

6. Collaboration Revenue

The Company's collaborations provide for multiple deliverables to be delivered by the Company and typically include a license to the Company's technology platforms, participation in collaboration committees, performance of certain research and development services and may include obligations for certain manufacturing services. The Company groups these deliverables into two units of accounting based on the nature of the deliverables and the separation criteria. The first deliverable ("Unit of Accounting 1") includes the license to the Company's technology platform, the Company's participation on the collaboration committees and any research and development services associated with its technology platforms. The deliverables for Unit of Accounting 1 are combined because they cannot be individually separated. The second deliverable ("Unit of Accounting 2") includes manufacturing services to be provided for any Company materials in an approved product. These services have standalone value and are contingent due to uncertainties on whether an approved product will ever be developed thereby requiring manufacture by the Company at that time. As VSOE and third party evidence of selling price is not available or practical, the BESP for each unit of accounting is determined using a historical cost approach due to the early stage of development of the Company's technology. In establishing BESP for Unit of Accounting 1, the Company uses the accumulated costs incurred as of the collaboration by the Company on its technology platform licensed to the collaborator to approximate the cost to recreate the deliverables included in this unit of accounting. All upfront consideration is allocated to Unit of Accounting 1. Unit of Accounting 2 is determined to be a contingent deliverable at the inception of the collaboration due to the uncertainties surrounding whether an approved product will ever be developed and require manufacturing by the Company. The upfront consideration allocated to Unit of Accounting 1 is recognized over the expected life of the Company's technology platform using a straight-line approach.

The Company recognizes the reimbursement payments received for research and development services in the period when the services are performed and collection is reasonably assured. At the inception of each collaboration, the Company determines whether any milestone payments are substantive and can be recognized when earned in accordance with ASU 2010-17. The milestone payments are typically not considered substantive. Royalties related to product sales will be recognized when earned since payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

The Company determines whether collaborations are individually "significant" for disclosure based on a number of factors, including total revenue recorded by the Company pursuant to the collaboration, collaborators either consolidated or accounted for using the equity method, or other qualitative factors. The following table summarizes the amounts recorded in the consolidated statements of operations for each significant collaboration for the three and six months ended June 30, 2014 and 2013.

	Three months ended June 30, 2014		
	Collaboration revenue recognized from upfront and milestone payments	Collaboration revenue recognized from research and development services	Total
ZIOPHARM Oncology, Inc.	$ 644	$ 3,697	$ 4,341
Synthetic Biologics, Inc.	163	30	193
Oragenics, Inc.	261	52	313
Fibrocell Science, Inc.	448	883	1,331
Genopaver, LLC	68	423	491
S & I Ophthalmic, LLC	—	607	607
OvaXon, LLC	—	579	579
Intrexon Energy Partners, LLC	625	1,210	1,835
Other	308	1,766	2,074
Total	$ 2,517	$ 9,247	$11,764

	Three months ended June 30, 2013		
	Collaboration revenue recognized from upfront and milestone payments	Collaboration revenue recognized from research and development services	Total
ZIOPHARM Oncology, Inc.	$ 644	$ 2,291	$ 2,935
Synthetic Biologics, Inc.	1,666	314	1,980
Oragenics, Inc.	137	334	471
Fibrocell Science, Inc.	158	615	773
Genopaver, LLC	68	213	281
Other	78	156	234
Total	$ 2,751	$ 3,923	$ 6,674

	Six months ended June 30, 2014		
	Collaboration revenue recognized from upfront and milestone payments	Collaboration revenue recognized from research and development services	Total
ZIOPHARM Oncology, Inc.	$ 1,288	$ 5,733	$ 7,021
Synthetic Biologics, Inc.	325	227	552
Oragenics, Inc.	523	585	1,108
Fibrocell Science, Inc.	896	1,745	2,641
Genopaver, LLC	137	844	981
S & I Ophthalmic, LLC	—	1,486	1,486
OvaXon, LLC	—	748	748
Intrexon Energy Partners, LLC	625	1,210	1,835
Other	605	2,624	3,229
Total	$ 4,399	$ 15,202	$19,601

	Six months ended June 30, 2013		
	Collaboration revenue recognized from upfront and milestone payments	Collaboration revenue recognized from research and development services	Total
ZIOPHARM Oncology, Inc.	$ 1,288	$ 3,721	$ 5,009
Synthetic Biologics, Inc.	1,861	689	2,550
Oragenics, Inc.	274	713	987
Fibrocell Science, Inc.	316	1,045	1,361
Genopaver, LLC	68	213	281
Other	81	269	350
Total	$ 3,888	$ 6,650	$10,538

The following is a summary of the terms of the Company's significant collaborations.

Ziopharm Collaboration

Effective January 6, 2011, the Company entered into a worldwide ECC with Ziopharm. Pursuant to the ECC, Ziopharm received a license to the Company's technology platform within the field of oncology as defined more specifically in the agreement. Upon execution of the ECC, the Company received 3,636,926 shares of Ziopharm's common stock valued at $17,457 as upfront consideration. In addition to the deliverables discussed above, the Company transferred two clinical product candidates to Ziopharm that resulted in a separate unit of accounting for which $1,115 of the upfront consideration was allocated and recognized as collaboration revenue in 2011. The remaining $16,342 of upfront consideration was allocated to Unit of Accounting 1 discussed above. The Company is entitled to additional shares of common stock representing the lesser of (i) the original shares received or (ii) the number of shares representing 7.495% of Ziopharm's outstanding shares at the date of the dosing of the first patient in a Phase II clinical trial of a product candidate created, produced or developed by Ziopharm using the Company's technology ("Ziopharm Milestone"). On October 24, 2012, the Ziopharm Milestone was achieved and the Company received 3,636,926 shares of Ziopharm's common stock valued at $18,330 as milestone consideration. Since the Ziopharm Milestone was not substantive, the Company allocated the Ziopharm Milestone to the applicable units of accounting and is being recognized in a manner similar to these units of accounting. The Company receives reimbursement payments for research and development services provided and manufacturing services for Company materials provided to Ziopharm during the ECC. Subject to certain expense allocations, Ziopharm will pay the Company 50% of the quarterly net profits derived from the sale of products developed from the ECC. Ziopharm is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization or manufacturing of product candidates. The term of the ECC commenced on January 6, 2011 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Ziopharm upon 90 days written notice to the Company.

See Note 15 for further discussion related to Ziopharm.

Synthetic Biologics, Inc. Collaborations

Effective November 18, 2011, the Company entered into a worldwide ECC with Synthetic Biologics, Inc. ("Synthetic Biologics"), a publicly traded company focused on the development of innovative disease-modifying medicines for serious illnesses. Pursuant to the ECC, at the transaction effective date, Synthetic Biologics received a license to the Company's technology platform within a designated field ("Field One"). Upon execution of the ECC, the Company received 3,123,558 shares of Synthetic Biologics' common stock valued at $1,687 as upfront consideration. The Company is entitled to additional shares of common stock representing the lesser of (i) the original shares received or (ii) the number of shares representing 9.995% of Synthetic Biologics' outstanding shares at the date of the dosing of the first patient in a Phase II clinical trial of a product candidate created, produced or developed by Synthetic Biologics using the Company's technology. The Company will receive reimbursement payments for research and development services provided pursuant to the agreement and manufacturing services for

Company materials provided to Synthetic Biologics during the ECC. Subject to certain expense allocations, Synthetic Biologics will pay the Company 50% of the quarterly net profits derived from the sale of products developed from the ECC. Synthetic Biologics is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization or manufacturing of the product candidates. The term of the ECC commenced on November 18, 2011 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Synthetic Biologics upon 90 days written notice to the Company. On April 16, 2013, the Company terminated its ECC with Synthetic Biologics in Field One. As a result of this termination, all licenses granted by the Company under the ECC for use in Field One reverted back to the Company and the Company recognized the balance of deferred revenue associated with the upfront consideration as collaboration revenue in April 2013.

On August 6, 2012, the Company entered into its second worldwide ECC with Synthetic Biologics. Pursuant to this ECC, at the transaction effective date, Synthetic Biologics received a license to the Company's technology platform within a second designated field ("Field Two"). Upon Synthetic Biologics' shareholders' approval on October 5, 2012, the Company received a technology access fee of 3,552,210 shares of Synthetic Biologics common stock valued at $7,815 as upfront consideration. Upon the filing by Synthetic Biologics of an investigational new drug application with the U.S. Food and Drug Administration ("U.S. FDA"), the Company will receive cash or common stock at the option of Synthetic Biologics valued at $2,000. Upon the first to occur of either the first commercial sale of a product developed under the ECC or the granting of regulatory approval of a product developed under the ECC, the Company will receive cash or common stock at the option of Synthetic Biologics valued at $3,000. The ECC initially targets three infectious diseases and Synthetic Biologics may elect to target up to five more infectious diseases by paying the Company a field expansion fee of $2,000 in either cash or common stock for each additional infectious disease selected. The Company receives reimbursement payments for research and development services provided pursuant to the agreement and manufacturing services for preclinical Company materials provided to Synthetic Biologics during the ECC. The Company has the option to propose, and Synthetic Biologics can select, the Company to be the bulk manufacturer of products developed from the ECC. On a quarterly basis, Synthetic Biologics will pay the Company royalties with percentages ranging from upper-single digits to lower double digits of net sales of products developed from the ECC. Synthetic Biologics is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization and manufacturing of the product candidates. The term of the ECC commenced on August 6, 2012 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Synthetic Biologics upon 90 days written notice to the Company.

On December 17, 2012, the Company received $2,500 from Synthetic Biologics as a prepayment of research and development services to be provided in conjunction with either of the two ECCs. The Company recorded this amount as deferred revenue and recognizes collaboration revenue as services are performed. Any remaining balance of this prepayment is refundable to Synthetic Biologics in the event both ECCs are terminated.

See Note 15 for further discussion related to Synthetic Biologics.

Oragenics Collaborations

Effective June 5, 2012, the Company entered into a worldwide ECC with Oragenics, a publicly traded company focused on becoming the world leader in novel antibiotics against infectious disease and probiotics for oral health for humans and pets. Pursuant to the ECC, at the transaction effective date, Oragenics received a license to the Company's technology platform within the field of lantibiotics for the treatment of infectious diseases in humans and companion animals as defined more specifically in the agreement. Upon execution of the ECC, the Company received a technology access fee of 4,392,425 shares of Oragenics' common stock valued at $6,588 as upfront consideration. The Company is entitled to receive additional shares of common stock, or at Oragenics' option, receive a cash payment based upon the fair market value of the shares, upon the separate achievement of certain regulatory milestones of the first product candidate developed from the ECC ("Oragenics ECC 1 Milestones"). The Oragenics ECC 1 Milestones include: (i) 1% of Oragenics' outstanding shares as defined in the ECC agreement at the date of the filing of the first Investigative New Drug Application with the U.S. FDA for a product candidate created, produced or developed using the Company's technology ("Oragenics ECC 1 Product"); (ii) 1.5% of

Oragenics' outstanding shares as defined in the ECC agreement at the date of the dosing of the first patient in the first Phase II clinical trial of an Oragenics ECC 1 Product; (iii) 2% of Oragenics' outstanding shares as defined in the ECC agreement at the date of the dosing of the first patient in the first Phase III clinical trial of an Oragenics ECC 1 Product; (iv) 2.5% of Oragenics' outstanding shares as defined in the ECC agreement at the date of the first New Drug Application or Biologics License Application with the U.S. FDA for an Oragenics ECC 1 Product, or alternatively the first equivalent regulatory filing with a foreign agency; and (v) 3% of Oragenics' outstanding shares as defined in the ECC agreement at the date of the granting of the first regulatory approval of an Oragenics ECC 1 Product. The Company receives reimbursement payments for research and development services provided pursuant to the agreement during the ECC and manufacturing services for Company materials provided to Oragenics during the ECC. Oragenics will pay the Company 25% of the quarterly profits derived from the sale of products developed from the ECC.

Oragenics is responsible for funding the further development of lantibiotics toward the goal of commercialization, conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization or manufacturing of the product candidates. The term of the ECC commenced on June 5, 2012 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Oragenics upon 90 days written notice to the Company.

Effective September 30, 2013, the Company entered into its second worldwide ECC with Oragenics ("ECC 2"). Pursuant to ECC 2, at the transaction effective date, Oragenics received a license to the Company's technology platform to develop and commercialize probiotics, specifically the direct administration to humans of genetically modified probiotics for the treatment of diseases of the oral cavity, throat, sinus and esophagus as defined more specifically in the agreement. Upon execution of ECC 2, the Company received a technology access fee of 1,348,000 shares of Oragenics' common stock valued at $3,503 and a $1,956 convertible promissory note maturing on or before December 31, 2013 as upfront consideration. Prior to the maturity date, Oragenics had the right to convert the promissory note into shares of Oragenics' common stock subject to its shareholders' approval. The conversion price is equal to the closing price of Oragenics' common stock on the last trading day immediately prior to the date of conversion. On December 18, 2013, Oragenics converted the promissory note into 698,241 shares of Oragenics' common stock. The Company is entitled to receive additional shares of common stock, or at Oragenics' option, receive a cash payment based upon the fair market value of the shares, upon the first instance of attainment of certain commercialization milestones of a product candidate developed from ECC 2 ("Oragenics ECC 2 Milestones"). The Oragenics ECC 2 Milestones include: (i) $2,000 within thirty days of the first instance of the achievement of the first dosing of a patient in a phase II clinical trial for an Oragenics product developed from ECC 2 ("Oragenics ECC 2 Product"); (ii) $5,000 within thirty days of the first instance of the achievement of the meeting of the primary endpoint in a phase III clinical trial for an Oragenics ECC 2 Product; and (iii) $10,000 within thirty days of the first instance of the achievement of the first to occur of (a) the first commercial sale of an Oragenics ECC 2 Product anywhere in the world, or (b) the regulatory approval for an Oragenics ECC 2 Product. The Company receives reimbursement payments for research and development services provided pursuant to the agreement during the ECC and manufacturing services for Company materials provided to Oragenics during ECC 2. Oragenics will pay the Company 10% of the net sales derived from the sale of products developed from ECC 2.

Oragenics is responsible for funding the further development of probiotics toward the goal of commercialization, conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization or manufacturing of the product candidates. The term of ECC 2 commenced on September 30, 2013 and continues until terminated pursuant to ECC 2. ECC 2 may be terminated by either party in the event of certain material breaches defined in the agreement and following full payment of the technology access fee may be terminated voluntarily by Oragenics upon 90 days written notice to the Company.

See Note 15 for further discussion related to Oragenics.

Fibrocell Science, Inc. Collaboration

Effective October 5, 2012, the Company entered into an ECC with Fibrocell Science, Inc. ("Fibrocell"), a publicly traded, autologous cellular therapeutic company focused on the development of innovative products for aesthetic, medical and scientific applications. Pursuant to the ECC, at the transaction effective date, Fibrocell

received a license to the Company's technology platform to develop and commercialize genetically modified and non-genetically modified autologous fibroblasts and autologous dermal cells in the United States of America. Upon execution of the ECC, the Company received a technology access fee of 1,317,520 shares of Fibrocell's common stock valued at $7,576 as upfront consideration. The number of shares received reflects a 1-for-25 reverse stock split of Fibrocell's common stock effective April 30, 2013. The Company receives reimbursement payments for research and development services provided pursuant to the agreement during the ECC and manufacturing services for Company materials provided to Fibrocell during the ECC. On a quarterly basis, Fibrocell will pay the Company royalties of 7% of net sales up to $25,000 and 14% of net sales above $25,000 on each product developed from the ECC. If Fibrocell uses the Company's technology platform to improve the production of a current or new Fibrocell product not developed from the ECC, Fibrocell will pay the Company a quarterly royalty equal to 33% of the cost of goods sold savings generated by the improvement. Fibrocell is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization and manufacturing of the product candidates. The term of the ECC commenced on October 5, 2012 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Fibrocell upon 90 days written notice to the Company.

Effective June 28, 2013, the Company entered into an amendment to the ECC with Fibrocell. The amendment expands the field of use defined in the ECC agreement. Under the terms of the amendment to the ECC, the Company received 1,243,781 shares of Fibrocell's common stock valued at $7,612 as a supplemental technology access fee. The Company allocated this additional consideration to the appropriate unit of accounting and is recognizing it consistent with the unit of accounting.

Effective January 10, 2014, the Company entered into a second amendment to the ECC with Fibrocell. The second amendment further expanded the field of use defined in the ECC agreement. Under the terms of the second amendment to the ECC, the Company received 1,024,590 shares of Fibrocell's common stock valued at $5,225 as a technology access fee. The Company allocated this additional consideration to the appropriate unit of accounting and is recognizing it consistent with the unit of accounting.

See Note 15 for further discussion related to Fibrocell.

Genopaver Collaboration

Effective March 29, 2013, the Company entered into a worldwide ECC with Genopaver, a limited liability company formed by affiliates of Third Security (Note 15). Genopaver was formed for the purpose of entering into the ECC and developing and commercializing products in the field of the fermentative production of alkaloids through genetically modified cell-lines and substrate feeds for use as active pharmaceutical ingredients or as commercially sold intermediates in the manufacture of active pharmaceutical ingredients. Upon execution of the ECC, the Company received a technology access fee of $3,000 as upfront consideration. The Company receives reimbursement payments for research and development services provided pursuant to the agreement during the ECC. Genopaver will pay the Company a royalty as a percentage in the lower-double digits on the quarterly gross profits of product sales from products developed under the ECC. Genopaver is responsible for the development and commercialization of the product candidates. The term of the ECC commenced on March 29, 2013 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Genopaver upon 90 days written notice to the Company.

AquaBounty Collaboration

On February 14, 2013, the Company entered into an ECC with AquaBounty. The Company will be reimbursed for research and development services as provided for in the ECC agreement. In the event of product sales from a product developed from the ECC, the Company will receive 16.66% of quarterly gross profits for each product. All revenues and expenses related to this ECC are eliminated in consolidation (Note 4).

S & I Ophthalmic Collaboration

On September 30, 2013, the Company entered into a worldwide ECC with S & I Ophthalmic, a joint venture between the Company and Sun Pharmaceutical Subsidiary, an indirect subsidiary of Sun Pharmaceutical, an international specialty pharmaceutical company focused on chronic diseases (Note 5). The ECC grants S & I Ophthalmic an exclusive worldwide license to the Company's technology platform to develop and commercialize therapies in humans for the treatment of ocular diseases defined more specifically in the agreement. The Company will be reimbursed for research and development services pursuant to the agreement and manufacturing services for Company materials provided to S & I Ophthalmic during the ECC. Subject to certain expense allocations, S & I Ophthalmic will pay the Company royalties with percentages ranging from mid-single digits and above of the net sales derived from the sale of products developed under the ECC. The term of the ECC commenced on September 30, 2013 and continues until terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by S & I Ophthalmic upon 90 days written notice to the Company.

BioPop Collaboration

On October 1, 2013, the Company entered into a worldwide ECC with BioPop. The ECC grants BioPop an exclusive, worldwide license to the Company's technology platform to develop and commercialize artwork, children's toys and novelty goods that are derived from living organisms or are enabled by synthetic biology. The Company will be reimbursed for research and development services and manufacturing services as provided for in the ECC agreement. The Company is entitled to royalties in the mid-single digits as a percentage of the net product sales of a product developed under the ECC. All revenues and expenses related to this ECC are eliminated in consolidation (Note 4).

OvaXon Collaboration

On December 18, 2013, the Company entered into a worldwide ECC with OvaXon, a joint venture between the Company and OvaScience, a life sciences company focused on infertility treatments (Note 5). The ECC grants OvaXon an exclusive, worldwide license to the Company's technology platform to create new applications for improving human and animal health. OvaScience also licensed certain technology to OvaXon pursuant to a separate license agreement. The Company will be reimbursed for research and development services and manufacturing services as provided for in the ECC agreement. The term of the ECC commenced on December 18, 2013 and continues until terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by OvaXon upon 90 days written notice to the Company.

Intrexon Energy Partners Collaboration

On March 26, 2014, the Company entered into a worldwide ECC with Intrexon Energy Partners, a joint venture between the Company and certain investors, including an affiliate of Third Security (Note 5). The ECC grants Intrexon Energy Partners an exclusive, worldwide license to the Company's technology platform to optimize and scale-up the Company's gas-to-liquid bioconversion platform for the production of certain fuels and lubricants. Upon execution of the ECC, the Company received a technology access fee of $25,000 as upfront consideration. The Company will be reimbursed for research and development services as provided for in the ECC agreement. The term of the ECC commenced on March 26, 2014 and continues until March 26, 2034 unless terminated prior to that date by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Intrexon Energy Partners upon 90 days written notice to the Company.

Deferred Revenue

Deferred revenue primarily consists of consideration received for upfront and milestone payments in connection with the Company's collaborations and prepayments for research and development services performed for collaborators pursuant to the terms of the collaborations. Deferred revenue consists of the following:

	June 30, 2014	December 31, 2013
Upfront and milestone payments	$98,233	$ 72,207
Prepaid research and development services	1,207	1,319
Other	13	45
Total	$99,453	$ 73,571
Current portion of deferred revenue	$10,706	$ 7,793
Long-term portion of deferred revenue	88,747	65,778
Total	$99,453	$ 73,571

7. Short-term and Long-term Investments

The Company's investments are classified as available-for-sale. The following table summarizes the amortized cost, gross unrealized gains and losses and fair value of available-for-sale investments as of June 30, 2014:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Aggregate Fair Value
U.S. government debt securities	$172,960	$ 113	$ (1)	$173,072
Certificates of deposit	1,519	—	—	1,519
Total	$174,479	$ 113	$ (1)	$174,591

The following table summarizes the amortized cost, gross unrealized gains and losses and fair value of available-for-sale investments as of December 31, 2013:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Aggregate Fair Value
U.S. government debt securities	$178,277	$ 35	$ (13)	$178,299
Commercial paper	7,997	—	—	7,997
Certificates of deposit	2,266	—	(1)	2,265
Total	$188,540	$ 35	$ (14)	$188,561

For more information on our method for determining the fair value of our assets, see Note 2 – "Fair Value of Financial Instruments".

The estimated fair value of available-for-sale investments classified by their contractual maturities as of June 30, 2014 was as follows:

Due within one year	$101,046
After one year through three years	73,545
Total	$174,591

Changes in market interest rates and bond yields cause certain investments to fall below their cost basis, resulting in unrealized losses on investments. The unrealized losses of the Company's investments were primarily a result of unfavorable changes in interest rates subsequent to the initial purchase of these investments and have been in a loss position for less than 12 months.

As of June 30, 2014, the Company did not consider any of its investments to be other-than-temporarily impaired. When evaluating its investments for other-than-temporary impairment, the Company reviews factors such as the length of time and extent to which fair value has been below its cost basis, the financial condition of the issuer, the Company's ability and intent to hold the security and whether it is more likely than not that it will be required to sell the investment before recovery of its cost basis.

8. Fair Value Measurements

The carrying amount of cash and cash equivalents, receivables, prepaid expenses and other current assets, accounts payable, accrued compensation and benefits, other accrued liabilities, and related party payables approximate fair value due to the short maturity of these instruments.

The following table presents the placement in the fair value hierarchy of financial assets that are measured at fair value on a recurring basis, including the items for which the fair value option has been elected, at June 30, 2014:

	Quoted prices in active markets (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	June 30, 2014
Assets				
U.S. government debt securities (Note 7)	$ —	$173,072	$ —	$173,072
Certificates of deposit (Note 7)	—	1,519	—	1,519
Equity securities (Note 6)	109,665	25,230	—	134,895
Total	$109,665	$199,821	$ —	$309,486

The following table presents the placement in the fair value hierarchy of financial assets that are measured at fair value on a recurring basis, including the items for which the fair value option has been elected, at December 31, 2013:

	Quoted prices in active markets (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	December 31, 2013
Assets				
U.S. government debt securities (Note 7)	$ —	$178,299	$ —	$ 178,299
Commercial paper (Note 7)	—	7,997	—	7,997
Certificates of deposit (Note 7)	—	2,265	—	2,265
Equity securities (Note 6)	110,297	31,228	—	141,525
Total	$110,297	$219,789	$ —	$ 330,086

Financial liabilities measured on a recurring basis were not significant at June 30, 2014 and December 31, 2013.

The method used to estimate the fair value of the Level 1 assets in the tables above is based on observable market data as these equity securities are publicly-traded. The method used to estimate the fair value of the Level 2 short-term and long-term investments in the tables above is based on professional pricing sources for identical or comparable instruments, rather than direct observations of quote prices in active markets. The method used to estimate the fair value of the Level 2 equity securities in the tables above is based on the quoted market price of the publicly-traded security, adjusted for a discount for lack of marketability.

There were no transfers between levels of the fair value hierarchy in the six months ended June 30, 2014 and 2013.

9. Property, Plant and Equipment, net

Property, plant and equipment consist of the following:

	June 30, 2014	December 31, 2013
Land	$ 55	$ 55
Building	945	945
Furniture and fixtures	975	876
Lab equipment	24,295	22,275
Leasehold improvements	5,629	5,147
Computer hardware	3,513	3,286
Construction in progress	140	314
Software	1,344	1,008
	36,896	33,906
Less: Accumulated depreciation and amortization	(19,507)	(17,277)
Property, plant and equipment, net	$ 17,389	$ 16,629

Depreciation expense was $1,281 and $1,114 for the three months ended June 30, 2014 and 2013, respectively, and $2,399 and $2,260 for the six months ended June 30, 2014 and 2013, respectively

10. Goodwill and Intangible Assets, net

The changes in the carrying amount of goodwill for the six months ended June 30, 2014 are as follows:

Balance as of December 31, 2013	$13,823
Acquisitions	21,042
Balance as of June 30, 2014	$34,865

No goodwill or accumulated impairment losses existed as of June 30, 2014 and December 31, 2013.

Intangible assets consist of the following at June 30, 2014:

	Gross Carrying Amount	Accumulated Amortization	Net
Patents and related technologies	$34,772	$ (9,090)	$25,682
In-process research and development	19,724	—	19,724
Total	$54,496	$ (9,090)	$45,406

No in-process research and development or accumulated impairment losses existed as of June 30, 2014.

Intangible assets consist of the following at December 31, 2013:

	Gross Carrying Amount	Accumulated Amortization	Net
Patents and related technologies	$34,772	$ (7,716)	$27,056
In-process research and development	14,900	—	14,900
Total	$49,672	$ (7,716)	$41,956

No in-process research and development or accumulated impairment losses existed as of December 31, 2013.

Amortization expense was $687 and $709 for the three months ended June 30, 2014 and 2013, respectively, and $1,374 and $1,434 for the six months ended June 30, 2014 and 2013, respectively. At June 30, 2014, the weighted average useful life for patents and related technology was 12.3 years.

11. Income Taxes

Tax provisions for interim periods are calculated using an estimate of actual taxable income or loss for the respective period, rather than estimating the Company's annual effective income tax rate, as the Company is currently unable to reliably estimate its income for the full year. For the three months ended June 30, 2014 the Company had a taxable loss of approximately $14,100, which resulted in an income tax benefit of $283 that was recognized to offset income tax expense recognized for the three months ended March 31, 2014. For the six months ended June 30, 2014 the Company had taxable income of approximately $1,200, which, after offset by available loss carryforwards, resulted in $23 of current tax expense due to the corporate alternative minimum tax. The associated deferred tax asset is offset by a valuation allowance due to the Company's history of net losses combined with an inability to confirm recovery of the tax benefits of the Company's losses and other net deferred tax assets. For the three and six months ended June 30, 2013, there is no income tax benefit recognized. In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment. Due to the Company's history of net losses incurred from inception, no deferred income tax benefit has been recorded and the corresponding deferred tax assets have been fully reserved as the Company cannot sufficiently be assured that these deferred tax assets will be realized.

At June 30, 2014, the Company has loss carryforwards for federal income tax purposes of approximately $249,600 available to offset future taxable income and federal and state research and development tax credits of approximately $7,000, prior to consideration of annual limitations that may be imposed under Section 382. These carryforwards will begin to expire in 2022. Of these loss carryforwards, approximately $6,800 relate to benefits from stock compensation deductions that will be recorded as a component of paid-in capital when realized.

12. Shareholders' Equity

On March 26, 2014 and concurrent with the formation of Intrexon Energy Partners, the Company entered into securities purchase agreements with each of the Investors in Intrexon Energy Partners for the private placement of 972,004 shares of the Company's common stock at a price per share of $25.72 for gross proceeds of $25,000. Each Investor purchased an amount proportionate to its investment in Intrexon Energy Partners, including 243,001 shares, or $6,250, purchased by an affiliate of Third Security (Note 15).

13. Stock Option Plans

Intrexon Stock Option Plan

The Company records the fair value of stock options issued to employees and non-employees as of the grant date as stock-based compensation expense. Stock-based compensation expense for employees and non-employees is recognized over the requisite service period, which is typically the vesting period. Stock-based compensation cost that has been included in research and development expenses and general and administrative expenses amounted to $1,343 and $5,429, respectively, for the three months ended June 30, 2014, and $147 and $641, respectively, for the three months ended June 30, 2013. Stock-based compensation cost that has been included in research and development expenses and general and administrative expenses amounted to $1,670 and $8,799, respectively, for the six months ended June 30, 2014, and $299 and $896, respectively, for the six months ended June 30, 2013.

On April 18, 2008, the Company adopted the 2008 Equity Incentive Plan (the "2008 Plan") for employees and nonemployees pursuant to which the Company's board of directors may grant share based awards to officers, key employees and nonemployees. During 2011, the 2008 Plan was amended to increase the number of authorized awards under the 2008 plan from 2,857,142 to 5,714,285. Upon the effectiveness of the 2013 Omnibus Incentive Plan (the "2013 Plan"), no new awards may be granted under the 2008 Plan. As of June 30, 2014, there are 2,200,779 stock options outstanding under the 2008 Plan.

On July 26, 2013, the Company adopted the 2013 Plan for employees and nonemployees pursuant to which the Company's board of directors may grant share based awards, including stock options and shares of common stock, to employees, officers, consultants, advisors and nonemployee directors. The 2013 Plan became effective upon the closing of the IPO. On June 9, 2014, the Company's shareholders voted to amend the 2013 Plan to increase

the numbers of shares authorized for issuance under the 2013 Plan from 7,000,000 to 10,000,000. As of June 30, 2014, there were 6,421,800 stock options outstanding under the 2013 Plan, and there were 3,559,727 remaining shares available for the Company to grant under the 2013 Plan.

Stock option activity under the Company's award plans during the period indicated is as follows:

	Number of shares	Weighted average exercise price	Weighted average remaining contractual term
Balances at December 31, 2013	2,840,648	$ 8.27	7.75
Granted	6,273,300	28.57	
Exercised	(235,438)	(4.30)	
Forfeited	(255,646)	(19.51)	
Expired	(285)	(7.12)	
Balances at June 30, 2014	8,622,579	22.82	9.00
Exercisable at June 30, 2014	1,242,345	7.86	6.39
Vested and Expected to Vest at June 30, 2014(1)	6,657,224	21.72	8.84

(1) The number of stock options expected to vest takes into account an estimate of expected forfeitures.

Total unrecognized compensation costs related to nonvested awards at June 30, 2014 and December 31, 2013 were $74,570 and $9,639, respectively, and are expected to be recognized over a weighted-average period of approximately three years.

The Company currently uses authorized and unissued shares to satisfy share award exercises.

AquaBounty Stock Option Plan

The AquaBounty 2006 Equity Incentive Plan (the "AquaBounty Plan") provides for the issuance of incentive stock options to employees of AquaBounty and non-qualified stock options and awards of restricted and direct stock purchases to its directors, officers, employees and consultants of AquaBounty. Unless otherwise indicated, options issued to employees, directors and non-employees are vested over one to three years and are exercisable for a term of ten years from the date of issuance. As of June 30, 2014, there were 7,359,000 options outstanding under the AquaBounty Plan at a weighted average exercise price of $0.31 per share of which 6,255,520 were exercisable. Stock-based compensation cost that has been included in research and development expenses and general and administrative expenses amounted to $21 and $55, respectively, for the three months ended June 30, 2014. Stock-based compensation cost that has been included in research and development expenses and general and administrative expenses amounted to $42 and $111, respectively, for the six months ended June 30, 2014. Stock- based compensation cost that has been included in general and administrative expenses amounted to $21 and $1 for the three and six months ended June 30, 2013, respectively.

14. Commitments and Contingencies

Operating Leases

The Company leases its facilities and certain equipment under noncancelable operating leases. The equipment leases are renewable at the option of the Company. At June 30, 2014, future minimum lease payments under noncancelable operating leases having initial or remaining noncancelable lease terms in excess of one year are as follows:

2014	$ 1,919
2015	4,397
2016	4,072
2017	2,607
2018	1,295
2019	1,259
Thereafter	2,406
Total	$17,955

Rent expense, including other facility expenses, was $1,361 and $1,766 in the three months ended June 30, 2014 and 2013, respectively, and $2,731 and $3,039 in the six months ended June 30, 2014 and 2013, respectively.

The Company maintains subleases for certain of its facilities. Rental income under sublease agreements was $171 and $91 for the three months ended June 30, 2014 and 2013, respectively, and $262 and $182 for the six months ended June 30, 2014 and 2013, respectively. Future minimum rental payments receivable under noncancelable operating subleases having initial or remaining noncancelable lease terms in excess of one year are $357 for 2014, $725 for 2015, $384 for 2016, and $11 for 2017.

Long Term Debt

In January 2009, the Atlantic Canada Opportunities Agency ("ACOA"), a Canadian government agency, awarded AquaBounty a grant to provide funding of a research and development project. The total amount available under the award is $2,691, which AquaBounty can claim over a five year period. All amounts claimed by AquaBounty must be repaid in the form of a 10% royalty on any products commercialized out of this research and development project until fully paid. Because the timing of commercialization is subject to regulatory approval, the timing of repayment is uncertain. As of the acquisition date, AquaBounty had claimed $1,952 of the available funds and this amount was recorded at its acquisition date fair value of $1,107 (Note 4). The Company accretes the difference of $845 between the face value of amounts drawn and the acquisition date fair value over the expected period of repayment. Since the acquisition date and through June 30, 2014, AquaBounty has made subsequent claims of $767 resulting in total long-term debt of $2,001 as of June 30, 2014.

In November 1999, Technology Partnership Canada ("TPC"), a Canadian government agency, agreed to provide AquaBounty funding up to $2,778, to support AquaBounty's research and development. This amount is repayable to TPC in the form of a 5.2% royalty on revenues generated from AquaBounty's technology through June 30, 2014. There were no revenues generated from AquaBounty's technology through June 30, 2014. Therefore, no amounts are required to be repaid.

Contingencies

The Company may become subject to claims and assessments from time to time in the ordinary course of business. Such matters are subject to many uncertainties and outcomes are not predictable with assurance. The Company accrues liabilities for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated. As of June 30, 2014 and December 31, 2013, the Company does not believe that any such matters, individually or in the aggregate, will have a material adverse effect on the Company's business, financial condition, results of operations, or cash flows.

15. Related Party Transactions

Third Security and Affiliates

The Company reimburses Third Security for certain documented out-of-pocket expenses incurred on the Company's behalf. The total amount of expenses reimbursed by the Company for the three months ended June 30, 2014 and 2013 was approximately $64 and $167, respectively, and the total amount of expenses reimbursed by the Company for the six months ended June 30, 2014 and 2013 was approximately $88 and $248, respectively.

On June 6, 2011, the Company entered into a worldwide exclusive licensing agreement with Halozyme Therapeutics, Inc. ("Halozyme") for the use of Halozyme's proprietary enzyme in one of the Company's targeted therapeutics. The Company and Halozyme are related parties through common ownership by affiliates of Third Security. The Company's CEO also serves on Halozyme's board of directors. Under the terms of the agreement, the Company paid a license fee of $9,000 upon execution of the agreement, which is recorded in research and development expenses on the accompanying consolidated statement of operations. The Company was required to pay an annual exclusivity fee of $1,000 commencing June 6, 2012 and on each anniversary of the effective date of the agreement thereafter until a certain development event occurs. If the Company successfully developed a product candidate using the license in the exclusive field of use and achieves an established sales target, the Company could

pay up to $54,000 in milestone payments. The Company was obligated to pay tiered royalties on net sales of the approved product. The Company terminated the agreement effective May 2014 and no payments after that date are required.

The Manager of Third Security is also the Chief Executive Officer ("CEO") and Chairman of the Board of Directors of the Company. The CEO has not received compensation for his services as CEO, and as a result, the Company recorded $507 and $387 in compensation expense for each of the three months ended June 30, 2014 and 2013, respectively, and $977 and $775 in compensation expense for each of the six months ended June 30, 2014 and 2013, respectively, based on the estimated salary and benefits appropriate for the role.

Transactions with ECC Parties

In conjunction with the ECC with Ziopharm (Note 6), the Company agreed to purchase up to an additional $50,000 of common stock in conjunction with securities offerings that may be conducted by Ziopharm in the future, subject to certain conditions and limitations. Between February 2011 and October 2013, the Company purchased an aggregate of $30,982 of Ziopharm securities. At June 30, 2014, the Company had approximately $19,018 remaining on its purchase commitment.

In conjunction with the ECC with Synthetic Biologics (Note 6), the Company is entitled to, at its election, purchase up to 19.99% of securities offerings that may be conducted by Synthetic Biologics in the future, subject to certain conditions and limitations. On December 17, 2013, the Company purchased 2,000,000 shares of Synthetic Biologics common stock at $1.00 per share in a securities offering under this right. The Company has been granted the right to make purchases of Synthetic Biologics' common stock in the open market up to an additional 10% of Synthetic Biologics' common stock, but has made no such purchases.

In conjunction with the ECC with Oragenics (Note 6), the Company is entitled to, at its election, purchase up to 30% of securities offerings that may be conducted by Oragenics in the future, subject to certain conditions and limitations. On November 20, 2013, the Company purchased 1,100,000 shares of Oragenics common stock at $2.50 per share under this right. On September 30, 2013, the Company purchased 1,300,000 shares of Oragenics common stock at $3.00 per share in a private transaction.

On October 1, 2013, the Company purchased 2,439,024 shares of Fibrocell common stock at $4.10 per share.

16. Net Loss per Share

The following table presents the computation of basic and diluted net loss per share for the three and six months ended June 30, 2014 and 2013:

	Three months ended June 30,		Six months ended June 30,	
	2014	2013	2014	2013
Historical net loss per share:				
Numerator:				
Net loss attributable to Intrexon	$ (52,043)	$ (5,963)	$ (47,928)	$ (42,274)
Accretion of dividends on redeemable convertible preferred stock	—	(7,942)	—	(14,347)
Net loss attributable to common shareholders	$ (52,043)	$ (13,905)	$ (47,928)	$ (56,621)
Denominator:				
Weighted average shares outstanding, basic and diluted	98,892,601	5,667,557	98,113,493	5,664,665
Net loss attributable to common shareholders per share, basic and diluted	$ (0.53)	$ (2.45)	$ (0.49)	$ (10.00)

The following potentially dilutive securities as of June 30, 2014 and 2013, have been excluded from the above computations of diluted weighted average shares outstanding as they would have been anti-dilutive:

	June 30,	
	2014	2013
Common shares issuable upon conversion of all Series Preferred	—	75,402,332
Options	8,622,579	2,856,905
Warrants	373,102	511,098
Total	8,995,681	78,770,335

In addition to the potentially dilutive securities in the table above, preferred stock cumulative dividends convertible into common shares at a price per share equal to the fair market value of a common share at the time of conversion have been excluded from the computation of diluted weighted-average shares outstanding as of June 30, 2013.

17. Subsequent Events

Effective August 8, 2014 (the "Closing Date"), the Company acquired 100% of the membership interests of Trans Ova Genetics, L.C. ("Trans Ova"), an industry-leading provider of bovine reproductive technologies, pursuant to an Amended and Restated Membership Interest Purchase Agreement (the "Purchase Agreement") dated as of August 8, 2014. The Company and Trans Ova intend to build upon Trans Ova's current platform with new capabilities to allow for even higher levels of delivered value to dairy and beef cattle producers. The consideration paid at closing for all the membership interests in Trans Ova consisted of $60,000 in cash and the issuance of 1,444,388 shares of the Company's common stock. In addition, $20,000 in deferred cash is payable in three equal installments upon the first, second, and third anniversaries of the Closing Date (the "Base Consideration"). The Purchase Agreement also provides for (i) the payment to former equity holders of Trans Ova of the aggregate amounts of certain debts, together with accrued interest, currently owed by Trans Ova to governmental entities in the event and to the extent that those debts are forgiven by the relevant governmental entities; and (ii) the payment to such former equity holders of a portion of certain cash proceeds in the event there is an award under currently pending litigation matters to which Trans Ova is a party (together with the Base Consideration, the "Purchase Agreement Consideration"). The Purchase Agreement Consideration is subject to further adjustment as described in the Purchase Agreement.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following "Management's Discussion and Analysis of Financial Condition and Results of Operations" should be read in conjunction with the unaudited financial information and the notes thereto included in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K.

The following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements and you are cautioned not to place undue reliance on forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Quarterly Report on Form 10-Q, particularly in "Special Note Regarding Forward-Looking Statements" and "Risk Factors." The forward-looking statements included in this Quarterly Report on Form 10-Q are made only as of the date hereof.

Overview

We believe Intrexon is a leader in the field of synthetic biology, an emerging and rapidly evolving discipline that applies engineering principles to biological systems. Using our suite of proprietary and complementary technologies, we design, build and regulate gene programs, which are DNA sequences that consist of key genetic components. A single gene program or a complex, multi-genic program are fabricated and stored within a DNA vector. Vectors are segments of DNA used as a vehicle to transmit genetic information. DNA vectors can, in turn, be introduced into cells in order to generate a simple or complex cellular system, which are the basic and complex cellular activities that take place within a cell and the interaction of those systems in the greater cellular environment. It is these genetically modified cell systems that can be used to produce proteins, produce small molecules, or serve as cell-based products, which enable the development of new and improved products and manufacturing processes across a variety of end markets, including health, food, energy, environment, and consumer. Intrexon's synthetic biology capabilities include the ability to precisely control the amount, location and modification of biological molecules to control the function and output of living cells and optimize for desired results at an industrial scale.

We have devised our business model to bring many different commercial products to market through the formation of exclusive channel collaborations, or ECCs, with collaborators that have expertise within specific industry segments. Through our ECCs, we provide expertise in the engineering, creation and modification of gene programs and cellular systems, and our collaborators are responsible for providing market and product development expertise, as well as regulatory, sales and marketing capabilities. Generally, our collaborators compensate us through payment of technology access fees, royalties, milestones and reimbursement of certain costs. This business model allows us to leverage our capabilities and capital across a broader landscape of product opportunities and end markets than we would be capable of addressing on our own.

In certain strategic circumstances, we may enter into a joint venture with an ECC collaborator. In that event, we will enter into an ECC with a joint venture entity and may contribute access to our technology, cash or both into the joint venture which we will jointly control with our ECC collaborator. Pursuant to a joint venture agreement, we may be required to contribute additional capital to the joint venture, and we may be able to receive a higher financial return than we would normally receive from an ECC to the extent that we and our ECC collaborator are successful in developing one or more products. We currently are party to three such joint venture agreements: S & I Ophthalmic, LLC, or S & I Ophthalmic, which is a joint venture with a subsidiary of Sun Pharmaceutical Industries Ltd., or Sun Pharmaceutical Subsidiary, an international specialty pharmaceutical company focused on chronic diseases, OvaXon, LLC, or OvaXon, which is a joint venture with OvaScience, Inc., or OvaScience, a life sciences company focused on the discovery, development and commercialization of new treatments for infertility and Intrexon Energy Partners, LLC, or Intrexon Energy Partners, a joint venture with a select group of external investors, to optimize and scale-up our gas-to-liquid bioconversion platform for the production of certain fuels and lubricants. Alternatively, where a collaborator wishes to work with us to develop an early-stage program, we may execute a research collaboration pursuant to which we receive reimbursement for our development costs but the exclusive license rights, and related access fee, are deferred until completion of an initial research program.

In 2011, we entered into our first collaboration and have added new collaborations since then, either by entering into new agreements or expanding or adding fields to existing ECCs. To date, we have entered into 23 such agreements and expansions with 19 different counterparties, of which 21 remain active. We have 20 active ECCs, including three expansions, and one research collaboration that we anticipate could, if successful, become an ECC. Under the ECCs, we are developing products in the fields of healthcare, food, energy and consumer goods. In healthcare, our ECCs include programs in oncology, anti-infectives, antibiotics and tissue repair. In food, we are working to increase the productivity and nutritional value of salmon and other fish. In energy, we are working to develop certain fuels and lubricants from natural gas. In consumer goods, we are working to advance new skin and hair care products.

Effective July 26, 2013, the Company's board of directors and shareholders approved a reverse stock split of 1-for-1.75 of the Company's shares of common stock. Shareholders entitled to fractional shares as a result of the reverse stock split will receive a cash payment in lieu of receiving fractional shares. Our historical share and per share information have been retroactively adjusted to give effect to this reverse stock split. Shares of common stock underlying outstanding stock options and warrants were proportionately reduced and the respective exercise prices were proportionately increased in accordance with the terms of the agreements governing such securities. Shares of common stock reserved for issuance upon the conversion of all of our Series Preferred Stock were proportionately reduced and the conversion prices were proportionately increased.

On August 13, 2013, we completed our initial public offering, or IPO, whereby we sold 11,499,998 shares of common stock (inclusive of 1,499,999 shares of common stock sold by us pursuant to the full exercise of an overallotment option granted to the underwriters in connection with the offering) at a price of $16.00 per share. The shares began trading on the NYSE on August 8, 2013. The aggregate net proceeds received by us from the IPO were $168.3 million, net of underwriting discounts and commissions and estimated offering expenses payable by us. Upon the closing of the IPO, all outstanding shares of convertible preferred stock, including accrued but unpaid dividends thereon, converted into 79,705,130 shares of common stock. Additionally, in connection with the closing of the IPO, we amended and restated our articles of incorporation pursuant to which we are authorized to issue 200,000,000 shares of common stock and 25,000,000 shares of undesignated preferred stock.

Mergers and acquisitions

Effective August 8, 2014, we acquired 100% of the membership interests of Trans Ova Genetics, L.C., or Trans Ova, an industry-leading provider in bovine reproductive technologies. Intrexon and Trans Ova intend to build upon Trans Ova's current platform with new capabilities to allow for even higher levels of delivered value to dairy and beef cattle producers. The consideration paid at closing for all the membership interests in Trans Ova consisted of $60.0 million in cash and the issuance of 1,444,388 shares of the Company's common stock. In addition, $20.0 million in deferred cash is payable in three equal installments upon the first, second, and third anniversaries of the closing date. The agreement also provides for (i) the payment to former equity holders of Trans Ova of the aggregate amounts of certain debts, together with accrued interest, currently owed by Trans Ova to governmental entities in the event and to the extent that those debts are forgiven by the relevant governmental entities; and (ii) the payment to such former equity holders of a portion of certain cash proceeds in the event there is an award under currently pending litigation matters to which Trans Ova is a party. We will consolidate Trans Ova's results of operations and financial position effective August 8, 2014.

On March 6, 2014, we acquired California-based Medistem, Inc., or Medistem, a pioneer in the development of Endometrial Regenerative Cells, or ERCs, universal donor adult-derived stem cells. We intend to employ our synthetic biology platforms to engineer a diverse array of cell-based therapeutic candidates using Medistem's multipotent ERCs. We began consolidating Medistem's results of operations and financial position effective March 6, 2014.

On October 1, 2013, we acquired 4,163,265 shares of common stock of Biological & Popular Culture, Inc., or BioPop, representing 51.00 percent of the outstanding shares of BioPop, resulting in us gaining control over BioPop. BioPop was consolidated on our results of operations and financial position beginning on October 1, 2013.

On November 16, 2012, we acquired 48,631,444 shares of common stock of AquaBounty Technologies, Inc., or AquaBounty, representing 47.56 percent of the then outstanding shares of AquaBounty, through a definitive

purchase agreement with an existing AquaBounty shareholder and its affiliate. We originally accounted for our investment in AquaBounty using the equity method. On March 15, 2013, we acquired 18,714,814 additional shares of AquaBounty common stock increasing our aggregate ownership in AquaBounty to 53.82 percent, resulting in us gaining control over AquaBounty. AquaBounty was consolidated on our results of operations and financial position beginning on March 15, 2013. On March 20, 2014, we acquired 19,040,366 additional shares of AquaBounty common stock increasing our aggregate ownership in AquaBounty to 59.85 percent.

Financial overview

We have incurred significant losses since our inception. We anticipate that we may continue to incur significant losses for the foreseeable future, and we may never achieve or maintain profitability. We have never generated any royalty revenues from sales of products by our collaborators and may never be profitable.

We expect our future capital requirements will be substantial, particularly as we continue to develop our business and expand our synthetic biology technology platform. We believe that our existing cash and cash equivalents; short-term and long-term investments; and cash expected to be received through our current collaborators will enable us to fund our operating expenses and capital expenditure requirements for at least the next 12 months.

Sources of revenue

We derive our revenues through the execution of ECCs, including with our joint ventures, for the development and commercialization of products enabled by our technologies. Generally, the terms of our ECCs provide that we receive some or all of the following: (i) technology access fees upon consummation of such ECC; (ii) reimbursements of costs incurred by us for our research and development and/or manufacturing efforts related to the specific application provided for in the ECC; (iii) milestone payments upon the achievement of specified development, regulatory and commercial activities; and (iv) royalties on sales of products arising from the collaboration.

Our technology access fees and milestone payments may be in the form of cash or securities of the collaborator. Because our ECCs contain multiple arrangements, we typically defer much of the technology access and milestone payments received and recognize such revenues in the future over the anticipated performance period. We are also entitled to sublicensing revenues in those situations where our collaborators choose to license our technologies to other parties.

In future periods, our revenues will depend on the number of ECCs to which we are party, the advancement and creation of programs within our ECCs and the extent to which our collaborators bring products enabled by our technologies to market. Our revenues will also depend on the ability of AquaBounty to receive regulatory approval and establish successful commercialization of its AquAdvantage® Salmon products and on the ability of our consolidated subsidiaries to sustain their existing levels of product sales. Our future revenues may also include additional revenue streams we may acquire through mergers and acquisitions. In light of our limited operating history and experience in consummating new ECCs, there can be no assurance as to the timing, magnitude and predictability of revenues to which we might be entitled.

Research and development expenses

We recognize research and development expenses as they are incurred. Our research and development expenses consist primarily of:

- salaries and benefits, including stock-based compensation expense, for personnel in research and development functions;
- fees paid to consultants and contract research organizations who perform research on our behalf and under our direction;
- costs related to laboratory supplies used in our research and development efforts;
- depreciation of leasehold improvements, laboratory equipment and computers;
- amortization of patents and related technologies acquired in mergers and acquisitions; and
- rent and utility costs for our research and development facilities.

We have no individually significant research and development projects and our research and development expenses primarily relate to either the costs incurred to expand or otherwise improve our multiple platform technologies or the costs incurred to develop a specific application of our technologies in support of current or prospective collaborators. Research and development expenses typically do not include significant development, including pre-clinical or clinical development, activities since they are the responsibility of our collaborators. Research and development expenses incurred for programs we support pursuant to an ECC agreement are reimbursed by the collaborator at cost and all other research and development programs may be terminated or otherwise deferred at our discretion. The amount of our research and development expenses may be impacted by, among other things, the number of ECCs and the number and size of programs we may support on behalf of an ECC.

The table below summarizes our research and development expenses incurred to expand or otherwise improve our multiple platform technologies or the costs incurred to develop a specific application of our technologies in support of current or prospective collaborators for the three and six months ended June 30, 2014 and 2013. Other research and development expenses for these periods include indirect salaries and overhead expenses that are not allocated to either expanding or improving our multiple platform technologies or specific applications of our technologies in support of current or prospective collaborators.

	Three months ended June 30,		Six months ended June 30,	
	2014	2013	2014	2013
	(In thousands)			
Expansion or improvement of our platform technologies	$ 3,454	$ 4,612	$ 7,057	$ 9,100
Specific applications of our technologies in support of current and prospective collaborators	6,929	6,545	12,177	10,797
Other	4,096	2,353	7,336	5,024
Total research and development expenses	$14,479	$13,510	$26,570	$24,921

We expect that our research and development expenses will increase as we continue to enter into ECCs and as we expand our offerings across additional market sectors. We believe these increases will likely include increased costs related to the hiring of additional personnel in research and development functions, increased costs paid to consultants and contract research organizations and increased costs related to laboratory supplies. Research and development expenses may also increase as a result of ongoing research and development operations which we might assume through mergers and acquisitions.

General and administrative expenses

General and administrative expenses consist primarily of salaries and related costs, including stock-based compensation expense, for employees in executive, operational, finance, information technology and legal functions. Other significant general and administrative expenses include rent and utilities, insurance, legal services and expenses associated with obtaining and maintaining our intellectual property.

We expect that our general and administrative expenses will increase as we operate as a public company. We believe that these increases will likely include increased costs for director and officer liability insurance, costs related to the hiring of additional personnel and increased fees for outside consultants, lawyers and accountants. We also expect to incur increased costs to comply with corporate governance, internal controls and similar requirements applicable to public companies. General and administrative expenses may also increase as a result of ongoing operations which we might assume through mergers and acquisitions.

Other income (expense), net

We hold equity securities received and/or purchased from certain collaborators. Other than investments accounted for using the equity method discussed below, we elected the fair value option to account for our equity securities held in these collaborators. These equity securities are recorded at fair value at each reporting date. Unrealized appreciation (depreciation) resulting from fair value adjustments are reported as other income (expense) in the consolidated statement of operations. As such, we bear the risk that fluctuations in the securities' share prices may significantly impact our results of operations.

Interest income consists of interest earned on our cash and cash equivalents and short-term and long-term investments.

Interest expense pertains to equipment currently under two capitalized leases and long term debt held by AquaBounty.

On March 15, 2013, we recorded a gain on our previously held equity investment in AquaBounty; such gain represented the adjustment to fair value of the pro rata share of our original investment.

Equity in net loss of affiliates

Equity in net loss of affiliates is our pro-rata share of our equity method investments' operating results, adjusted for accretion of basis difference. Through March 15, 2013, we accounted for our investment in AquaBounty using the equity method of accounting since we had the ability to exercise significant influence, but not control, over the operating activities of AquaBounty. On March 15, 2013, we acquired additional ownership interests in AquaBounty which resulted in us gaining control over AquaBounty, thereby requiring consolidation effective on that date. We account for investments in S & I Ophthalmic, OvaXon, and Intrexon Energy Partners using the equity method of accounting since we have the ability to exercise significant influence, but not control, over the operating activities of these joint ventures.

Results of operations

Comparison of the three months ended June 30, 2014 and the three months ended June 30, 2013

The following table summarizes our results of operations for the three months ended June 30, 2014 and 2013, together with the changes in those items in dollars and as a percentage:

	Three months ended June 30,		Dollar	%
	2014	2013	Change	Change
	(In thousands)			
Revenues:				
Collaboration revenues	$ 11,764	$ 6,674	$ 5,090	76.3%
Other revenues	23	16	7	43.8%
Total revenues	11,787	6,690	5,097	76.2%
Operating expenses				
Research and development	14,479	13,510	969	7.2%
General and administrative	15,390	7,434	7,956	107.0%
Total operating expenses	29,869	20,944	8,925	42.6%
Operating loss	(18,082)	(14,254)	(3,828)	26.9%
Total other income (expense), net	(33,781)	7,735	(41,516)	(536.7)%
Equity in loss of affiliates	(1,355)	—	(1,355)	100.0%
Loss before income taxes	(53,218)	(6,519)	(46,699)	716.4%
Income tax benefit	283	—	283	100.00%
Net loss	(52,935)	(6,519)	(46,416)	712.0%
Net loss attributable to noncontrolling interest	892	556	336	60.4%
Net loss attributable to Intrexon	$(52,043)	$ (5,963)	$(46,080)	772.8%

Revenues

Total revenues were $11.8 million for the three months ended June 30, 2014 compared to $6.7 million for the three months ended June 30, 2013, an increase of $5.1 million, or 76.2 percent. The following table shows the collaboration revenue recognized for upfront and milestone payments received from our collaborators and reimbursements received for research and development services provided to our collaborators for the three months ended June 30, 2014 and 2013, together with the changes in those items:

	Upfront and milestone payments			Research and development services			Total		
	Three months ended June 30,		Dollar	Three months ended June 30,		Dollar	Three months ended June 30,		Dollar
	2014	2013	change	2014	2013	change	2014	2013	change
	(In thousands)								
ZIOPHARM Oncology, Inc.	$ 644	$ 644	$ —	$3,697	$2,291	$1,406	$ 4,341	$2,935	$ 1,406
Synthetic Biologics, Inc.	163	1,666	(1,503)	30	314	(284)	193	1,980	(1,787)
Oragenics, Inc.	261	137	124	52	334	(282)	313	471	(158)
Fibrocell Science, Inc.	448	158	290	883	615	268	1,331	773	558
Genopaver, LLC	68	68	—	423	213	210	491	281	210
S & I Ophthalmic, LLC	—	—	—	607	—	607	607	—	607
OvaXon, LLC	—	—	—	579	—	579	579	—	579
Intrexon Energy Partners, LLC	625	—	625	1,210	—	1,210	1,835	—	1,835
Other	308	78	230	1,766	156	1,610	2,074	234	1,840
Total	$2,517	$2,751	$ (234)	$9,247	$3,923	$5,324	$11,764	$6,674	$ 5,090

The $5.1 million increase in collaboration revenue resulted primarily from the recognition of deferred revenue for upfront payments received from 11 collaborations or expansions thereof signed by us between July 1, 2013 and June 30, 2014; recognition of research and development services performed by us pursuant to these new collaborations; and increased research and development services performed by us for collaborations in effect prior to June 30, 2013 as a result of the progression of current programs and the initiation of new programs with these collaborators. Collaboration revenue from upfront and milestone payments decreased due to the termination of our first ECC with Synthetic Biologics, Inc., or Synthetic Biologics, in April 2013, which resulted in the immediate recognition of $1.5 million of previously deferred revenue.

Research and development expenses

Research and development expenses were $14.5 million for the three months ended June 30, 2014 compared to $13.5 million for the three months ended June 30, 2013. The $1.0 million increase in research and development expenses is primarily the result of a $1.5 million increase in salaries, benefits and other personnel costs due to increased stock-based compensation expenses for stock options grants we made to research and development employees in March 2014. Lab supplies increased $0.6 million as a result of increased research and development services provided to our collaborators discussed above. These increases were offset by a $1.1 million decrease in third party in-license fees due to the termination of our exclusive licensing agreement with Halozyme Therapeutics, Inc., or Halozyme, resulting in $1.0 million savings for the three months ended June 30, 2014.

General and administrative expenses

General and administrative expenses increased $8.0 million to $15.4 million for the three months ended June 30, 2014 compared to $7.4 million for the three months ended June 30, 2013. Of the $8.0 million increase, $6.0 million relates to salaries, benefits and other personnel expenses resulting from our hiring of additional employees needed to operate as a public company and stock-based compensation expenses for stock option grants we made to general and administrative employees in March 2014. Legal and professional expenses increased $1.3 million for the three months ended June 30, 2014 compared to the three months ended June 30, 2013 primarily due to costs associated with various merger and acquisition and other business development activities.

Total other income (expense), net

Total other income (expense), net is primarily composed of unrealized appreciation (depreciation) in fair value of equity securities which was $(33.8) million for the three months ended June 30, 2014 compared to $7.7 million for the three months ended June 30, 2013. The unrealized appreciation (depreciation) is the result of market change for the equity securities we hold in certain of our collaborators.

Equity in net loss of affiliates

Equity in net loss of affiliates for the three months ended June 30, 2014 and 2013 includes our pro-rata share of the net losses of our investments we account for using the equity method of accounting. We were party to three such investments in the second quarter of 2014 compared to none in the second quarter of 2013.

Comparison of the six months ended June 30, 2014 and the six months ended June 30, 2013

The following table summarizes our results of operations for the six months ended June 30, 2014 and 2013, together with the changes in those items in dollars and as a percentage:

	Six months ended June 30,		Dollar change	% Change
	2014	2013		
	(In thousands)			
Revenues:				
Collaboration revenues	$ 19,601	$ 10,538	$ 9,063	86.0%
Other revenues	40	37	3	8.1%
Total revenues	19,641	10,575	9,066	85.7%
Operating expenses:				
Research and development	26,570	24,921	1,649	6.6%
General and administrative	29,025	13,914	15,111	108.6 %
Total operating expenses	55,595	38,835	16,760	43.2%
Operating loss	(35,954)	(28,260)	(7,694)	27.2%
Total other income (expense), net	(11,818)	(14,231)	2,413	(17.0)%
Equity in loss of affiliates	(1,891)	(390)	(1,501)	384.9%
Loss before income taxes	(49,663)	(42,881)	(6,782)	15.8%
Income tax expense	(23)	—	(23)	100.0%
Net loss	(49,686)	(42,881)	(6,805)	15.9%
Net loss attributable to noncontrolling interest	1,758	607	1,151	189.6%
Net loss attributable to Intrexon	$(47,928)	$(42,274)	$ (5,654)	13.4%

Revenues

Total revenues were $19.6 million for the six months ended June 30, 2014 compared to $10.6 million for the six months ended June 30, 2013 resulting in an increase of $9.1 million, or 85.7 percent. The following table shows the collaboration revenue recognized for upfront and milestone payments received from each of our collaborators and reimbursements received for research and development services provided to each of our collaborators for the six months ended June 30, 2014 and 2013, together with the changes in those items:

	Upfront and milestone payments			Research and development services			Total		
	Six months ended June 30,		Dollar change	Six months ended June 30,		Dollar change	Six months ended June 30,		Dollar change
	2014	2013		2014	2013		2014	2013	
	(In thousands)								
ZIOPHARM Oncology, Inc.	$1,288	$1,288	$ —	$ 5,733	$3,721	$2,012	$ 7,021	$ 5,009	$ 2,012
Synthetic Biologics, Inc.	325	1,861	(1,536)	227	689	(462)	552	2,550	(1,998)
Oragenics, Inc.	523	274	249	585	713	(128)	1,108	987	121
Fibrocell Science, Inc.	896	316	580	1,745	1,045	700	2,641	1,361	1,280
Genopaver, LLC	137	68	69	844	213	631	981	281	700
S & I Ophthalmic, LLC	—	—	—	1,486	—	1,486	1,486	—	1,486
OvaXon, LLC	—	—	—	748	—	748	748	—	748
Intrexon Energy Partners, LLC	625	—	625	1,210	—	1,210	1,835	—	1,835
Other	605	81	524	2,624	269	2,355	3,229	350	2,879
Total	$4,399	$3,888	$ 511	$15,202	$6,650	$8,552	$19,601	$10,538	$ 9,063

The $9.1 million increase in collaboration revenue resulted primarily from the recognition of deferred revenue for upfront payments received from 11 collaborations or expansions thereof signed by us between July 1, 2013 and June 30, 2014; recognition of research and development services performed us pursuant to these new collaborations; and increased research and development services performed by us for collaborations in effect prior to June 30, 2013 as a result of the progression of current programs and the initiation of new programs with these collaborators. Collaboration revenue from upfront and milestone payments in 2013 includes the immediate recognition of $1.5 million of previously deferred revenue due to the termination of our first ECC with Synthetic Biologics in April 2013.

Research and development expenses

Research and development expenses were $26.6 million for the six months ended June 30, 2014 compared to $24.9 million for the six months ended June 30, 2013. The $1.7 million increase in research and development expenses is primarily the result of a $1.3 million increase in salaries, benefits and other personnel costs due to increased stock-based compensation expenses for stock option grants we made to research and development employees in March 2014 and the inclusion of six months of salaries, benefits and other personnel costs for AquaBounty in our consolidated results for 2014 compared to approximately three and a half months in 2013. Other research and development expenses for AquaBounty increased $0.5 million in 2014 compared to 2013. These increases were offset by a $1.1 million decrease in third party in-license fees due to the termination of our exclusive licensing agreement with Halozyme discussed above.

General and administrative expenses

General and administrative expenses were $29.0 million for the six months ended June 30, 2014 compared to $13.9 million for the six months ended June 30, 2013 resulting in an increase of $15.1 million. Of the $15.1 million increase, $8.9 million relates to salaries, benefits and other personnel expenses resulting from our hiring of additional employees needed to operate as a public company, stock-based compensation expenses for stock option grants we made to general and administrative employees in March 2014 and, inclusion of six months of costs for AquaBounty employees in 2014 compared to approximately three and a half months in 2013. We also incurred stock-based compensation expense for options granted to our non-employee directors which increased $1.8 million due to changes in our director compensation plan which we adopted in conjunction with our transition to a public company. Legal and professional expenses increased $2.9 million due to costs associated with our merger and acquisition activity, the formation of the joint venture with Intrexon Energy Partners, and other business development activity.

Total other income (expense), net

Total other income (expense), net is primarily composed of unrealized appreciation (depreciation) in fair value of equity securities which was $(11.9) million for the six months ended June 30, 2014 compared to $(21.6) million for the six months ended June 30, 2013. The unrealized appreciation (depreciation) is the result of market change for the equity securities we hold in certain collaborators. Total other income (expense), net for the six months ended June 30, 2013 includes a $7.4 million gain on our previously held equity interest in AquaBounty as a result of our consolidating AquaBounty as of March 15, 2013.

Equity in net loss of affiliates

Equity in net loss of affiliates for the six months ended June 30, 2014 and 2013 includes our pro-rata share of the net losses of our investments we account for using the equity method of accounting. The $1.5 million increase in equity in net loss of affiliates is the result of us having three such investments in 2014 compared to only one such investment, AquaBounty, in 2013.

Liquidity and capital resources

Sources of liquidity

We have incurred losses from operations since our inception and as of June 30, 2014, we had an accumulated deficit of $424.3 million. From our inception through June 30, 2014, we have funded our operations principally with the proceeds received from the sale of $509.5 million of our preferred stock, net proceeds from our IPO of $168.3 million and cash payments from our collaborators of $74.9 million. As of June 30, 2014, we had cash and cash equivalents of $74.5 million and short-term and long-term investments of $174.6 million. Cash in excess of immediate requirements is invested primarily in money market funds, certificates of deposits, U.S. government debt securities and commercial paper in order to maintain liquidity and capital preservation.

Cash flows

The following table sets forth the significant sources and uses of cash for the periods set forth below:

	Six months ended, June 30,	
	2014	2013
	(In thousands)	
Net cash provided by (used in):		
Operating activities	$ (4,171)	$ (27,613)
Investing activities	3,257	(95,310)
Financing activities	25,971	146,980
Effect of exchange rate changes on cash and cash equivalents	(61)	1
Net increase in cash and cash equivalents	$24,996	$ 24,058

Cash flows from operating activities:

Net cash used in operating activities was $4.2 million for the six months ended June 30, 2014 compared to $27.6 million for the six months ended June 30, 2013. Net cash used in operating activities during the six months ended June 30, 2014 was primarily composed of our $50.0 million net loss, which includes noncash items of (i) $11.9 million of unrealized depreciation on our equity securities and (ii) $10.6 million of stock-based compensation expense, offset by the receipt of a $25.0 million technology access fee from our ECC with Intrexon Energy Partners. Net cash used in operating activities during the six months ended June 30, 2013 was primarily composed of our $42.9 million net loss, offset by noncash items which primarily included (i) our unrealized depreciation on equity securities of $21.6 million and (ii) our $7.4 million gain on our previously held equity interest in AquaBounty.

Cash flows from investing activities:

Net cash provided by investing activities was $3.3 million for the six months ended June 30, 2014 compared to net cash used in investing activities of $95.3 million for the six months ended June 30, 2013. During the six months ended June 30, 2014, we received proceeds from the maturity of short-term and long-term investments of $73.7 million. These proceeds were offset by cash outflows of $60.5 million of purchases of short-term and long-term investments, $4.9 million for the Medistem acquisition, a $1.5 million capital contribution to OvaXon and $3.8 million in purchases of property and equipment. During the six months ended June 30, 2013, we used cash in excess of our immediate requirements to purchase $95.2 million of short-term and long-term investments.

Cash flows from financing activities:

Net cash provided by financing activities was $26.0 million for the six months ended June 30, 2013 compared to $147.0 million for the six months ended June 30, 2013. During the six months ended June 30, 2014, we received $25.0 million of proceeds from the private placement of our common stock which closed on March 27, 2014 and $1.0 million of proceeds from stock option exercises. During the six months ended June 30, 2013, we received $146.9 million of net proceeds from the sale of our Series F Preferred Stock.

Future capital requirements

We established our current strategy and business model of commercializing our technologies through collaborators with development expertise in 2010 and we consummated our first ECC in January 2011. Through June 30, 2014 we received from our ECCs (i) upfront and milestone consideration totaling $117.8 million, of which $98.2 million has been deferred and will be recognized over future periods; and (ii) reimbursement of our costs incurred for work performed on behalf of our collaborators of $42.4 million. We believe that we will continue to consummate ECCs with new companies across our various market sectors, which will result in additional upfront, milestone and cost recovery payments in the future.

We believe that our existing cash and cash equivalents and short-term and long-term investments and cash expected to be received through our current collaborators will enable us to fund our operating expenses and capital expenditure requirements for at least the next 12 months.

We have based our estimates on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- progress in our research and development programs, as well as the magnitude of these programs;
- the timing, receipt and amount of upfront, milestone and other payments, if any, from present and future collaborators, if any;
- the timing, receipt and amount of sales and royalties, if any, from our potential products;
- the timing, receipt and amount of funding under future government contracts, if any;
- our ability to maintain and establish additional collaborative arrangements and/or new business initiatives;
- the timing of regulatory approval of AquaBounty products;
- the resources, time and cost required for the preparation, filing, prosecution, maintenance and enforcement of patent claims;
- strategic mergers and acquisitions, including both the upfront acquisition cost as well as the cost to integrate, maintain, and expand the strategic target;
- the costs associated with legal activities, including litigation, arising in the course of our business activities and our ability to prevail in any such legal disputes; and
- the timing and extent of our obligation to participate in up to $19.0 million in equity financings of ZIOPHARM.

Until such time, if ever, as we can generate positive operating cash flows, we may finance our cash needs through a combination of equity offerings, debt financings, government or other third-party funding, strategic alliances and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of our common shareholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common shareholders. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through government or other third-party funding, marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us.

Contractual obligations and commitments

The following table summarizes our significant contractual obligations and commercial commitments at June 30, 2014 and the effects such obligations are expected to have on our liquidity and cash flows in future periods:

	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
			(In thousands)		
Operating Leases	$17,955	$3,996	$7,724	$3,196	$3,039

In addition to the obligations in the table above, as of June 30, 2014 we also have the following significant contractual obligations described below.

In conjunction with our ECC with ZIOPHARM in 2011, we agreed to purchase up to $50.0 million of ZIOPHARM common stock in conjunction with securities offerings that may be conducted by ZIOPHARM in the future, subject to certain conditions and limitations. We purchased $10.0 million in each of 2013 and 2012 and $11.0 million in 2011 of ZIOPHARM common stock in such securities offerings. The remaining obligation on this purchase commitment is approximately $19.0 million at June 30, 2014. This amount is not included in the table above due to the fact that the timing of such securities purchases cannot be predicted.

We acquired 100 percent of the outstanding capital stock of Immunologix in October 2011. The transaction included a contingent consideration arrangement which may require us to pay the selling shareholders 50 percent, subject to a maximum of $2.0 million, of revenue generated from Immunologix's technology applied towards a specific target as defined in the agreement up to a maximum of $2.0 million. This amount is not included in the table above due to the uncertainty of whether, if ever, we will pay this contingent consideration.

In December 2012, we received $2.5 million from Synthetic Biologics as prepayment of research and development services to be provided to Synthetic Biologics. Any remaining balance of this prepayment is refundable to Synthetic Biologics in the event our August 2012 ECC is terminated. Synthetic Biologics may voluntarily terminate the ECC upon 90 days' written notice to us. The remaining balance of this prepayment is $1.1 million at June 30, 2014 and is not included in the table above due to the uncertainty of the timing of the performance of these services by us and the unlikely termination of the ECC by either party.

We are also party to in-licensed research and development agreements with various academic and commercial institutions where we could be required to make future payments for annual maintenance fees as well as for milestones and royalties we might receive upon commercial sales of products which incorporate their technologies. These agreements are generally subject to termination by us and therefore no amounts are included in the tables above. At June 30, 2014, we had research and development commitments with third parties totaling $2.6 million of which $1.0 had not yet been incurred.

In January 2009, AquaBounty was awarded a grant to provide funding of a research and development project from the Atlantic Canada Opportunities Agency, a Canadian government agency. The total amount available under the award is USD$2.7 million, which AquaBounty can claim over a five year period. All amounts claimed by AquaBounty must be repaid in the form of a 10 percent royalty on any products commercialized out of this research and development project until fully paid. Because the timing of commercialization is subject to regulatory approval, the timing of repayment is uncertain. As of the acquisition date, AquaBounty had claimed $2.0 million of the available funds and this amount was recorded on our audited consolidated balance sheet at its acquisition date fair value of $1.1 million. The Company accretes the difference of $0.9 million between the face value of amounts drawn and the acquisition date fair value over the expected period of repayment. Since the acquisition date and through June 30, 2014, AquaBounty has made subsequent draws of $0.8 million resulting in total long-term debt of $2.0 million as of June 30, 2014. This amount is not included in the table above due to the uncertainty of the timing of repayment.

In conjunction with the formation of a joint venture with an indirect subsidiary of Sun Pharmaceutical Industries, Ltd. in September 2013, we committed to making future capital contributions to the joint venture, subject to certain conditions and limitations, in order to comply with the obligations of the joint venture. In cases in which the board of managers of the joint venture determines that additional capital contributions are necessary, we have committed to making additional capital contributions subject to certain limitations. These future capital contributions are not included in the table above due to the uncertainty of the timing and amounts of such contributions.

In conjunction with the formation of a joint venture with OvaScience in December 2013, we may make future capital contributions to the joint venture. In cases in which the board of the joint venture determines that additional capital contributions are necessary, we have the option of making additional capital contributions subject to certain limitations. These future capital contributions are not included in the table above due to the uncertainty of the timing and amounts of such contributions.

In conjunction with the formation of a joint venture with an Intrexon Energy Partners in March 2014, we committed to making future capital contributions to the joint venture in the amount of $25.0 million at the request of the board of managers of Intrexon Energy Partners and subject to certain conditions and limitations. These future capital contributions are not included in the table above due to the uncertainty of the timing and amounts of such contributions.

On August 8, 2014, we acquired 100% of the membership interests of Trans Ova. At closing, we paid $60.0 million in cash and issued 1,444,388 shares of our common stock. In addition, $20.0 million in deferred cash is payable in three equal installments upon the first, second, and third anniversaries of the closing date. The transaction also provides for (i) the payment to former equity holders of Trans Ova of the aggregate amounts of certain debts, together with accrued interest, currently owed by Trans Ova to governmental entities in the event and to the extent that those debts are forgiven by the relevant governmental entities; and (ii) the payment to such former equity holders of a portion of certain cash proceeds in the event there is an award under currently pending litigation matters to which Trans Ova is a party. These amounts are not included in the table above due to the transaction closing subsequent to June 30, 2014.

Net operating losses

As of June 30, 2014, we had net operating loss carryforwards of approximately $249.6 million for U.S. federal income tax purposes available to offset future taxable income and U.S. federal and state research and development tax credits of $7.0 million, prior to consideration of annual limitations that may be imposed under Section 382 of the Internal Revenue Code of 1986, as amended, or Section 382. These carryforwards begin to expire in 2022.

Our past issuances of stock and mergers and acquisitions have resulted in ownership changes within the meaning of Section 382. As a result, the utilization of portions of our net operating losses may be subject to annual limitations. As of June 30, 2014, approximately $16.4 million of our net operating losses generated prior to 2008 are limited by Section 382 to annual usage limits of approximately $1.5 million. As of June 30, 2014, approximately $23.2 million of net operating losses were inherited via acquisition and are limited based on the value of the target at the time of the transaction. Future changes in stock ownership may also trigger an ownership change and, consequently, a Section 382 limitation.

Off-balance sheet arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, other than operating leases as mentioned above, as defined under Securities and Exchange Commission, or SEC, rules.

Critical accounting policies and estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which we have prepared in accordance with generally accepted accounting principles in the United States, or U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenues and expenses during the reporting periods. We evaluate these estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the

results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Our actual results may differ from these estimates under different assumptions or conditions.

There have been no material changes to our critical accounting policies from those described in "Management's discussion and analysis of financial condition and results of operations" included in our Annual report on Form 10-K for the year ended December 31, 2013.

Recent accounting pronouncements

For information with respect to recent accounting pronouncements and the impact of these pronouncement on our consolidated financial statements, see Note 2 – "Summary of Significant Accounting Policies" in the notes to the consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

The following sections provide quantitative information on our exposure to interest rate risk, stock price risk, and foreign currency exchange risk. We make use of sensitivity analyses which are inherently limited in estimating actual losses in fair value that can occur from changes in market conditions.

Interest rate risk

We had cash, cash equivalents and short-term and long-term investments of $249.1 million and $238.1 million at June 30, 2014 and December 31, 2013, respectively. Our cash and cash equivalents and short-term and long-term investments consist of cash, money market funds, U.S. government debt securities, commercial paper and certificates of deposit. The primary objective of our investment activities is to preserve principal, maintain liquidity and maximize income without significantly increasing risk. Our investments consist of U.S. government debt securities, commercial paper and certificates of deposit which may be subject to market risk due to changes in prevailing interest rates that may cause the fair values of our investments to fluctuate. We believe that a hypothetical 100 basis point increase in interest rates would not materially affect the fair value of our interest-sensitive financial instruments and any such losses would only be realized if we sold the investments prior to maturity.

Investments in publicly traded companies

We have common stock investments in several publicly traded companies that are subject to market price volatility. We have adopted the fair value method of accounting for these investments, except for our investment in AquaBounty as further described below, and therefore, have recorded them at fair value at the end of each reporting period with the unrealized gain or loss recorded as a separate component of other income (expense), net for the period. As of June 30, 2014 and December 31, 2013 the original aggregate cost basis of these investments was $145.3 million and $140.0 million, respectively, and the market value was $134.9 million and $141.5 million, respectively. The fair value of these investments is subject to fluctuation in the future due to the volatility of the stock market, changes in general economic conditions and changes in the financial conditions of these companies. The fair value of these investments as of June 30, 2014 would be approximately $148.4 million and $107.9 million, respectively, based on a hypothetical 10 percent increase or 20 percent decrease in the value of the investments. The fair value of these investments as of December 31, 2013 would be approximately $155.7 million and $113.2 million, respectively, based on a hypothetical 10 percent increase or 20 percent decrease in the value of the investments.

In November 2012, we acquired 47.56 percent of the outstanding common stock of AquaBounty and we accounted for this investment under the equity method of accounting for the period from acquisition date through March 15, 2013. On March 15, 2013, we acquired 18,714,814 additional shares of AquaBounty common stock for $4.9 million, thereby increasing our aggregate ownership to 53.82 percent upon closing. Accordingly, effective upon closing of the acquisition of the additional shares, we consolidated the assets and operating results of AquaBounty in our consolidated financial statements. On March 20, 2014, we acquired 19,040,366 additional shares of AquaBounty common stock for $10.0 million, thereby increasing our aggregate ownership to 59.85 percent upon closing. The common stock of AquaBounty is traded on the London Stock Exchange and the fair value of our investment in

AquaBounty at June 30, 2014 and December 31, 2013 was $30.9 million and $55.0 million, respectively. The fair value of our investment in AquaBounty as of June 30, 2014 would be approximately $34.0 million and $24.7 million, respectively, based on a hypothetical 10 percent increase or 20 percent decrease in the share price of AquaBounty. The fair value of our investment in AquaBounty as of December 31, 2013 would be approximately $60.5 million and $44.0 million, respectively, based on a hypothetical 10 percent increase or 20 percent decrease in the share price of AquaBounty.

Foreign currency exchange risk

Because the common stock of AquaBounty is traded on the London Stock Exchange, the fair value of our holdings is subject to fluctuations in foreign currency rates. In addition, some of our subsidiaries' assets and current expenses are denominated in foreign currencies. We do not hedge our foreign currency exchange rate risk. The effect of a hypothetical 10 percent change in foreign currency exchange rates applicable to our business would not have a material impact on our consolidated financial statements.

Item 4. Controls and Procedures

Pursuant to Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), we carried out an evaluation, under supervision and with the participation of our management, including our Chief Executive Officer ("CEO"), who is our principal executive officer, and our Chief Financial Officer ("CFO"), who is our principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined under Rule 13a-15(e) and 15(d)-15(e) under the Exchange Act) as of the end of the period covered by this report. Based upon that evaluation, as of the end of the period covered by this report, our CEO and CFO concluded that our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act, is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

There has been no change in our internal control over financial reporting during the quarter ended June 30, 2014, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

We are involved in litigation or legal matters incidental to our business activities. While the outcome of these matters cannot be predicted with certainty, we are vigorously defending them and do not currently expect that any of them will have a material adverse effect on our business or financial position. However, should one or more of these matters be resolved in a manner adverse to our current expectation, the effect on our results of operations for a particular fiscal reporting period could be material.

Item 1A. Risk Factors

As disclosed in "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2013, there are a number of risks and uncertainties that can have a material effect on the operating results of our business and our financial condition. There are no additional material updates or changes to our risk factors since the filing of our Annual Report on Form 10-K for the year ended December 31, 2013, except as follows:

We may encounter difficulties in connection with our acquisition of Trans Ova.

In August 2014 we completed our acquisition of Trans Ova. We cannot be certain that this acquisition will be successful or that we will realize the anticipated benefits of the acquisition. In particular, we may not be able to realize the strategic and operational benefits and objectives we had anticipated. In addition, we may face increased competition in the markets for Trans Ova's products. Any of the following factors may have a material adverse effect on our business, operating results and financial condition. These factors may include:

- The potential disruption of the our ongoing business and diversion of management resources;
- unanticipated expenses related to Trans Ova's operations;
- the impairment of relationships with Trans Ova's customers;
- the impairment of relationships with key suppliers and their ability to meet our demand;
- potential unknown liabilities associated with the acquired business and technology;
- potential liabilities related to litigation involving Trans Ova;
- potential periodic impairment of goodwill and intangible assets acquired; and
- potential inability to retain, integrate and motivate key personnel.

In evaluating our risks, readers should carefully consider this risk factor and the risk factors discussed in our Annual Report on Form 10-K for the year ended December 31, 2013, which could materially affect our business, financial condition or operating results, in addition to the other information set forth in this report and in our other filings with the Securities and Exchange Commission.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(a) Sales of Unregistered Securities

There were no sales of unregistered securities during the period from April 1, 2014 through June 30, 2014.

(b) Use of Proceeds

On August 7, 2013, our registration statement on Form S-1 (File No. 333-189853) was declared effective by the Securities and Exchange Commission for our initial public offering pursuant to which we sold an aggregate of 11,499,998 shares of our common stock (inclusive of 1,499,999 shares of common stock sold by us pursuant to the full exercise of an overallotment option granted to the underwriters in connection with the offering) at a price to the public of $16.00 per share for aggregate gross offering proceeds of approximately $184.0 million. J.P. Morgan Securities LLC and Barclays Capital Inc. acted as joint book-running managers. On August 13, 2013, we closed the

sale of such shares, resulting in net proceeds to us of approximately $168.3 million after deducting underwriting discounts and commissions of approximately $12.9 million and other offering expenses of approximately $2.8 million. No payments were made by us to directors, officers or persons owning ten percent or more of our common stock or to their associates, or to our affiliates. We invested the funds received in cash equivalents and other short-term and long-term investments in accordance with our investment policy. There has been no material change in the planned use of proceeds from our initial public offering as described in our final prospectus, dated August 7, 2013, and filed with the Securities and Exchange Commission on August 8, 2013 pursuant to Rule 424(b).

(c) Issuer Purchases of Equity Securities

Not applicable.

Item 6. Exhibits

Exhibit No.	Description
2.1*	Amended and Restated Membership Interest Purchase Agreement, dated as of August 8, 2014, by and among Intrexon Corporation, Trans Ova Genetics, L.C., the Sellers named on the signature pages thereto, and Pro-Edge, LP., as the Securityholders Representative (Exhibit 2.1 to Intrexon Corporation's Current Report on Form 8-K, filed on August 11, 2014 with the Securities and Exchange Commission)
31.1	Certification of Randal J. Kirk, Chairman and Chief Executive Officer (Principal Executive Officer) of Intrexon Corporation, pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Rick L. Sterling, Chief Financial Officer (Principal Financial Officer) of Intrexon Corporation, pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification of Randal J. Kirk, Chairman and Chief Executive Officer (Principal Executive Officer) of Intrexon Corporation, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2**	Certification of Rick L. Sterling, Chief Financial Officer (Principal Financial Officer) of Intrexon Corporation, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.0**	Interactive Data File (Quarterly Report on Form 10-Q, for the quarterly period ended June 30, 2014, formatted in XBRL (eXtensible Business Reporting Language)). Attached as Exhibit 101.0 to this Quarterly Report on Form 10-Q are the following documents formatted in XBRL: (i) the Consolidated Balance Sheets at June 30, 2014 and December 31, 2013, (ii) the Consolidated Statements of Operations for the three and six months ended June 30, 2014 and 2013, (iii) the Consolidated Statements of Comprehensive Income (Loss) for the three and six months ended June 30, 2014 and 2013, (iv) the Consolidated Statements of Shareholders and Total Equity (Deficit) for the six months ended June 30, 2014 (v) the Consolidated Statements of Cash Flows for the six months ended June 30, 2014 and 2013 and (vi) the Notes to Consolidated Financial Statements. Users of this data are advised pursuant to Rule 406T of Regulation S-T that this interactive data file is deemed not filed or part of a registration statement or prospectus for purposes of sections 11 or 12 of the Securities Act of 1933, is deemed not filed for purposes of section 18 of the Securities and Exchange Act of 1934, and otherwise is not subject to liability under these sections.

* Previously filed.
** Furnished herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Intrexon Corporation
(Registrant)

Date: August 14, 2014

By: /s/ Rick L. Sterling
Rick L. Sterling
Chief Financial Officer
(principal financial and accounting officer)

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Randal J. Kirk, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Intrexon Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) (Paragraph omitted pursuant to SEC Release Nos. 33-8238/34-47986 and 33-8392/34-49313);

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 14, 2014

/s/ RANDAL J. KIRK

Randal J. Kirk
Chairman and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Rick L. Sterling, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Intrexon Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) (Paragraph omitted pursuant to SEC Release Nos. 33-8238/34-47986 and 33-8392/34-49313);

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 14, 2014

/s/ RICK L. STERLING
Rick. L. Sterling
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

I, Randal J. Kirk, Chairman and Chief Executive Officer of Intrexon Corporation (the "Company"), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2014 (Report) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 14, 2014

/s/ RANDAL J. KIRK
Randal J. Kirk
Chairman and Chief Executive Officer
(Principal Executive Officer)

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

I, Rick L. Sterling, Chief Financial Officer of Intrexon Corporation (the "Company"), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2014 (Report) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 14, 2014

/s/ RICK L. STERLING
Rick L. Sterling
Chief Financial Officer
(Principal Financial Officer)

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.