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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, 2018.

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: 001-32188

ORAGENICS, INC.
(Exact name of registrant as specified in its charter)

FLORIDA	**59-3410522**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification No.)**

4902 Eisenhower Blvd., Suite 125
Tampa, Florida 33634
(Address of principal executive offices)

813-286-7900
(Issuer's telephone number)

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 and 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 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, non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition of "accelerated filer", "large accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act (check one):

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

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

Indicate the number of shares outstanding of each of the issuer's classes of common equity, as of the latest practicable date:

As of August 8, 2018, there were 11,837,635 shares of Common Stock, $.001 par value, outstanding.

Note Regarding Reverse Stock Splits

Effective January 19, 2018, we filed an amendment to our Amended and Restated Articles of Incorporation with the Secretary of State of the State of Florida to effect a reverse split of our authorized and outstanding common stock at a ratio of one-for-ten. All historical share and per share amounts reflected in this report have been adjusted to reflect the reverse stock split.

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PART I – FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

Oragenics, Inc.

Balance Sheets

	June 30, 2018 (Unaudited)	December 31, 2017
Assets		
Current assets:		
Cash and cash equivalents	$ 3,940,530	$ 6,166,143
Prepaid expenses and other current assets	1,257,440	1,027,029
Total current assets	5,197,970	7,193,172
Property and equipment, net	10,643	21,659
Total assets	$ 5,208,613	$ 7,214,831
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable and accrued expenses	$ 1,537,121	$ 818,044
Short-term notes payable	20,912	80,478
Total current liabilities	1,558,033	898,522
Shareholders' equity:		
Preferred stock, no par value; 50,000,000 shares authorized; 9,417,000 and 12,000,000 Series A shares, 6,600,000 and 6,600,000 Series B shares, 101.733 and 100 Series C shares issued and outstanding at June 30, 2018 and December 31, 2017, respectively	6,100,182	6,309,608
Common stock, $0.001 par value; 200,000,000 shares authorized 6,102,635 and 4,928,335 shares issued and outstanding at June 30, 2018 and December 31, 2017, respectively	6,103	4,928
Additional paid-in capital	103,404,448	101,402,570
Accumulated deficit	(105,860,153)	(101,400,797)
Total shareholders' equity	3,650,580	6,316,309
Total liabilities and shareholders' equity	$ 5,208,613	$ 7,214,831

See accompanying notes.

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Oragenics, Inc.

Statements of Operations
(Unaudited)

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2018	2017	2018	2017
Operating expenses:				
Research and development	1,271,542	605,411	2,597,783	1,727,872
General and administrative	1,012,007	791,348	1,807,470	1,656,543
Total operating expenses	2,283,549	1,396,759	4,405,253	3,384,415
Loss from continuing operations	(2,283,549)	(1,396,759)	(4,405,253)	(3,384,415)
Other income (expense):				
Interest income	3,254	1,832	6,728	3,767
Interest expense	(664)	(57,865)	(1,501)	(58,666)
Change in value of derivative liability	—	231,644	—	231,644
Local business tax	(330)	(1,200)	(660)	(2,400)
Other income	—	1,361	—	6,508
Total other income, net	2,260	175,772	4,567	180,853
Loss from continuing operations before income taxes	(2,281,289)	(1,220,987)	(4,400,686)	(3,203,562)
Income tax benefit	—	—	—	—
Net loss from continuing operations	$(2,281,289)	$(1,220,987)	$(4,400,686)	$(3,203,562)
Basic and diluted net loss per share from continuing operations	$ (0.38)	$ (0.25)	$ (0.80)	$ (0.65)
Shares used to compute basic and diluted net loss per share from continuing operations	6,028,701	4,928,335	5,509,741	4,924,115
Discontinued operations				
Profit from operations of discontinued component	—	121	—	—
Profit from discontinued operations	—	121	—	—
Basic and diluted net profit per share from discontinued operations	$ —	$ —	$ —	$ —
Shares used to compute basic and diluted net profit per share from discontinued operations	6,028,701	4,928,335	5,509,741	4,924,115
Net Loss	$(2,281,289)	$(1,220,866)	$(4,400,686)	$(3,203,562)
Basic and diluted net loss per share	$ (0.38)	$ (0.25)	$ (0.80)	$ (0.65)
Shares used to compute basic and diluted net loss per share	6,028,701	4,928,335	5,509,741	4,924,115

See accompanying notes.

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Oragenics, Inc.

Statements of Cash Flows
(Unaudited)

	For the Six Months Ended June 30,	
	2018	**2017**
Cash flows from operating activities:		
Net loss	$(4,400,686)	$(3,203,562)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	11,016	35,707
Stock issued as compensation to non-employee directors	24,320	93,828
Stock-based compensation expense	200,310	200,938
Decrease in fair value of derivative liability	—	(231,644)
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(201,496)	(344,656)
Accounts payable and accrued expenses	719,077	(216,119)
Net cash used in operating activities	(3,647,459)	(3,665,508)
Cash flows from financing activities:		
Payments on short-term notes payable	(88,481)	(75,801)
Net proceeds from issuance of common stock and warrants	1,510,327	—
Net proceeds from issuance of convertible preferred stock and warrants	—	1,238,084
Proceeds from issuance of note payable to shareholder	—	2,400,000
Proceeds from payment of stock subscription receivable	—	30,563
Restricted cash (receipts) released, net	—	(1,919,030)
Net cash provided by financing activities	1,421,846	1,673,816
Net decrease in cash and cash equivalents	(2,225,613)	(1,991,692)
Cash and cash equivalents at beginning of period	6,166,143	4,080,618
Cash and cash equivalents at end of period	$ 3,940,530	$ 2,088,926
Supplemental disclosure of cash flow information:		
Interest paid	$ 1,501	$ 1,605
Non-cash investing and financing activities:		
Borrowings under short term notes payable for prepaid expense	$ 28,915	$ 31,985
Par value of restricted stock issued	$ 16	$ 160
Stock dividend on Series C preferred stock	$ 58,670	$ —
Par value of common stock issued in connection with Series A Preferred Stock Conversion	$ 259	$ —
Value of Series A preferred stock converted into common stock	$ 268,096	$ —

See accompanying notes.

Oragenics, Inc.

Notes to Financial Statements
(Unaudited)

1. Organization

Oragenics, Inc. (formerly known as Oragen, Inc.) (the "Company" or "we") was incorporated in November, 1996; however, operating activity did not commence until 1999. We are focused on becoming a leader in developing novel antibiotics against infectious disease and on developing effective treatments for oral mucositis.

2. Basis of Presentation

The accompanying unaudited interim financial statements as of June 30, 2018 and December 31, 2017 (audited) and for the three and six months ended June 30, 2018 and 2017 have been prepared in accordance with accounting principles generally accepted in the United States of America ("US GAAP") for interim financial information and with the instructions to Form 10-Q and Article 8 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by US GAAP for complete financial statements. In the opinion of management, the accompanying financial statements include all adjustments, consisting of normal recurring accruals, necessary for a fair presentation of the financial condition, results of operations and cash flows for the periods presented. The results of operations for the interim period ending June 30, 2018 are not necessarily indicative of the results that may be expected for the year ending December 31, 2018 or any future period.

These financial statements should be read in conjunction with the audited financial statements and notes thereto for the year ended December 31, 2017, which are included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 16, 2018. The Company has incurred recurring losses and negative cash flows from operations since inception. To date, the Company has not generated significant revenues from operations. The Company sold its consumer probiotics business in 2016 and, as a result, has generated $-0- revenues. The Company incurred a net loss of $4,400,686, and used cash of $3,647,459 in its operating activities during the six months ended June 30, 2018. As of June 30, 2018, the Company had an accumulated deficit of $105,860,153.

The Company expects to incur substantial expenditures to further develop each of its technologies. The Company believes the working capital at June 30, 2018, together with its recently completed underwritten public offering (See Note 10) of its equity securities, will be sufficient to meet the business objectives as presently structured through June of 2019. As such, there is substantial doubt that we can continue as a going concern beyond that date.

The Company's ability to continue operations after its current cash resources are exhausted depends on its ability to obtain additional financing or achieve profitable operations, as to which no assurances can be given. Cash requirements may vary materially from those now planned because of changes in the Company's focus and direction of its research and development programs, competitive and technical advances, or other developments. Additional financing will be required to continue operations after the Company exhausts its current cash resources and to continue its long-term plans for clinical trials and new product development. There can be no assurance that any such financing can be realized by the Company, or if realized, what the terms thereof may be, or that any amount that the Company is able to raise will be adequate to support the Company's working capital requirements until it achieves profitable operations.

The Company intends to seek additional funding through sublicensing arrangements, joint venturing or partnering, sales of rights to technology, government grants and public or private financings. The Company's future success depends on its ability to raise capital and ultimately generate revenue and attain profitability. The Company cannot be certain that additional capital, whether through selling additional debt or equity securities or obtaining a line of credit or other loan, will be available to it or, if available, will be on terms acceptable to the Company. If the Company issues additional securities to raise funds, these securities may have rights, preferences, or privileges senior to those of its common stock, and the Company's current shareholders may experience dilution. If the Company is unable to obtain funds when needed or on acceptable terms, the Company may be required to curtail its current development programs, cut operating costs and forego future development and other opportunities.

3. Significant Accounting Policies

Recently Issued Accounting Pronouncements

In June 2018, the Financial Accounting Standards Board issued Accounting Standards Update 2018-07 Compensation—Stock Compensation (Topic 718) Improvements to Nonemployee Share-Based Payment Accounting. The amendments in this Update expand the scope of Topic 718 to include sharebased payment transactions for acquiring goods and services from nonemployees. The requirements of Topic 718 should be applied to nonemployee awards except for specific guidance on inputs to an option pricing model and the attribution of cost (that is, the period of time over which share-based payment awards vest and the pattern of cost recognition over that period). The amendments specify that Topic 718 applies to all share-based payment transactions in which a grantor acquires goods or services to be used or consumed in a grantor's own operations by issuing share-based payment awards. The amendments also clarify that Topic 718 does not apply to share-based payments used to effectively provide (1) financing to the issuer or (2) awards granted in conjunction with selling goods or services to customers as part of a contract accounted for under Topic 606, Revenue from Contracts with Customers.

The amendments in this Update are effective for public business entities for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. The adoption of this guidance is not expected to have a material impact on the Company's results of operation, financial position or disclosures.

In February 2016, the FASB issued guidance to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. Previous lease accounting was criticized for failing to meet the needs of users of financial statements because it did not always provide a faithful representation of leasing transactions. In particular, it did not require lessees to recognize assets and liabilities arising from operating leases on the balance sheet. The guidance is effective for annual and interim periods beginning after December 15, 2018. The adoption of this guidance is not expected to have a material impact on the Company's results of operation, financial position or disclosures.

There are no additional accounting pronouncements issued or effective during the three or six months ended June 30, 2018 that have had, or are expected to have, an impact on our financial statements.

Use of Estimates

The preparation of financial statements in conformity with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. The principal areas of estimation reflected in the financial statements are anticipated milestone payments, stock based compensation, valuation of warrants, and income tax valuation allowance. Inventory obsolescence reserve, sales returns and allowances and the allowance for doubtful accounts were the principal areas of estimation that had been reflected in the financial statements related to discontinued operations.

Stock-Based Payment Arrangements

Generally, all forms of stock-based payments, including stock option grants, warrants, and restricted stock grants are measured at their fair value on the awards' grant date typically using a Black-Scholes pricing model. Stock-based compensation awards issued to non-employees for services rendered are recorded at the fair value of the stock-based payment. The expense resulting from stock-based payments are recorded in research and development expense or general and administrative expense in the statement of operations, depending on the nature of the services provided. Stock-based payment expense is recorded over the requisite service period in which the grantee provides services to us. To the extent the stock option grants, warrants, or restricted stock grants do not vest at the grant date they are subject to forfeiture.

Stock-Based Compensation

US GAAP requires all stock-based payments to employees, including grants of employee stock options, to be recognized in the financial statements based on their fair values as of the grant date. Stock-based compensation expense is recorded over the requisite service period in which the grantee provides services to us, to the extent the options do not vest at the grant date and are subject to forfeiture. For performance-based awards that do not include market-based conditions, we record share-based compensation expense only when the performance-based milestone is deemed probable of achievement. We utilize both quantitative and qualitative criteria to judge whether milestones are probable of achievement. For awards with market-based performance conditions, we recognize the grant-date fair value of the award over the derived service period regardless of whether the underlying performance condition is met.

Warrants

The Company used the Black Scholes Option Pricing Model in calculating the relative fair value of any warrants that have been issued.

Net Loss Per Share

During all periods presented, the Company had securities outstanding that could potentially dilute basic earnings per share in the future but were excluded from the computation of diluted net loss per share, as their effect would have been antidilutive because the Company reported a net loss for all periods presented. Basic and diluted net loss per share amounts are the same for the periods presented. Net loss per share is computed using the weighted average number of shares of common stock outstanding.

Revenue Recognition

During the quarter ended June 30, 2016, the Company sold its consumer probiotic business, from which it had historically generated revenues. As a result of this sale, the Company is no longer generating revenues.

Concentrations

In June of 2016, the Company sold its consumer probiotics business, as such the Company is no longer dependent on key suppliers to continue to operate the consumer probiotics business.

Financial instruments which potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents. The Company maintains cash accounts in commercial banks, which may, at times, exceed federally insured limits. The Company has not experienced any losses in such accounts. The Company believes it is not exposed to any significant credit risk on cash and cash equivalents. As of June 30, 2018, the uninsured portion of this balance was $3,690,530. As of December 31, 2017, the uninsured portion of this balance was $5,916,143.

4. Stock-based Compensation

The Company recognized stock-based compensation on all employee and non-employee awards as follows:

	For the Three Months Ended June 30, 2018	For the Three Months Ended June 30, 2017	For the Six Months Ended June 30, 2018	For the Six Months Ended June 30, 2017
Research and development	$ 9,192	$ 5,643	$ 18,048	$ 12,257
General and administrative	97,114	117,105	206,582	282,509
Total Stock based compensation	$106,306	$122,748	$ 224,630	$ 294,766

At our Annual Meeting of Shareholders held on June 22, 2018, our shareholders approved an amendment to our 2012 Equity Incentive Plan to increase the shares available for awards thereunder by 1,500,000 shares.

The Company granted 128,000 and 128,000 stock options, with a weighted-average grant date fair value of $1.52 and $1.52 per share, during three and six months ended June 30, 2018, respectively. The Company granted 105,600 and 105,600 stock options, with a weighted-average grant date fair value of $3.60 and $3.60 per share, during the three and six months ended June 30, 2017, respectively.

During the six months ended June 30, 2018, 116,199 stock options previously granted have vested and no stock options were forfeited and no stock options were exercised.

On June 22, 2018, in connection with, and in furtherance of, the non-employee director compensation program, the Board approved stock option awards in the amount of 14,000 to each of the Company's non-employee directors, Frederick Telling, Charles Pope, Alan Dunton, and Robert Koski under the Company's 2012 Equity Incentive Plan at an exercise price of $1.52 per share, the closing price on June 22, 2018, the date of the grant.

Also, on June 22, 2018, and in connection with, and in furtherance of, the non-employee director compensation program, the Board approved the award of 4,000 restricted shares of the Company's common stock to each of the Company's non-employee directors, Frederick Telling, Charles Pope, Alan Dunton, and Robert Koski under the Company's 2012 Equity Incentive Plan. Pursuant to the terms of the award, the restricted shares were immediately vested.

In addition, on June 22, 2018, in connection with, and in furtherance of, the equity based award program, the Board approved stock option awards in the amount of 62,000 to management and 10,000 to staff under the Company's 2012 Equity Incentive Plan at an exercise price of $1.52 per share, the closing price on June 22, 2018, the date of the grant.

On June 22, 2017, in connection with, and in furtherance of, the non-employee director compensation program, the Board approved stock option awards in the amount of 14,000 to each of the Company's non-employee directors, Frederick Telling, Charles Pope, Alan Dunton, and Robert Koski under the Company's 2012 Equity Incentive Plan at an exercise price of $3.70 per share, the closing price on June 22, 2017, the date of the grant.

In addition, on June 22, 2017, in connection with, and in furtherance of, the new equity based award program, the Board approved stock option awards in the amount of 45,500 to management and 4,100 to staff under the Company's 2012 Equity Incentive Plan at an exercise price of $3.70 per share, the closing price on June 22, 2017, the date of the grant.

On February 9, 2017, in connection with, and in furtherance of, the non-employee director compensation program, the Board approved the award of 4,000 restricted shares of the Company's common stock to each of the Company's non-employee directors, Frederick Telling, Charles Pope, Alan Dunton, and Robert Koski under the Company's 2012 Equity Incentive Plan, of which, 1,000 restricted shares vested at the end of each calendar quarter in 2017.

Each executive officer and non-employee director receiving equity based awards is subject to a minimum dollar value stock ownership holding requirement with respect to the awards received as well as all prior equity awards under the 2012 Equity Incentive Plan which requirements are intended to align the ability to sell shares with the performance of the Company's stock price. The executive officer recipients each have a minimum dollar value stock ownership holding requirement threshold equal to two times (2x) their then base salaries below which dollar threshold they would be precluded from selling any shares of Company stock obtained from the Company under its 2012 Equity Incentive Plan. Also, the non-employee directors are each subject to a minimum dollar value stock ownership holding requirement threshold equal to six times the annual Board retainer ($270,000) below which dollar threshold they would be precluded from selling shares of Company stock acquired from the Company under its 2012 Equity Incentive Plan.

5. Warrants

On April 6, 2018 (the "Closing Date"), the Company entered into a securities purchase agreement with certain new institutional investors for the purchase and sale of 900,000 shares of the Company's common stock in a registered direct offering. The Company also issued unregistered warrants to the investors in a concurrent private placement to purchase up to an equivalent number of shares of the Company's common stock with an exercise price of $2.00 per share. The warrants are exercisable six months following the Closing Date and will expire five years from the date of issuance. A summary of warrant activity for the year ended December 31, 2017 and the six months ended June 30, 2018 is as follows:

	Warrants	Weighted Average Price
Balance - December 31, 2016	17,559	$ 1.50
Granted	2,177,425	3.10
Exercised	—	—
Expired	(17,559)	1.50
Balance - December 31, 2017	2,177,425	3.10
Granted	900,000	2.00
Exercised	—	—
Expired	—	—
Balance - June 30, 2018	3,077,425	$ 2.78

The warrants outstanding as of June 30, 2018 are as follows:

Exercise Price	Warrants Outstanding	Expiration Date
$ 3.10	48,387	9/19/2022
$ 3.10	462,106	5/10/2024
$ 3.10	602,414	7/25/2024
$ 3.10	1,064,518	11/8/2024
$ 2.00	900,000	4/10/2023
	3,077,425	

6. Short-Term Notes Payable

As of June 30, 2018 and December 31, 2017, the Company had $20,912 and $80,478, respectively, in short-term notes payable for the financing of various insurance policies.

Products Liability Insurance

On March 1, 2016, the Company entered into a short-term note payable for $49,395 bearing interest at 5.93% per annum to finance the product liability insurance. Principal and interest payments on this note began April 10, 2016 and are made evenly based on a straight line amortization over a 10-month period with the final payment being made on January 4, 2017.

On March 10, 2017, the Company entered into a short-term note payable for $31,985 bearing interest at 6.18% per annum to finance the product liability insurance. Principal and interest payments on this note began April 10, 2017 and are made evenly based on a straight line amortization over a 10-month period with the final payment made on January 2, 2018.

On March 10, 2018, the Company entered into a short-term note payable for $28,915 bearing interest at 5.09% per annum to finance the product liability insurance. Principal and interest payments on this note began April 10, 2018 and are made evenly based on a straight line amortization over a 11-month period with the final payment being due on February 10, 2019.

Directors' and Officers' Insurance

On July 24, 2016, the Company entered into a short-term note payable for $111,730 bearing interest at 4.89% to finance a portion of the directors' and officers' liability insurance and employment practices liability insurance premiums. Principal and interest payments on this note began August 24, 2016 and are made evenly based on a straight line amortization over an 11-month period with the final payment made on June 21, 2017.

On July 24, 2017, the Company entered into a short-term note payable for $140,062 bearing interest at 5.09% to finance a portion of the directors' and officers' liability insurance and employment practices liability insurance premiums. Principal and interest payments on this note began August 24, 2017 and are made evenly based on a straight line amortization over an 11-month period with the final payment being made on June 25, 2018.

7. Commitments and Contingencies

The University of Florida Research Foundation Licenses ("UFRF")

UFRF-MU1140 License. In the Company's UFRF amended license agreement for MU1140, the Company is obligated to pay 5% of the selling price of any products developed from the UFRF licensed technology that the Company may sell as royalty to the UFRF. In addition, if the Company sublicenses any rights granted by the amended license agreement, the Company is obligated to pay to the UFRF 22% of all revenues received from the sublicenses, excluding monies received solely for development costs. The Company is also obligated to make the following payments to UFRF as follows: a one-time commercialization fee, post-commercialization minimum royalty payments, and a one-time cumulative royalty payment. The one-time commercialization fee would be due on the first anniversary of first commercial sale and is calculated at $5,000 per month between (1) April 1, 2013 for the MU1140 license agreement and (2) the month of the first anniversary of a commercial sale. The post-commercialization minimum royalty payments of $50,000 annually would be due following payment of a commercialization fee. The one-time additional royalty payment would be due when total cumulative royalties paid to UFRF exceed $2.0 million, upon which we would be obligated to make a one-time additional payment to UFRF of 10% of the total royalties due to UFRF in the calendar year in which cumulative royalties exceeded $2.0 million.

The Company is required to make minimum annual maintenance payments to the UFRF for the term of the amended license agreement in the amount of $10,000 for the license agreement. The aggregate minimum annual payments are required to be paid in advance on a quarterly basis (i.e. $2,500 per quarter) for the license. The Company must also pay all patent costs and expenses incurred by the UFRF for the preparation, filing, prosecution, issuance and maintenance of the patents.

The terms of the UFRF amended license agreement expire upon the earlier of (i) the date that no patents covered by the amended license agreement remain enforceable or (ii) the payment of earned royalties under the amended license agreement, once begun, ceases for more than three calendar quarters. The Company may voluntarily terminate the license agreement upon 90 days written notice to UFRF. UFRF may terminate the amended license agreement if the Company breaches its obligations to timely pay any amounts due under the amended license agreement, to submit development reports as required under the amended license agreement or commit any other breach of any other covenants contained in the amended license agreement and the Company fails to remedy such breach within 90 days after written notice of such breach by UFRF.

Texas A&M License Agreement

Under the terms of the Texas A&M license agreement, the Company made an initial payment of five thousand dollars ($5,000) to Texas A&M. The Company must also pay to Texas A&M a royalty of five percent (5%) of net sales of products that include the licensed technology, subject to royalty stacking provisions with a two percent (2%) minimum royalty. Additionally, in order to maintain the exclusive license, commencing in 2014 and each year thereafter prior to the calendar year of the first sale of products using the licensed technology, the Company was to pay Texas A&M $15,000 as minimum annual consideration for the continuation of the license agreement. In October of 2016 the Texas A&M license agreement was amended to provide for a payment of $25,000 commencing in 2017 and each year thereafter prior to the calendar year of the first sale of products using

the licensed technology, as minimum annual consideration for the continuation of the license agreement. Once the Company commences the sale of products that include the technology the Company licenses from Texas A&M the Company must pay a minimum annual amount of $100,000 to Texas A&M and every year thereafter through the expiration of the Agreement. However, once sales begin, any royalty payments the Company makes on net sales will be credited against the $100,000 required maintenance payment.

The Company must also pay all patent costs and expenses for the preparation, filing, prosecution, issuance and maintenance of the patent rights. Sales by sublicensees are subject to the royalty rate above, and the Company is responsible for certain payments to Texas A&M for any other consideration received that are not in the form of a royalty.

Pursuant to the amended Texas A&M license agreement, the Company is obligated to meet the following milestones and make milestone payments: (i) enrollment of first patient in a Phase 1 clinical trial using the licensed technology, to occur on or before June 1, 2019, with a milestone achievement payment of $50,000, (ii) completion of Phase 2 clinical trial using the licensed technology to occur on or before June 1, 2022, with a milestone achievement payment of $100,000, (iii) completion of Phase 3 clinical trial of the licensed technology to occur on or before June 1, 2025, with a milestone achievement payment of $150,000, and (iv) first sale of the licensed technology to occur on or before June 1, 2026 with a milestone achievement payment of $400,000. If we fail to accomplish the milestones or fail to achieve net sales of products including the licensed technology for two consecutive calendar years Texas A&M at its sole option may waive the requirement, negotiate the missed milestones or terminate the license agreement. None of the Texas A&M milestones had been achieved as of June 30, 2018.

The Lantibiotic ECC

Under the Lantibiotic ECC, and subject to certain exceptions, the Company is responsible for, among other things, funding the further anticipated development of lantibiotics toward the goal of commercialization, conducting nonclinical and clinical development of candidate lantibiotics, as well as for other aspects of manufacturing and the commercialization of the product(s). Among other things, Intrexon is responsible for technology discovery efforts, cell-engineering development, certain aspects of the manufacturing process, and costs of filing, prosecution and maintenance of Intrexon's patents.

In November of 2017 the Lantibiotic ECC was amended to: (i) consolidate the development milestone payments into one payment of $25,000,000, being due six months after receiving FDA approval of a New Drug Application, (ii) reduce the sublicense revenue percentage we would have had to pay from 50% to 25% of sublicensing revenue, (iii) reduce the royalty rate from 25% of Product Profit to 10% of Net Sales, (iv) revise the form of milestone payments from being share based or cash at the Company's election to only cash, and (v) commit that Diligent Efforts (as defined in the Lantibiotic ECC) in pursuing the Lantibiotic Program would be deemed satisfied in 2018 provided that at least $1,200,000 was budgeted for the advancement of the Lantibiotic Program.

In November of 2017, the Stock Issuance Agreement was also amended. Under the terms of the amendment, the Company has agreed to make certain payments, in cash, to Intrexon upon our achievement of designated milestones. The milestone events and amounts payable are as follows:

(i) a one-time payment of twenty five million United States dollars ($25,000,000) within six (6) months of the achievement of the Regulatory Approval Milestone Event meaning receiving approval from the FDA of a New Product Application for an Oragenics Product (or equivalent regulatory action in a foreign jurisdiction);

(ii) a one-time payment of five million United States dollars ($5,000,000) within six (6) months of the achievement of the New Indication Milestone Event meaning receiving approval from the FDA of a Supplemental FDA Application (or an equivalent filing with another equivalent regulatory agency) which Supplemental FDA Application sought approval of an indication for use of the Oragenics Product other than the current regulatory-approved indication; and

(iii) a one-time payment of five million United States dollars ($5,000,000) within six (6) months of the achievement of the New Product Milestone Event meaning receiving approval from the FDA of a New Product Application that is deemed to be a different drug product that the first Oragenics Product that was clinically pursued under the Lantibiotics Program.

Pursuant to the terms of the amendment, we will also pay Intrexon on a quarterly basis 10% of Net Sales derived in that quarter from the sale of products developed from the Lantibiotic ECC, calculated on an Oragenics Product-by-Oragenics Product basis and we will pay Intrexon on a quarterly basis 25% of revenue obtained in that quarter from a sublicensor in the event of a sublicensing arrangement.

On July 21, 2016, the Lantibiotics ECC was amended to revise the definition of Field in view of a provisional patent application filing between Intrexon and Oragenics and to further clarify Oragenics' rights under the Lantibiotic ECC to genetically modified *Streptococcus mutans* that express Lantibiotic(s).

None of the Lantibiotic ECC milestones had been achieved as of June 30, 2018.

The Oral Mucositis ECC

Under the Oral Mucositis ECC, and subject to certain exceptions, the Company is responsible for, among other things, funding the further anticipated development of products toward the goal of commercialization, conducting preclinical and clinical development of candidate products, as well as for other aspects of manufacturing and the commercialization of the product(s). Among other things, Intrexon is responsible for technology discovery efforts, cell-engineering development, and certain aspects of the manufacturing process.

In November of 2017 the Company amended the Oral Mucositis ECC to: (i) consolidate the development milestone payments into one payment of $27,500,000 being due within six months after receiving FDA approval of a New Product Application; (ii) reduce the sublicense revenue percentage from 50% to 25% of sublicensing revenue; and (iii) revise the field in which the Company has exclusive rights to its Oral Mucositis product candidate for the treatment of Oral Mucositis to clarify that the Company has an exclusive for the treatment of Oral Mucositis in humans regardless of etiology.

Pursuant to the terms of the Oral Mucositis ECC, as amended, we are obligated to pay Intrexon on a quarterly basis 12% of the net sales derived from the sale of products developed from the exclusive channel collaboration. We are also obligated to pay Intrexon on a quarterly basis, 25% of revenue obtained in that quarter from a sublicensor in the event of a sublicensing arrangement.

In November of 2017, the Stock Issuance Agreement and Oral Mucositis ECC were amended. Under the terms of the amendment, the Company has agreed to make certain payments to Intrexon upon our achievement of designated milestones in the form of shares of our Common Stock (based upon the fair market value of the shares otherwise required to be issued) unless the issuance of such shares would reasonably likely cause Intrexon to consolidate our financial statements with Intrexon's financial statements, or at our option make a cash payment to Intrexon. The milestone events and amounts payable are as follows:

(i) a one-time payment of twenty seven million five hundred thousand United States dollars ($27,500,000) within six (6) months of the achievement of the Regulatory Approval Milestone Event meaning receiving approval from the FDA of a New Product Application for an Oragenics Product (or equivalent regulatory action in a foreign jurisdiction);

(ii) a one-time payment of five million United States dollars ($5,000,000) within six (6) months of the achievement of the New Indication Milestone Event meaning receiving approval from the FDA of a Supplemental FDA Application (or an equivalent filing with another equivalent regulatory agency) which Supplemental FDA Application sought approval of an indication for use of the Oragenics Product other than the current regulatory-approved indication; and

(iii) a one-time payment of five million United States dollars ($5,000,000) within six (6) months of the achievement of the New Product Milestone Event meaning receiving approval from the FDA of a New Product Application that is deemed to be a different drug product that the first Oragenics Product that was clinically pursued under the Program.

None of the Oral Mucositis ECC milestones had been achieved as of June 30, 2018.

The Oral Mucositis ECC provides that in the event (i) Oragenics is required to make a milestone payment in cash as an issuance of shares would cause Intrexon to consolidate the Company's financial statements with Intrexon's financial statements, and (ii) Oragenics reasonably concludes that a cash milestone payment would have an adverse effect on its working capital needs over the next twelve (12) months, then such cash payment shall be in the form of an interest bearing promissory note with a maturity date of less than twelve (12) months and include other conventional market terms that would not be expected to unreasonably have an adverse effect on Oragenics working capital needs over such twelve (12) month period.

8. Related Party Transactions

During the three and six months ended June 30, 2018, we paid $89,216 and $159,233; and during the three and six months ended June 30, 2017 we paid $-0- and $524,620 respectively, to Intrexon under the Oral Mucositis and Lantibiotic ECC agreements (See Note 7). Included in accounts payable and accrued expenses at June 30, 2018 and December 31, 2017 was $142,333 and $39,457, respectively, related to unpaid invoices received from Intrexon relating to work performed under the ECC Agreements. As of June 30, 2018 and 2017 Intrexon beneficially owned approximately 25.4% and 31.4% of our outstanding common stock.

On June 27, 2016, the Company completed the sale of its consumer probiotics business to ProBiora Health, LLC ("ProBiora Health"), an entity owned by Ms. Christine L. Koski, a director at the time of the transaction. The purchase price was

$1,700,000 in cash of which $1,250,000 was paid at closing and $450,000 was payable on or before July 31, 2016. The note accrued interest at the rate of 1% per annum and was paid in full on July 29, 2016. In connection with the sale, ProBiora Health assumed certain liabilities. ProBiora Health is obligated to pay the Company contingent consideration annually over a 10 year period based on a percentage of sales of products using the Purchased Assets, with a maximum obligation to the Company of $2,000,000. No such payment of contingent consideration was due to the Company from ProBiora Health for the years ending December 31, 2017 and December 31, 2016.

The activities related to the consumer probiotic business are reflected as part of "Discontinued Operations" for the applicable period presented.

9. Shareholders Equity

Common Stock

Increase in the Number of Authorized Shares and Completion of Reverse Stock Split

In January of 2017, we filed an amendment to our Amended and Restated Articles of Incorporation which increased the number of authorized shares of all classes of our capital stock from 120,000,000 shares to 270,000,000 shares by increasing the number of authorized shares of common stock from 100,000,000 shares of common stock to 250,000,000 shares of common stock. The amendment to our Amended and Restated Articles of Incorporation was previously approved by a majority of our shareholders. In addition, a majority of shareholders approved an amendment to our Amended and Restated Articles of Incorporation to effect a reverse stock split of our common stock by a ratio of not less than one-for-five and not more than one-for-ten, with the exact number to be set at a whole number within this range to be determined by our board of directors in its sole discretion and to authorize our board of directors to implement the reverse stock split at any time on or prior to December 31, 2017 by filing an amendment to our Amended and Restated Articles of Incorporation. No such reverse stock split occurred prior to December 31, 2017.

In December of 2017, we filed another amendment to our Amended and Restated Articles of Incorporation which increased the number of authorized shares of our common stock from 250,000,000 shares to 450,000,000. The amendment to our Amended and Restated Articles of Incorporation was previously approved by a majority of our shareholders. In addition, a majority of shareholders approved an amendment to our Amended and Restated Articles of Incorporation to effect a reverse stock split of our common stock by a ratio of not less than one-for-five and not more than one-for-ten, with the exact number to be set at a whole number within this range to be determined by our board of directors in its sole discretion and to authorize our board of directors to implement the reverse stock split at any time on or prior to December 31, 2018 by filing an amendment to our Amended and Restated Articles of Incorporation.

On January 8, 2018, the Company announced a reverse split of its common stock, $0.001 par value, at a ratio of one-for-ten, which became effective January 19, 2018. The Company's common stock began trading on a split-adjusted basis on January 22, 2018 under the existing trading symbol "OGEN".

As a result of the reverse split, each 10 pre-split shares of common stock outstanding were automatically combined into one new share of common stock without any action on the part of the holders, and the number of outstanding common shares was reduced from approximately 49 million shares to approximately 4.9 million shares. The reverse split also applied to common stock issuable upon the exercise of the Company's outstanding stock options. In addition, the Company also announced that the authorized common stock of the Company was decreased from 450 million to 45 million shares. The authorized preferred stock remains at 50,000,000 shares. The common stock issued pursuant to the reverse stock split will remain fully paid and non-assessable. The reverse stock split did not affect the par value of the common stock.

No fractional shares were issued as a result of the reverse stock split. Shareholders who otherwise would be entitled to a fractional share because they hold a number of shares not evenly divisible by the one-for-ten reverse split ratio, were automatically entitled to receive an additional fractional share of the Company's common stock to round up to the next whole share.

On March 9, 2018, a holder of 2,583,000 shares of the Company's Series A Convertible Preferred Stock, converted the Series A Convertible Preferred Stock into 258,300 shares of the Company's common stock.

On April 6, 2018, the Company entered into a securities purchase agreement with certain investors pursuant to which the Company agreed to issue and sell, in a registered offering by the Company directly to the investors, an aggregate of 900,000 shares of the Company's common stock, par value $0.001 per share, at an offering price of $2.00 per share. In a concurrent private placement, the Company agreed to issue to the investors who participated in the registered offering, warrants exercisable for one share of common stock for each share purchased in the registered offering for an aggregate of warrants to purchase 900,000 shares of common stock at an exercise price of $2.00 per share. Each warrant is exercisable beginning on the six-month anniversary of the date of its issuance and will expire five years from the date of issuance.

At our Annual Meeting of Shareholders held on June 22, 2018, our shareholders approved an amendment to the Company's Amended and Restated Articles of Incorporation which increased the number of authorized shares of our Common Stock from 45,000,000 shares of Common Stock to 200,000,000 shares of Common Stock.

Also, on June 22, 2018, and in connection with, and in furtherance of, the non-employee director compensation program, the Board approved the award of 4,000 restricted shares of the Company's common stock to each of the Company's non-employee directors, Frederick Telling, Charles Pope, Alan Dunton, and Robert Koski under the Company's 2012 Equity Incentive Plan. Pursuant to the terms of the award, the restricted shares were immediately vested.

On February 9, 2017, in connection with and in furtherance of the new equity based award program (See Note 4), the Board approved the award of 4,000 restricted shares of the Company's common stock to each of the Company's non-employee directors, Frederick Telling, Charles Pope, Alan Dunton, and Robert Koski under the Company's 2012 Equity Incentive Plan of which a total of 1,000 restricted shares vested at the end of each of the four quarters in 2017. The awards are considered issued and outstanding as of the date of the grant and are eligible to be voted by the recipient. At June 30, 2017, the Company had $29,372 in unrecognized compensation expense relating to these awards that was recognized through the remainder of 2017.

Preferred Stock

Series A Non-Voting Convertible Preferred Stock Financing

On May 10, 2017 we entered into a securities purchase agreement with three accredited investors, to purchase up to $3,000,000 of Series A Convertible Preferred Stock (the "Series A Preferred Stock Financing"). The sale of the Preferred Stock took place in two separate closings and at the first closing which occurred on May 10, 2017, we received gross proceeds of approximately $1,302,000. The second closing occurred on July 25, 2017 and we received gross proceeds of approximately $1,698,000, which was the balance of the Preferred Stock Financing. The full $3,000,000 of Preferred Stock, and after giving effect to the reverse stock split, is convertible into 1,200,001 shares of our Common Stock, based on a fixed conversion price of $2.50 per share on an as-converted basis. In addition, and after giving effect to the reverse stock split, we issued warrants to purchase an aggregate of 462,106 shares of Common Stock at the first closing and we issued an aggregate of 602,414 shares of Common Stock at the second closing (the "Series A Warrants"). The Series A Warrants have a term of seven years from the date of issuance are non-exercisable until 6 months after issuance, and after giving effect to the reverse stock split, have an exercise price of $3.10 per share. Proceeds from the Series A Preferred Stock Financing (including the exercise of any warrants for cash) will be used for general corporate purposes, including working capital.

On July 27, 2017, we entered into an agreement to amend the warrants issued in connection with the Series A Preferred Stock Financing to provide notification and objection requirements with respect to the change of control provisions. The change of control provisions in the warrants had previously caused the warrants to be treated as a derivative liability as opposed to being treated as equity on our balance sheet. The warrants have been replaced by amended and restated warrants containing such notification and objection requirements (the "Amended and Restated Common Stock Purchase Warrants") so that the Amended and Restated Common Stock Purchase Warrants are now treated as equity on our balance sheet. All other terms of the original warrants remain unchanged by the Amended and Restated Common Stock Purchase Warrants.

In connection with the Series A Preferred Financing, we filed a Certificate of Designations of Preferences, Rights and Limitations of Series A Preferred Stock with the Secretary of State of the State of Florida, to be effective May 10, 2017. The number of shares of Preferred Stock designated as Series A Preferred Stock is 12,000,000 and have a par value of $0.001 per share.

In connection with the issuance and sale of the Series A Preferred Stock and Series A Warrants, we granted certain demand registration rights and piggyback registration rights with respect to the shares of our Common Stock issuable upon conversion of the Preferred Stock and exercise of the Warrants, pursuant to a Registration Rights Agreement.

Except as otherwise required by law, the Series A Preferred Stock shall have no voting rights. However, as long as any shares of Series A Preferred Stock are outstanding, we shall not, without the affirmative vote of the holders of a majority of the then outstanding shares of the Series A Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series A Preferred Stock or alter or amend the Certificate of Designation, (b) amend its articles of incorporation or other charter documents in any manner that adversely affects any rights of the holders of Series A Preferred Stock, (c) increase the number of authorized shares of Series A Preferred Stock, or (d) enter into any agreement with respect to any of the foregoing. Upon any liquidation, dissolution or winding-up by us, whether voluntary or involuntary that is not a Fundamental Transaction (as defined in the Certificate of Designation), the holders of Series A Preferred Stock shall be entitled to receive out of the assets, the greater of (i) the product of the number of shares of Series A Preferred Stock then held by such holder, multiplied by the Original Issue Price; and (ii) the amount that would be payable to such holder in the Liquidation in respect of Common Stock issuable upon conversion of such shares of Series A Preferred Stock if all outstanding shares of Series A Preferred Stock were converted into Common Stock immediately prior to the Liquidation. The Series A Preferred Stock is classified as permanent equity.

On March 9, 2018, a holder of 2,583,000 shares of the Company's Series A Convertible Preferred Stock, converted the Series A Convertible Preferred Stock into 258,300 shares of the Company's common stock.

Series B Non-Voting, Convertible Preferred Stock Financing

On November 8, 2017, we completed a private placement of $3,300,000 of Series B Non-Voting, Convertible Preferred Stock (the "Series B Convertible Preferred Stock") pursuant to a Securities Purchase Agreement with four existing shareholders who are accredited investors including an entity affiliated with a director of the Company (the "Series B Preferred Stock Financing").

The full $3,300,000 of Series B Convertible Preferred Stock is convertible, after giving effect to the reverse stock split, into 1,320,002 shares of our Common Stock, based on a conversion of one share of Series B Preferred Stock into two shares of Common Stock. The purchase price per share of the Series B Preferred Stock is represented by $2.50 per share of the Common Stock on an as converted basis. In addition, and after giving effect to the reverse stock split, we issued to the investors in the private placement accompanying common stock purchase warrants to purchase an aggregate of 1,064,518 shares of Common Stock (the "Series B Warrants"). The Series B Warrants have a term of seven years from the date of issuance and are non-exercisable until six (6) months after issuance, and after giving effect to the reverse stock split, have an exercise price of $3.10 per share.

In connection with the Series B Preferred Financing, we filed a Certificate of Designation and Rights of Series B Convertible Preferred Stock with the Secretary of State of the State of Florida, to be effective November 8, 2017. The number of shares of Preferred Stock designated as Series B Preferred Stock is 6,600,000 and have a par value of $0.001 per share.

Except as otherwise required by law, the Series B Preferred Stock shall have no voting rights. However, as long as any shares of Series B Preferred Stock are outstanding, we shall not, without the affirmative vote of the holders of a majority of the then outstanding shares of the Series B Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series B Preferred Stock or alter or amend the Certificate of Designation, (b) amend its articles of incorporation or other charter documents in any manner that adversely affects any rights of the holders of Series B Preferred Stock, (c) increase the number of authorized shares of Series B Preferred Stock, or (d) enter into any agreement with respect to any of the foregoing.

The Series B Preferred Stock shall rank (i) on par with the Common Stock and Series A Preferred Stock and junior to Series C Preferred Stock as to dividend rights and (ii) junior to Series C Preferred Stock, on par with Series A Preferred Stock and senior to the Common Stock as to distribution of assets upon liquidation, dissolution or winding-up by us, whether voluntary or involuntary.

Upon any liquidation, dissolution or winding-up by us, whether voluntary or involuntary, the holders of Series B Preferred Stock shall be entitled to receive out of the assets, after payment to the Series C Preferred Stock but on par with the Series A Preferred Stock and in preference to the holders of the Common Stock, an amount of cash equal to the greater of (i) the product of the number of shares of Series B Preferred Stock then held by such holder, multiplied by the Original Issue Price; and (ii) the amount that would be payable to such holder in the Liquidation in respect of Common Stock issuable upon conversion of such shares of Series B Preferred Stock if all outstanding shares of Series B Preferred Stock were converted into Common Stock immediately prior to the Liquidation. The Series B Preferred Stock is classified as permanent equity.

Series C Non-Voting, Non- Convertible Preferred Stock Financing Intrexon Debt Conversion

Concurrently with the Series B Preferred Stock Financing, we also entered into a Debt Conversion Agreement (the "Intrexon Debt Conversion Agreement") with Intrexon Corporation ("Intrexon") pursuant to which Intrexon exchanged the $2,400,000 unsecured non-convertible promissory note previously issued by us to Intrexon (the "Intrexon Note"), the accrued interest on the Intrexon Note and trade payables owed by us (collectively the "Debt") in the aggregate amount of approximately $3,400,000 for equity in the form of 100 shares of Series C, Non-Voting, Non-Convertible Preferred Stock (the "Series C Preferred Stock") issued by us to Intrexon pursuant to the Debt Conversion Agreement which 100 shares have a stated value equal to the amount of the Debt.

In connection with the Intrexon Debt Conversion Agreement, we filed a Certificate of Designation and Rights of Series C Non-Convertible Preferred Stock with the Secretary of State of the State of Florida, to be effective November 8, 2017. The number of shares of Preferred Stock designated as Series C Preferred Stock is 1,000 and have a par value of $0.001 per share.

Each issued and outstanding share of Series C Preferred Stock entitles the holder of record to receive dividends at the annual rate of twelve percent (12%) (the "Initial Rate") of its Stated Value, payable by issuing additional shares of Series C Preferred Stock within thirty days after the end of each calendar year pro-rata for partial years. The Initial Rate shall be subject to increase to twenty percent (20%) automatically after May 10, 2019. On January 25, 2018 we paid a dividend on our Series C Preferred Stock to Intrexon of 1.733 shares for the portion of the 2017 fiscal year the Series C Preferred Stock was outstanding.

10. Subsequent Event

On July 17, 2018, the Company announced the closing of an underwritten public offering (the "Public Offering") of units for gross proceeds of approximately $13.8 million, which includes the full exercise of the underwriter's over-allotment option to purchase additional shares and warrants, prior to deducting underwriting discounts and commissions and offering expenses payable by the Company.

The Public Offering was comprised of Class A Units, priced at a public offering price of $1.00 per unit, with each unit consisting of one share of common stock and a seven-year warrant to purchase one share of common stock with an exercise price of $1.00 per share (each, a "Warrant" and collectively, the "Warrants"), and Class B Units, priced at a public offering price of $1.00 per unit, with each unit comprised of one share of series D preferred stock (the "Series D Preferred Stock"), which is convertible into one share of common stock, and a Warrant. The conversion price of the Series D Preferred Stock issued in the transaction as well as the exercise price of the Warrants are fixed and do not contain any variable pricing features or any price based anti-dilutive features. The Series D Preferred Stock issued in this transaction includes a beneficial ownership blocker but has no dividend rights (except to the extent that dividends are also paid on the common stock), liquidation preference or other preferences over common stock, and, with certain exceptions, has no voting rights. The securities comprising the units were immediately separable and have been issued separately.

The Conversion Price of the Series D Preferred Stock and exercise price of the warrants is subject to appropriate adjustment in the event of recapitalization events, stock dividends, dilutive issuances, stock splits, stock combinations, reclassifications, reorganizations or similar events affecting the Company's common stock.

A total of 4,436,000 shares of common stock, 9,364,000 shares of Series D Preferred Stock convertible into 9,364,000 shares of common stock, and total warrants to purchase 13,800,000 shares of common stock were issued in the Public Offering inclusive of the underwriters exercise of their over-allotment option to purchase 1,800,000 shares of common stock and warrants to purchase 1,800,000 shares of common stock at the Public Offering price per share less the underwriting discounts and commissions.

Prior to the closing of the Public Offering, certain purchasers elected to convert shares of Series D Preferred Stock into shares of Common Stock. Following the completion of the Public Offering and the conversion of these shares, the Company had outstanding 8,760,000 shares of Series D Preferred Stock.

The net proceeds to the Company from the Public Offering, after deducting Underwriter fees and expenses and the Company's estimated Public Offering expenses, and excluding the proceeds, if any, from the exercise of the Warrants issued in the Public Offering, was approximately $12.3 million. The Company anticipates using the net proceeds from this Public Offering to continue funding development of AG013, our ongoing Phase II clinical trial for the treatment of Oral Mucositis, our pre-clinical development of our lantibiotics program and for general corporate purposes, including research and development activities, capital expenditures and working capital.

The following table sets forth the Company's Total Shareholders' Equity position as of June 30, 2018, as adjusted on a *pro forma* basis to reflect the recently completed underwritten Public Offering:

Oragenics, Inc.
Pro Forma Shareholder's Equity
(U.S. dollars)

Total Shareholders' Equity as of June 30, 2018	**$ 3,650,580**
Net Proceeds from July 17, 2018 Public Offering	**12,300,000**
Pro forma Total Shareholders' Equity, as of June 30, 2018, as adjusted	**$15,950,580**

In connection with the Public Offering, the Company filed a Certificate of Designation of Preferences, Rights and Limitations of the Series D Preferred Stock on July 13, 2018, with the Secretary of State of the State of Florida which became effective upon filing. The Certificate of Designation provides for the issuance of the shares of Series D Preferred Stock. With certain exceptions, the shares of Series D Preferred Stock rank on par with the shares of the Common Stock, in each case, as to dividend rights and distributions of assets upon liquidation, dissolution or winding up of the Company.

With certain exceptions, as described in the Certificate of Designation, the shares of Series D Preferred Stock have no voting rights. However, as long as any shares of Series D Preferred Stock remain outstanding, the Certificate of Designation provides that the Company shall not, without the affirmative vote of holders of a majority of the then outstanding shares of Series D Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Preferred Stock or alter or amend this Certificate of Designation, (b) amend its certificate of incorporation or other charter documents in any manner that adversely affects any rights of the Holders, (c) increase the number of authorized shares of Preferred Stock, or (d) enter into any agreement with respect to any of the foregoing.

Each share of Series D Preferred Stock is convertible at any time at the holder's option into a number of shares of Common Stock equal to one share divided by the Conversion Price. The "Conversion Price" is initially $1.00, subject to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions as specified in the Certificate of Designation. Notwithstanding the foregoing, the Certificate of Designation further provides that the Company shall not effect any conversion of the shares of Series D Preferred Stock, with certain exceptions, to the extent that, after giving effect to an attempted conversion, the holder of shares of Series D Preferred (together with such holder's affiliates and any persons acting as a group together with such holder or any of such holder's affiliates) would beneficially own a number of shares of Common Stock in excess of 4.99% of the shares of Common Stock then outstanding (or, upon election by a Holder prior to the issuance of and Warrants, 9.99%). At the holder's option, upon notice to the Company, the holder may increase or decrease this beneficial ownership limitation not to exceed 9.99% of the shares of Common Stock then outstanding, with any such increase becoming effective upon 61 days' prior notice to the Company.

Additionally, subject to certain exceptions and limitations, at any time prior to the three year anniversary of the issuance of the Series D Preferred Stock, the Company will have the right to cause each holder of the Series D Preferred Stock to convert all or part of such holder's Series D Preferred Stock in the event that (i) the volume weighted average price of our common stock for each of 30 consecutive

trading days exceeds $3.00 (subject to adjustment for stock splits, recapitalizations, stock dividends and similar transactions), (ii) the average daily trading volume for such measurement period exceeds $175,000 per trading day and (iii) the holder is not in possession of any information that constitutes or might constitute, material non-public information which was provided by the Company. The description of the Series D Preferred Stock is qualified by reference to the Certificate of Designation filed with our Form 8-K on July 17, 2018.

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ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following information should be read in conjunction with the Financial Statements, including the notes thereto, included elsewhere in this Form 10-Q.

Forward-Looking Statements

This 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended. Such forward-looking statements include statements regarding, among other things, (a) our need for and availability of working capital, (b) our financing plans, (c) our strategies, (d) our projected sales and profitability, (e) anticipated trends in our industry. Forward-looking statements, which involve assumptions and describe our future plans, strategies, and expectations, are generally identifiable by use of the words "may," "will," "should," "expect," "anticipate," "estimate," "believe," "intend," or "project" or the negative of these words or other variations on these words or comparable terminology. This information may involve known and unknown risks, uncertainties, and other factors that may cause our actual results, performance, or achievements to be materially different from the future results, performance, or achievements expressed or implied by any forward-looking statements. These statements may be found under "Management's Discussion and Analysis of Financial Condition and Results of Operations as well as in this 10-Q generally. Actual events or results may differ materially from those discussed in forward-looking statements as a result of various factors, including, without limitation, the risks outlined under "Risk Factors" in our Form 10-K and in this 10-Q. In light of these risks and uncertainties, there can be no assurance that the forward-looking statements contained in this filing will in fact occur. In addition to the information expressly required to be included in this filing, we will provide such further material information, if any, as may be necessary to make the required statements, in light of the circumstances under which they are made, not misleading.

Overview

We are focused on becoming a leader in developing novel antibiotics against infectious disease and on developing effective treatments for oral mucositis.

Our Oral Mucositis Product Candidate-Clinical

In June of 2015, we entered into a worldwide Exclusive Channel Collaboration Agreement ("Oral Mucositis ECC") with Intrexon Corporation ("Intrexon") and Intrexon Actobiotics NV, a wholly-owned subsidiary of Intrexon, pursuant to which we obtained certain exclusive rights to AG013 as a potential treatment of oral mucositis, or OM for cancer patients, which we intend to continue to develop. AG013, is an oral rinsing solution designed to deliver human Trefoil Factor 1 (hTFF1) to protect and regenerate damaged mucosal lining of the oral cavity.

OM results in a painful inflammation and mucosal ulceration in the lining of the oral cavity, throat and esophagus and is one of the most commonly reported adverse events associated with cancer chemotherapy. Approximately 770,000 patients annually in the US are at an increased risk of developing OM according to cancer statistics provided by the Center for Disease Control (CDC) in 2017. OM has a negative effect on patient well-being and if severe, negatively affects adherence to a patient's cancer treatment regimen. At present, we are not aware of any drug that is approved to prevent the condition broadly and current therapies are primarily palliative in nature, only addressing symptom relief but not treating the underlying causes of the condition.

In a Phase 1b clinical trial in 25 cancer patients with OM, AG013 was safe and well tolerated. Data published in the journal Cancer showed a 35% reduction of the duration of ulcerative OM in the AG013-treated patients versus the placebo-treated patients. Furthermore, close to 30% of the patients treated with AG013 were full responders while all placebo-treated patients developed ulcerative OM. Additionally, in a Phase 1 pharmacokinetic (PK) study in 10 healthy volunteers, AG013 bacteria adhered to the buccal mucosa and actively secrete protein locally, resulting in homogeneous exposure of the entire mucosal surface up to 24 hours after administration of the rinse. During the first quarter of 2016, we conducted a confirmatory animal study on AG013. AG013 has been granted Orphan Drug status in the European Union. In November of 2016, the United States Food and Drug Administration (the "FDA") granted Fast Track designation for AG013, and we believe it may be eligible for Biologic License Application exclusivity as well.

We have developed a Phase 2 protocol for AG013 with the FDA under the fast track designation. The study is a double blind, placebo controlled, evaluation of daily AG013, administered three times a day, oral rinse for the duration of the cancer treatment. The study is expected to enroll between 160-180 evaluable patients receiving chemoradiation for treatment of head and neck cancer for 7 to 9 weeks. The primary endpoint is a reduction, compared to the placebo, in the number of days of severe oral mucositis. In addition, a number of secondary endpoints are being evaluated**.** In August of 2016, we received feedback from the FDA in response to our Type C meeting and the pursuit of a Phase 2 trial on AG013 for the treatment of oral mucositis in head and neck cancer patients. We filed an Investigational New Drug ("IND") update in March 2017 and we initiated the Phase 2 study with AG013 in the United States in 2017 with the expectation that we will expand the trial into Europe in 2018 upon sufficient financing being available to us. The Phase 2 trial is a double-blind, placebo-controlled, 2-arm, multi-center trial in which approximately 200 patients will be randomized in a 1:1 ratio to receive either a placebo or AG013. The clinical trial will be conducted at approximately 45 clinical sites across the United States and Europe. The purpose of the Phase 2 study (NCT03234465) is to evaluate the efficacy, safety and tolerability of topically administered AG013 compared to placebo for reducing the incidence and severity of OM in patients undergoing traditional chemoradiation for the treatment of head and neck cancer. Key efficacy measures include collection of data regarding the duration, time to development, and overall incidence of OM (World Health Organization scale used) during the active treatment phase, beginning from the start of chemoradiation therapy until 2 weeks following its completion.

We completed enrollment of the interim analysis cohort , which included 24 randomized patients in our Phase 2 clinical trial of AG013 for the treatment OM. Nineteen of those patients were included in the unblinded safety evaluation, of which 10 received AG013. We recently announced positive results from our interim safety analysis, which was requested by the FDA on patients from our Phase 2 clinical trial of AG013 for the treatment of OM. The study provided information that, we believe, likely indicates that the overall incidence of severe OM is less than would be anticipated in the general population.

Safety was evaluated on the basis of treatment-emergent adverse events, vital signs, weight, physical examinations, clinical laboratory assessments and the presence of AG013 in whole blood. Tolerability measures (taste, consistency and smell) were collected from the patient diaries. In addition, the reasons for study treatment discontinuation were also summarized. Following review of the data by an independent Data Safety Monitoring Board (DSMB), it was concluded that the clinical trial can proceed with no changes to the study. The data analysis indicated that the distribution of adverse events were similar between AG013 and placebo. The serious adverse events reported were consistent with those commonly reported in a head and neck cancer population receiving traditional chemoradiation therapy treatments and included fevers, neutropenia, anemia, nausea and vomiting, infections and oral (mouth and throat) pain. There were no reports of bacteremia or sepsis. Of patients that discontinued participation in the clinical study, 4 patients experienced adverse events, including 3 patients who developed nausea and vomiting, 2 patients that were non-compliant with the study procedures and 3 patients developed severe OM.

Given the clearance by the DSMB, we are proceeding with patient enrollment for our AGO13 clinical trial, including the addition of clinical sites in the U.S. and Europe. We expect to report top-line results of the completed phase 2 trial in late 2019.

Our Antibiotic Product Candidate-Preclinical

Members of our scientific team discovered that a certain bacterial strain produces MU1140, a molecule belonging to the novel class of antibiotics known as lantibiotics. Lantibiotics, such as MU1140, are highly modified peptide antibiotics made by a small group of Gram positive bacterial species. Approximately 60 lantibiotics have been discovered, to date. We believe lantibiotics are generally recognized by the scientific community to be potent antibiotic agents.

In nonclinical testing, MU1140 has shown activity against all Gram positive bacteria against which it has been tested, including those responsible for a number of healthcare associated infections, or HAIs. A high percentage of hospital-acquired infections are caused by highly resistant bacteria such as methicillin-resistant Staphylococcus aureus (MRSA) or multidrug-resistant Gram-negative bacteria. We believe the need for novel antibiotics is increasing as a result of the growing resistance of target pathogens to existing FDA approved antibiotics on the market.

Lantibiotics have been difficult to investigate for their clinical usefulness as therapeutic agents in the treatment of infectious diseases due to a general inability to produce or synthesize sufficient quantities of pure amounts of these molecules. Traditional fermentation methods can only produce minute amounts of the lantibiotic.

In June 2012, we entered into the Lantibiotic Exclusive Channel Collaboration agreement (“Lantibiotic ECC”) with Intrexon for the development and commercialization of the native strain of MU1140 and related homologs using Intrexon’s advanced transgene and cell engineering platforms. Through our work with Intrexon, we have been able to produce a significant increase in the fermentation titer of MU1140 compared to standard fermentation methods and have discovered a new purification process for MU1140. Our work with Intrexon generated a substantial number of homologs of MU1140, and we are continuing our research and development and collaboration efforts with Intrexon to develop potential derivatives of the MU1140 molecule using genetically modified bacteria.

In our pre-clinical studies to support a potential IND filing with the FDA, we tested a total of six homologs of MU1140 for certain compound characteristics, including but not limited to: drug activity (based on minimum inhibitory concentration or “MIC”) equal or better than “standard of care” drugs against certain drug-resistant bacteria, safety, toxicity, stability, and manufacturability. An animal study specifically evaluated homolog efficacy in relation to survival, measurable amounts of *Clostridium difficile (“C. diff”)* colony forming units, and toxin levels. Three homologs demonstrated promising results with one homolog, OG253 achieving a 100% survival rate throughout the entire study in contrast to an approximately 30% survival rate for the vancomycin positive control.

Based on these early results, we selected a lead candidate, OG253, for which we had a pre IND meeting with the FDA in November of 2015 regarding the pursuit of an IND for OG253. Following additional research and development on second generation lantibiotics, in August of 2016, we opted to select a second generation lantibiotic, OG716, for treatment of *C. diff* as our new lead candidate. OG716 is a new, orally-active homolog, that has exhibited positive results in an animal model for potential treatment of *C. diff* . Generated from our MU1140 platform, this new lantibiotic showed promising efficacy in reducing clinically relevant *C. diff* infections as measured by increased animal survival and decreased relapse as well as reduced production of toxins A & B and *C. diff* spores when compared to a vancomycin positive control.

The timing of the filing of an IND regarding OG716 is subject to our having sufficient available capital given all of our anticipated needs and expected requirements in connection with our ongoing research and development initiatives. We currently expect the IND for a first-in-human clinical study of OG716 to be filed with the FDA based on our ability to complete the requisite studies, contingent on sufficient funding.

Other Product Candidates and Technologies.

In addition to our lantibiotics and oral mucositis product candidates, we also have other candidates and technologies in the oral care and weight loss areas. We do not intend to continue to develop these potential product candidates and technologies without partnering with a third party. We out-licensed the continued research and development of our weight loss product candidate in December 2013 to, LPThera LLC, and LPThera LLC continues to work to develop a product for commercial use. Our oral care product candidate SMaRT Replacement Therapy is positioned for out-licensing opportunities.

Recent Developments

Completed Underwritten Public Offering. On July 17, 2018, we announced the closing of an underwritten public offering of units for gross proceeds of approximately $13.8 million, which includes the full exercise of the underwriter's over-allotment option to purchase additional shares and warrants, prior to deducting underwriting discounts and commissions and offering expenses payable by us. The offering was comprised of Class A Units, priced at a public offering price of $1.00 per unit, with each unit consisting of one share of common stock and a seven-year warrant to purchase one share of common stock with an exercise price of $1.00 per share (each, a "Warrant" and collectively, the "Warrants"), and Class B Units, priced at a public offering price of $1.00 per unit, with each unit comprised of one share of series D preferred stock (the "Series D Preferred Stock"), which is convertible into one share of common stock, and a Warrant. The conversion price of the Series D Preferred Stock issued in the transaction as well as the exercise price of the Warrants are fixed and do not contain any variable pricing features or any price based anti-dilutive features. The Series D Preferred Stock issued in this transaction includes a beneficial ownership blocker but has no dividend rights (except to the extent that dividends are also paid on the common stock), liquidation preference or other preferences over common stock, and, with certain exceptions, has no voting rights. The securities comprising the units were immediately separable and have been issued separately. A total of 4,436,000 shares of common stock, 9,364,000 shares of Series D Preferred Stock convertible into 9,364,000 shares of common stock, and total warrants to purchase 13,800,000 shares of common stock were issued in the public offering inclusive of the underwriters exercise of their over-allotment option to purchase 1,800,000 shares of common stock and warrants to purchase 1,800,000 shares of common stock at the public offering price per share less the underwriting discounts and commissions. The net proceeds to the Company from the public offering, after deducting Underwriter fees and expenses and the Company's estimated public offering expenses, and excluding the proceeds, if any, from the exercise of the Warrants issued in the public offering, was approximately $12.3 million.

Amended our Articles of Incorporation. On June 22, 2018, our shareholders approved an amendment to our Amended and Restated Articles of Incorporation to increase the number of authorized shares of our common stock from 45,000,000 shares to 200,000,000 and such amendment became effective on June 25, 2018. The purpose of the increase in the number of authorized shares of our common stock is to provide flexibility in connection with our future financing efforts.

Amended our 2012 Equity Incentive Plan. On June 22, 2018, our shareholders approved an amendment to our 2012 Equity Incentive Plan (the "Plan") to increase the number of authorized shares of our common stock from 750,000 shares to 2,250,000 and such. The purpose of the increase in the number of authorized shares available under the Plan was to provide flexibility in connection with making awards, which is vital to our ability to attract and retain outstanding and highly skilled individuals in the extremely competitive labor markets in which we must compete.

We Reported Positive Interim Safety Analysis Results From our Phase 2 Clinical Trial of AG013 for Oral Mucositis. On May 30, 2018 we announced positive results from its interim safety analysis as requested by FDA on patients from its Phase 2 clinical trial of AG013 for the treatment of OM. Following review of the interim data by an independent Data Safety Monitoring Board (DSMB), it was concluded that the clinical trial can proceed with no changes to the study. The study also provided information that, we believe, likely indicates that the overall incidence of severe OM is less than would be anticipated in the general population. In addition, the DSMB concluded that the overall profile of adverse events were similar between AG013 and placebo and the serious adverse events reported were consistent with those commonly seen in a head and neck cancer population receiving traditional chemoradiation.

Completed Registered Direct Offering and Private Placement. On April 6, 2018, we entered into a securities purchase agreement with certain investors pursuant to which we agreed to issue and sell, in a registered offering by the us directly to the investors, an aggregate of 900,000 shares of our common stock, par value $0.001 per share, at an offering price of $2.00 per share. In a concurrent private placement, we agreed to issue to the investors who participated in the registered offering, warrants exercisable for one share of common stock for each share purchased in the registered offering for an aggregate of warrants to purchase 900,000 shares of common stock at an exercise price of $2.00 per share. Each warrant is exercisable beginning on the six-month anniversary of the date of its issuance and will expire five years from the date of issuance.

Consummated a Reverse Stock Split. On January 19, 2018 we effected a one for ten reverse stock split of our authorized and outstanding common stock, by filing Articles of Amendment to our Articles of Incorporation. As a result of the reverse stock split (i) proportionate adjustments have been made to the per share exercise price and/or the number of shares issuable upon the exercise or vesting of all stock options and warrants issued by us and outstanding immediately prior to the effective time, which resulted in a proportionate decrease in the number of shares of our common stock reserved for issuance upon exercise or vesting of such stock options and warrants, and, in the case of stock options and warrants, a proportionate increase in the exercise price of all such stock options and warrants; (ii) proportionate adjustments have been made to the conversion price applicable to outstanding shares of Series A and Series B Convertible Preferred Stock; (iii) the number of shares authorized for future grant under our equity incentive/compensation plans immediately prior to the effective time was also reduced proportionately; and (iv) the number of authorized shares of common stock was reduced from 450,000,000 shares to 45,000,000 shares, provided however, such authorized shares were subsequently increased by the amendment to our Article of Incorporation dated June 22, 2018 referenced above.

About Us

We were incorporated in November 1996 and commenced operations in 1999. We consummated our initial public offering in June 2003. We have devoted substantially all of our available resources to our discovery efforts comprising research and development, clinical trials for our product candidates, protection of our intellectual property and the general and administrative support of these operations. We have generated limited revenues from grants and from our former consumer ProBiora3 product business through June 30, 2016 and have principally funded our operations through the sale of debt and equity securities, including the exercise of warrants issued in connection with financing transactions. In June of 2016, we completed the sale of our consumer probiotics business to ProBiora Health, LLC and as a result, we will no longer generate revenue from sales of consumer probiotic products.

As of June 30, 2018, we had an accumulated deficit of $105,860,153 and we have yet to achieve profitability. We incurred net losses of $4,400,686 and $3,203,562 for the six months ended June 30, 2018 and June 30, 2017, respectively, and $6,731,525 and $7,013,304 for the years ended December 31, 2017 and 2016, respectively. We expect to incur significant and increasing operating losses for the foreseeable future as we seek to advance our product candidates through preclinical testing and clinical trials to ultimately obtain regulatory approval and eventual commercialization. We will need to raise additional capital. Adequate additional funding may not be available to us on acceptable terms, or at all. We expect that research and development expenses will increase along with general and administrative costs, as we seek to grow and continue to operate our business. Our net revenues were $0 and $464,048, for the years ended December 31, 2017 and 2016, respectively.

Financial Overview

Research and Development Expenses

Research and development consists of expenses incurred in connection with the discovery and development of our product candidates. These expenses consist primarily of employee-related expenses, which include salaries and benefits and attending science conferences; expenses incurred under our ECC agreements with Intrexon and under other agreements with contract research organizations, investigative sites and consultants that conduct our clinical trials and a substantial portion of our nonclinical studies; the cost of acquiring and manufacturing clinical trial materials; facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities and equipment, and depreciation of fixed assets; license fees, for and milestone payments related to, in-licensed products and technology; stock-based compensation expense; and costs associated with nonclinical activities and regulatory approvals. We expense research and development costs as incurred.

Our research and development expenses can be divided into (i) clinical research, and (ii) nonclinical research and development activities. Clinical research costs consist of clinical trials, manufacturing services, regulatory activities and related personnel costs, and other costs such as rent, utilities, depreciation and stock-based compensation. Nonclinical research and development costs consist of our research activities, nonclinical studies, related personnel costs and laboratory supplies, and other costs such as rent, utilities, depreciation and stock-based compensation and research expenses we incur associated with our ECC agreements with Intrexon. While we are currently focused on advancing our product development programs, our future research and development expenses will depend on the clinical success of our product candidates, as well as ongoing assessments of each product candidate's commercial potential. In addition, we cannot forecast with any degree of certainty which product candidates may be subject to future collaborations, when such arrangements will be secured, if at all, and to what degree such arrangements would affect our development plans, research expenses and capital requirements.

Our research and development expenses were $2,597,783 and $1,727,872 for the six months ended June 30, 2018 and 2017, respectively.

Our current strategy is to increase our research and development expenses in the future as we continue the advancement of our clinical trials and nonclinical product development programs for our lantibiotic product candidate and with respect to our oral

mucositis product candidate. The lengthy process of completing clinical trials; seeking regulatory approval for our product candidates; and expanding the claims we are able to make, requires expenditure of substantial resources. Any failure or delay in completing clinical trials, or in obtaining regulatory approvals, could cause a delay in generating product revenues and cause our research and development expenses to increase and, in turn, have a material adverse effect on our operations. Our current product candidates are not expected to be commercially available until we are able to obtain regulatory approval from the FDA.

Our plan is to budget and manage expenditures in research and development such that they are undertaken in a cost-effective manner yet still advance the research and development efforts. While we have some control under our Lantibiotic ECC and Oral Mucositis ECC as to the planning and timing of the research and development and therefore the timing of when expenditures may be incurred for various phases of agreed upon projects, actual expenditures can vary from period to period. Subject to available capital, we expect overall research and development expenses to increase as a result of the expected initiation of our Phase 2b clinical trial on our oral mucositis product candidate as our financial resources permit. Our research and development projects are currently expected to be taken to the point where they can be licensed or partnered with larger pharmaceutical companies.

General and Administrative Expenses

General and administrative expenses consist principally of salaries and related costs for personnel in executive, finance, and administrative functions. Other general and administrative expenses include facility costs not otherwise included in research and development expenses, patent filing, and professional fees for legal, consulting, auditing and tax services.

We anticipate that our general and administrative expenses may continue to increase for, among others, the following reasons:

- support our research and development activities, which, subject to available capital, we expect to expand as we continue the development of our product candidates;
- efforts we undertake from, time to time, to raise additional capital; and
- increased payroll, and stock based compensation, expanded infrastructure and higher consulting, legal, accounting and investor relations costs associated with being a public company.

Other Income (Expense)

Other income (expense) includes local business taxes, as well as interest income and expense. Interest income consists of interest earned on our cash and cash equivalents, and interest earned on the stock subscription receivable. The primary objective of our investment policy is capital preservation. Interest expense consists primarily of interest and costs associated with our indebtedness.

Income Taxes

As of December 31, 2017, we have net operating loss carryforwards of approximately $93,966,000 to offset future federal and state income taxes. We also have research and development tax credit carryforwards of approximately $2,016,000 as of December 31, 2017 to offset future federal and state income taxes. Our net operating loss and research and development tax credit carryforwards will expire if not used by 2037 and 2027, respectively. Our ability to utilize our net operating loss and tax credit carryforwards may be limited in the event a change in ownership, as defined in Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, has occurred or may occur in the future. The private placement transaction with the KFLP in June 2009 (the “June 2009 Private Placement”) constituted such an event and our historical loss carryforwards up to such point in time were limited. Furthermore, our transactions with Intrexon during 2013 constituted a second such event, and our historical loss carryforwards up to December 2013 were further limited. See “Tax Loss Carryforwards.” In each period since our inception, we have recorded a 100% valuation allowance for the full amount of our deferred tax asset, as the realization of the deferred tax asset is uncertain. As a result, we have not recorded any federal tax benefit in our statements of operations.

Results of Operations for the Three Months Ended June 30, 2018 and 2017

Research and Development. Research and development expenses were $1,271,542 for the three months ended June 30, 2018 compared to $605,411 for the three months ended June 30, 2017, an increase of $666,131or 110.0%. This increase was primarily due to increases in costs associated with work under the ECC’s of $742,147. This increase was partially offset by decreases in salary and salary related costs associated with research and development and patent costs of $46,252 and $27,611, respectively.

General and Administrative. General and administrative expenses were $1,012,007 for the three months ended June 30, 2018 compared to $791,348 for three months ended June 30, 2017, an increase of $220,659 or 27.9%. This increase was primarily due to increases in salary and salary related costs, filing fees and registration costs, and legal costs of $146,600, $64,285, and $28,206, respectively. These increases were partially offset by a decrease in consulting costs of $20,396.

Other Income. Other income, net was $2,260 for the three months ended June 30, 2018 compared to $175,772 for the three months ended June 30, 2017, resulting in a net change of $173,512. The net change was primarily attributable to a net change in derivative liabilities of $231,644 which was partially offset by a decrease in interest expense of $57,201.

Discontinued Operations. On June 22, 2016, we sold the assets constituting our consumer probiotic business and as such have accounted for such business as a discontinued operation. Profit from discontinued operations was $-0- for the three months ended June 30, 2018 compared to $121 for the three months ended June 30, 2017, resulting in a net change of $(121).

Results of Operations for the Six Months Ended June 30, 2018 and 2017

Research and Development. Research and development expenses were $2,597,783 for the six months ended June 30, 2018 compared to $1,727,872 for the six months ended June 30, 2017, an increase of $869,911 or 50.3%. This increase was primarily due to increases in costs associated with work under the ECC's of $1,145,951. This increase was partially offset by decreases in salary and salary related costs associated with research and development, insurance, and patent costs of $254,388, $10,758, and $9,237, respectively.

General and Administrative. General and administrative expenses were $1,807,470 for the six months ended June 30, 2018 compared to $1,656,543 for the six months ended June 30, 2017, an increase of $150,927 or 9.1%%. This increase was primarily due to increases in salary and salary related costs, legal, filing fees and registration costs, transfer agent costs, and accounting costs of $129,111, $48,965, $26,523, $20,211, and $15,225, respectively. These increases were partially offset by decreases in stock based compensation, depreciation, and consulting costs of $39,656, $24,690, and $21,712, respectively.

Other Income. Other income, net was $4,567 for the six months ended June 30, 2018 compared to $180,853 for the six months ended June 30, 2017, resulting in a net change of $176,286. The net change was primarily attributable to a net change in derivative liabilities of $231,644 which was partially offset by a decrease in interest expense of $57,165.

Discontinued Operations. On June 22, 2016, we sold the assets constituting our consumer probiotic business and as such have accounted for such business as a discontinued operation. Profit from discontinued operations was $-0- for the six months ended June 30, 2018 compared to $-0- for the six months ended June 30, 2017, resulting in a net change of $-0-.

Liquidity and Capital Resources

Since our inception, we have funded our operations primarily through the sale of equity securities in our initial public offering, the sale of equity securities and warrants in private placements, debt financing, warrant exercises, public offerings, and grants. During the six months ended June 30, 2018 and June 30, 2017, our operating activities used cash of $3,647,459 and $3,665,508, respectively. The use of cash in all periods primarily resulted from our net losses adjusted for non-cash items and changes in operating assets and liabilities. We had a working capital surplus of $3,639,937 and $6,294,650 at June 30, 2018 and December 31, 2017, respectively.

During the six months ended June 30, 2018 and June 30, 2017, our investing activities used cash of $-0- and $-0-, respectively.

During the six months ended June 30, 2018 and June 30, 2017, our financing activities used cash of $1,421,846 and $1,673,816, respectively. The cash used by financing activities during the six months ended June 30, 2018 and June 30, 2017 was primarily due to the reductions in short term notes payable offset by the settlement of the stock subscription receivable.

Financing

Additional details of our financing activities for the periods reflected in this report are provided below:

The May 2017 Series A Preferred Stock Financing

On May 10, 2017 we entered into a securities purchase agreement with three accredited investors, to purchase up to $3,000,000 of Series A Convertible Preferred Stock (the "Series A Preferred Stock Financing"). The sale of 1,200,000 shares of Series A Preferred Stock took place in two separate closings and at the first closing which occurred on May 10, 2017, we received gross proceeds of approximately $1,302,000. The second closing occurred on July 25, 2017 and we received gross proceeds of approximately $1,698,000, which was the balance of the Preferred Stock Financing. The Series A Preferred Stock is convertible into 1,200,000 shares of our Common Stock. The purchase price per share of the Series A Preferred Stock is represented by $2.50 per share of the Common Stock on an as converted basis. In addition, we issued to the investors in the private placement accompanying common stock purchase warrants to purchase an aggregate of 1,064,520 shares of Common Stock (the "Series A Warrants"). The Series A Warrants have a term of seven years from the date of issuance and are non-exercisable until six (6) months after issuance and have an exercise price of $3.10 per share. Proceeds from the Preferred Stock Financing (including the exercise of any warrants for cash) will be used for general corporate purposes, including working capital.

In connection with the issuance and sale of the Series A Preferred Stock and Warrants, we granted certain demand registration rights and piggyback registration rights with respect to the shares of our Common Stock issuable upon conversion of the Series A Preferred Stock and exercise of the Warrants, pursuant to a Registration Rights Agreement.

Except as otherwise required by law, the Series A Preferred Stock shall have no voting rights. However, as long as any shares of Series A Preferred Stock are outstanding, we shall not, without the affirmative vote of the holders of a majority of the then outstanding shares of the Series A Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series A Preferred Stock or alter or amend the Certificate of Designation, (b) amend its articles of incorporation or other charter documents in any manner that adversely affects any rights of the holders of Series A Preferred Stock, (c) increase the number of authorized shares of Series A Preferred Stock, or (d) enter into any agreement with respect to any of the foregoing. Upon any liquidation, dissolution or winding-up by us, whether voluntary or involuntary that is not a Fundamental Transaction (as defined in the Certificate of Designation), the holders of Series A Preferred Stock shall be entitled to receive out of the assets, the greater of (i) the product of the number of shares of Series A Preferred Stock then held by such holder, multiplied by the Original Issue Price; and (ii) the amount that would be payable to such holder in the Liquidation in respect of Common Stock issuable upon conversion of such shares of Series A Preferred Stock if all outstanding shares of Series A Preferred Stock were converted into Common Stock immediately prior to the Liquidation.

The May 2017 Intrexon Debt Financing and ECC Amendment

On May 10, 2017, concurrently with the above referenced Series A Preferred Stock Financing, we entered into Note Purchase Agreement with Intrexon pursuant to which the Company issued a $2,400,000 unsecured non-convertible promissory note to Intrexon (the "Intrexon Note") and amended the first milestone in our Oral Mucositis exclusive channel collaboration agreement (the "May Oral Mucositis ECC Amendment") with Intrexon. The Intrexon Note matured in two (2) years and has a simple interest rate of 12% per annum. Proceeds from the Intrexon Note will be used to fund our AG013 research and clinical trials. In addition to, and as part of the Intrexon Note, we amended the first milestone payment on the Oral Mucositis ECC from a $2,000,000 payment upon first dosing of a patient to a $3,000,000 payment upon the earlier of (a) dosing of the last patient, in a Phase 2 clinical trial, and (b) the twenty four (24) month anniversary of the dosing of the first patient in the Phase 2 clinical trial. Simultaneously with the amendment to the Oral Mucositis ECC a similar amendment was put in place with respect to our Stock Issuance Agreement with Intrexon reflecting the milestone amendment. The Intrexon Note, including accrued and unpaid interest, was subsequently repaid in November 2017 through the issuance of Series C Preferred Stock (see below).

The November 2017 Series B Preferred Stock Financing

On November 8, 2017, we completed a private placement of $3,300,000 of Series B, Non-Voting, Convertible Preferred Stock (the "Series B Preferred Stock") pursuant to a Securities Purchase Agreement with four existing shareholders who are accredited investors including, the Koski Family Limited Partnership, an entity affiliated with a director of the Company, (the "Series B Preferred Stock Financing").

The full $3,300,000 of Series B Preferred Stock is convertible into 1,320,000 shares of our Common Stock. The purchase price per share of the Series B Preferred Stock is represented by $2.50 per share of the Common Stock on an as converted basis. In addition, we issued to the investors in the private placement accompanying common stock purchase warrants to purchase an aggregate of 1,064,518 shares of Common Stock (the "Series B Warrants"). The Series B Warrants have a term of seven years from the date of issuance and are non-exercisable until six (6) months after issuance and have an exercise price of $3.10 per share.

The Series C Preferred Stock Issuance and Intrexon Debt Conversion

Concurrently with the Series B Preferred Stock Financing, we entered into a Debt Conversion Agreement (the "Intrexon Debt Conversion Agreement") with Intrexon pursuant to which Intrexon exchanged amounts owed by us to Intrexon under the Intrexon Note, and trade payables in the aggregate amount of approximately $3,400,000 for equity in the form of 100 shares of Series C, Non-Voting, Non-Convertible, Redeemable Preferred Stock (the "Series C Preferred Stock") issued by us to Intrexon pursuant to the Debt Conversion Agreement.

Each issued and outstanding share of Series C Preferred Stock entitles the holder of record to receive dividends at the annual rate of twelve percent (12%) (the "Initial Rate") of its Stated Value, payable by issuing additional shares of Series C Preferred Stock within thirty days after the end of each calendar year pro-rata for partial years. The Initial Rate shall be subject to increase to twenty percent (20%) automatically, after May 10, 2019, if the Series C Preferred Stock is not earlier redeemed by us. On January 25, 2018 we paid a dividend on our Series C Preferred Stock to Intrexon of 1.733 shares of additional Series C Preferred Stock for the portion of 2017 the Series C Preferred Stock was outstanding.

The April 6, 2018 Registered Direct Offering and Private Placement.

On April 6, 2018, we entered into a securities purchase agreement with certain investors pursuant to which we agreed to issue and sell, in a registered offering by the us directly to the investors, an aggregate of 900,000 shares of our common stock, par value $0.001 per share, at an offering price of $2.00 per share. In a concurrent private placement, we agreed to issue to the investors who participated in the registered offering, warrants exercisable for one share of common stock for each share purchased in the registered offering for an aggregate of warrants to purchase 900,000 shares of common stock at an exercise price of $2.00 per share. Each warrant is exercisable beginning on the six-month anniversary of the date of its issuance and will expire five years from the date of issuance.

The July 17, 2018 Underwritten Public Offering

On July 17, 2018, we announced the closing of an underwritten public offering of units for gross proceeds of approximately $13.8 million, which includes the full exercise of the underwriter's over-allotment option to purchase additional shares and warrants, prior to deducting underwriting discounts and commissions and offering expenses payable by us.

The offering was comprised of Class A Units, priced at a public offering price of $1.00 per unit, with each unit consisting of one share of common stock and a seven-year warrant to purchase one share of common stock with an exercise price of $1.00 per

share (each, a "Warrant" and collectively, the "Warrants"), and Class B Units, priced at a public offering price of $1.00 per unit, with each unit comprised of one share of series D preferred stock (the "Series D Preferred Stock"), which is convertible into one share of common stock, and a Warrant. The conversion price of the Series D Preferred Stock issued in the transaction as well as the exercise price of the Warrants are fixed and do not contain any variable pricing features or any price based anti-dilutive features. The Series D Preferred Stock issued in this transaction includes a beneficial ownership blocker but has no dividend rights (except to the extent that dividends are also paid on the common stock), liquidation preference or other preferences over common stock, and, with certain exceptions, has no voting rights. The securities comprising the units were immediately separable and have been issued separately.

A total of 4,436,000 shares of common stock, 9,364,000 shares of Series D Preferred Stock convertible into 9,364,000 shares of common stock, and total warrants to purchase 13,800,000 shares of common stock were issued in the offering inclusive of the underwriters exercise of their over-allotment option to purchase 1,800,000 shares of common stock and warrants to purchase up to an additional 1,800,000 shares of common stock at the public offering price per share less the underwriting discounts and commissions.

Other Financings

We enter into short term financing arrangements for the payment of our annual insurance premiums for our products liability insurance and directors and officers and employment practices insurance.

On March 10, 2018, we entered into a short-term note payable for $28,915 bearing interest at 5.09% per annum to finance the product liability insurance. Principal and interest payments on this note began April 10, 2018 and are made evenly based on a straight line amortization over a 11-month period with the final payment being due on February 10, 2019.

On March 10, 2017, we entered into a short-term note payable for $31,985 bearing interest at 6.18% per annum to finance the product liability insurance. Principal and interest payments on this note began April 10, 2017 and such payments are to be made evenly based on a straight line amortization over a 10-month period with the final payment being made on January 2, 2018.

On March 1, 2016, the Company entered into a short-term note payable for $49,395 bearing interest at 5.93% per annum to finance the product liability insurance. Principal and interest payments on this note began April 10, 2016 and were made evenly based on a straight line amortization over a 10-month period with the final payment being made on January 4, 2017.

On July 24, 2017, we entered into a short-term note payable for $140,062 bearing interest at 5.09% to finance a portion of the directors' and officers' liability insurance and employment practices liability insurance premiums. Principal and interest payments on this note began August 24, 2017 and such payments are to be made evenly based on a straight line amortization over an 11-month period with the final payment being made on June 25, 2018.

On July 24, 2016, we entered into a short-term note payable for $111,730 bearing interest at 4.89% per annum to finance a portion of the directors' and officers' liability insurance and employment practices liability insurance premiums. Principal and interest payments on this note begin August 24, 2016 and are made evenly based on a straight line amortization over an 11-month period with the final payment being made on June 21, 2017.

Future Capital Requirements

Our capital requirements for the remainder of 2018 and into 2019 will depend on numerous factors, including the success of our research and development, the resources we devote to develop and support our technologies and our success in pursuing strategic licensing and funded product development relationships with external partners. Subject to our ability to raise additional capital including through possible joint ventures and/or partnerships, we expect to incur substantial expenditures to further commercialize or develop our technologies including continued increases in costs related to research, nonclinical testing and clinical studies, as well as costs associated with our capital raising efforts and being a public company. We will require substantial funds to conduct research and development and nonclinical and Phase 1 and Phase 2 clinical testing of our licensed, patented technologies and to develop sublicensing relationships for the Phase 2 and 3 clinical testing and manufacture and marketing of any products that are approved for commercial sale. Our plans include seeking both equity and debt financing, alliances or other partnership agreements with entities interested in our technologies, or other business transactions that would generate sufficient resources to ensure continuation of our operations and research and development programs.

We believe our current available cash and cash equivalents, including the net proceeds from our recently completed public offering, will allow us to fund our operating plan through June 2019. We expect to continue to seek additional funding for our operations. Any such required additional capital may not be available on reasonable terms, if at all. If we were unable to obtain additional financing, we may be required to reduce the scope of, delay or eliminate some or all of our planned clinical testing, research and development activities, which could harm our business. The sale of additional equity or debt securities may result in additional dilution to our shareholders. If we raise additional funds through the issuance of debt securities or preferred stock, these securities could have rights senior to those of our common stock and could contain covenants that would restrict our operations. We also will require additional capital beyond our currently forecasted amounts. For example, as we continue to work with Intrexon under the Lantibiotic ECC for the development of MU1140 homologs and in our Oral Mucositis ECC including the currently pending clinical trial, we will require additional capital.

Because of the numerous risks and uncertainties associated with research, development and clinical testing of our product candidates, we are unable to estimate the exact amounts of our working capital requirements. Our future funding requirements will depend on many factors, including, but not limited to:

- the pace of patient enrollment in our clinical trial of AG013;
- the number and characteristics of the product candidates we pursue;
- the scope, progress, results and costs of researching and developing our product candidates, and conducting nonclinical and clinical trials including the research and development expenditures we expect to make in connection with our collaboration agreements with Intrexon;
- the timing of, and the costs involved in, obtaining regulatory approvals for our product candidates;
- our ability to maintain current research and development licensing agreements and to establish new strategic partnerships, licensing or other arrangements and the financial terms of such agreements;
- our ability to achieve our milestones under our ECC agreements and licensing arrangements and the payment obligations we may have;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims, including litigation costs and the outcome of such litigation; and
- the timing, receipt and amount of sales of, or royalties on, our products and future products, if any.

We have based our estimates on assumptions that may prove to be wrong. We may need to obtain additional funds sooner or in greater amounts than we currently anticipate. Potential sources of financing include strategic relationships, public or private sales of our shares or debt and other sources. We may seek to access the public or private equity markets when conditions are favorable due to our long-term capital requirements. We do not have any committed sources of financing at this time, and it is uncertain whether additional funding will be available when we need it on terms that will be acceptable to us, or at all. If we raise funds by selling additional shares of common stock or other securities convertible into common stock, the ownership interest of our existing stockholders will be diluted. If we are not able to obtain financing when needed, we may be unable to carry out our business plan. As a result, we may have to significantly limit our operations and our business, financial condition and results of operations would be materially harmed.

Critical Accounting Estimates and Policies

Our discussion and analysis of our financial condition and results of operations are based upon our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America ("US GAAP"). The preparation of financial statements in accordance with US GAAP requires us to make estimates and assumptions that affect reported amounts and related disclosures. We consider an accounting estimate to be critical if it requires assumptions to be made that were uncertain at the time the estimate was made; and changes in the estimate or different estimates that could have been made could have a material impact on our results of operations or financial condition. The principal areas of estimation reflected in the financial statements are anticipated milestone payments, stock based compensation, valuation of warrants, and income tax valuation allowance. Inventory obsolescence reserve, sales returns and allowances and allowance for doubtful accounts were the principal areas of estimation that had been reflected in the financial statements related to discontinued operations. For a detailed discussion of our critical accounting estimates, see our Annual Report on Form 10-K for the year ended December 31, 2017. There have been no material changes to our critical accounting estimates during the three and six months ended June 30, 2018.

Recently Issued Accounting Pronouncements

There are no accounting pronouncements issued or effective during the three and six months ended June 30, 2018 that have had or are expected to have an impact on our financial statements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Oragenics, Inc. is a smaller reporting company as defined by Rule 12b-2 of the Securities and Exchange Act of 1934 and is not required to provide the information required under this item.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Management's evaluation of the effectiveness of the Company's disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act was performed under the supervision and participation of our senior management, including our Chief Executive Officer and Chief Financial Officer. The purpose of disclosure controls and procedures is to ensure that information required to be disclosed in the reports filed or submitted 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 management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosures. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of the end of such period, our disclosure controls and procedures were effective as of June 30, 2018 in ensuring that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported with the time periods specified in the Securities and exchange Commission's rules and forms.

Changes in Internal Controls over Financial Reporting

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has concluded there were no significant changes in our internal controls over financial reporting that occurred during our last fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our Disclosure Controls and internal controls will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management or board override of the control.

The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

PART II – OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We are not a party to any pending legal proceeding that is not in the ordinary course of business or otherwise material to our financial condition or business.

ITEM 1A. RISK FACTORS

In addition to the other information set forth in this Form 10-Q, you should carefully consider the factors discussed in Part I, Item 1A, subsection "Risk Factors" of our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 which could materially affect our business, financial condition or future results of operations. The risks described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 are not the only risks that we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also materially adversely affect our business, financial condition and future results of operations. The following information updates, and should be read in conjunction with, the risk factors previously disclosed in Item 1A, subsection "Risk Factors" to Part I of our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 filed on February 16, 2018. Except as set forth below, there have been no material changes to the risk factors previously disclosed under the caption "Risk Factors" in our Annual Report on Form 10-K.

Risks Related to Our Business

We have incurred significant losses since our inception and expect to continue to experience losses for the foreseeable future.

We have incurred significant net losses and negative cash flow in each year since our inception, including net losses of approximately and $4.4 million and $3.2 million for the six months ended June 30, 2018 and June 30, 2017, respectively, and approximately $6.7 million and $7.0 million for the years ended December 31, 2017, and 2016, respectively. As of June 30, 2018 our accumulated deficit was approximately $105.9 million. We have devoted a significant amount of our financial resources to research and development, including our nonclinical development activities and clinical trials. We expect that the expenses associated with our anticipated clinical trial for our oral mucositis product candidate to increase. We expect the costs associated with our exclusive channel partnerships with Intrexon in the areas of lantibiotics ("Lantibiotics Program") and Oral Mucositis ("Oral Mucositis Program") and the development and commercialization of our product candidates under the Lantibiotics Program (which includes MU1140 homologs) using Intrexon's advanced transgene and cell engineering platforms will also continue to increase and as such the level of our overall expenses will increase significantly going forward. As a result, we expect to continue to incur substantial net losses and negative cash flow for the foreseeable future. These losses and negative cash flows have had, and will continue to have, an adverse effect on our shareholders' equity and working capital. Because of the numerous risks and uncertainties associated with product development and commercialization, we are unable to accurately predict the timing or amount of substantial expenses or when, or if, we will be able to generate the revenue necessary to achieve or maintain profitability.

We will need to raise additional capital in the future to complete the development and commercialization of our product candidates and operate our business.

Developing and commercializing biopharmaceutical products, including conducting nonclinical studies and clinical trials and establishing manufacturing capabilities, is expensive. We anticipate that our cash resources as of June 30, 2018, together with our recently completed underwritten public offering of our equity securities, will be sufficient to fund our operations as presently structured through June 2019. However, changes may occur that would consume our existing capital prior to that time, including the scope and progress of our efforts to develop and commercialize our product candidates. Our actual costs may ultimately vary from our current expectations, which could materially impact our use of capital and our forecast of the period of time through which our financial resources will be adequate to support our operations. Our current cash, cash equivalents and short-term investments are not sufficient to fully implement our business strategy and sustain our operations over a longer period of time. Accordingly, we will need to seek additional sources of financing and such additional financing may not be available on favorable terms, if at all. Until we can generate a sufficient amount of product revenue, if ever, we expect to finance future cash needs through public or private equity offerings, debt financings or corporate collaboration and licensing arrangements. If we do not succeed in raising additional funds on acceptable terms, we may be unable to complete existing nonclinical and planned clinical trials or obtain approval of our product candidates from the FDA and other regulatory authorities. We expect capital outlays and operating expenditures to increase over the next several years as we expand our infrastructure, and research and development activities. Specifically, we will need to raise additional capital to, among other things:

- continue to conduct our phase 2 clinical trial on our AG013 product candidate;
- expand our clinical laboratory operations;
- fund our clinical validation study activities;
- expand our research and development activities;
- acquire or license products or technologies; and
- finance our capital expenditures and general and administrative expenses.

Our present and future funding requirements will depend on many factors, including:

- the level of research and development investment required to develop our current and future product candidates;
- costs of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights;
- our need or decision to acquire or license complementary technologies or acquire complementary businesses;
- changes in test development plans needed to address any difficulties in product candidate selection for commercialization;
- competing technological and market developments;
- our interaction and relationship with the FDA, or other, regulatory agencies; and
- changes in regulatory policies or laws that affect our operations.

Additional capital, if needed, may not be available on satisfactory terms, or at all. Furthermore, if we raise additional funds by issuing equity securities, dilution to our existing stockholders could result. Any equity securities issued also may provide for rights, preferences or privileges senior to those of holders of our common stock. If we raise additional funds by issuing debt securities, these debt securities would have rights, preferences and privileges senior to those of holders of our common stock, and the terms of the debt securities issued could impose significant restrictions on our operations. If we raise additional funds through collaborations and licensing arrangements, we might be required to relinquish significant rights to our technologies or our products under development or grant licenses on terms that are not favorable to us, which could lower the economic value of those programs to us. If adequate funds are not available, we may have to scale back our operations or limit our research and development activities, which may cause us to grow at a slower pace, or not at all, and our business could be adversely affected.

In addition, we could be forced to discontinue product development and commercialization of one or more of our product candidates, curtail or forego sales and marketing efforts, and/or forego licensing attractive business opportunities.

Our auditor has expressed substantial doubt about our ability to continue as a going concern and absent additional financing we may be unable to remain a going concern.

In light of our recurring losses, accumulated deficit and negative cash flow as described in our notes to our audited financial statements, the report of our independent registered public accounting firm on our financial statements for the year ended December 31, 2017 contains an explanatory paragraph raising substantial doubt about our ability to continue as a going concern. Our financial statements do not include any adjustments that may be necessary in the event we are unable to continue as a going concern. If we are unable to establish to the satisfaction of our independent registered public accounting firm that the net proceeds from our financing efforts will be sufficient to allow for the removal of this going concern qualification, we may need to significantly modify our operational plans for us to continue as a going concern. While we believe we can continue our current level of operations with the cash we have on hand through June 2019, we will need to arrange additional financing to remain a going concern.

Risks Related to Our Common Stock

The conversion of our Series A Preferred Stock, Series B Preferred Stock and Series D Preferred Stock and the exercise of currently outstanding warrants could result in significant dilution to the holders of our common stock.

The holders of our Series A Preferred Stock, Series B Preferred Stock and Series D Preferred Stock may convert their shares of preferred stock into shares of common stock. As of June 30, 2018 on a post reverse split basis, we had outstanding: (i) 9,417,000 shares of Series A Preferred Stock outstanding, which are convertible into 941,701 shares of common stock and (ii) 6,600,000 shares of Series B Preferred Stock, which are convertible into 1,320,002 shares of common stock. We also recently issued a total of 9,364,000 shares of Series D Preferred Stock convertible into 9,364,000 shares of common stock in our recent underwritten public offering which closed on July 17, 2018. In addition to our outstanding shares of preferred stock, (i) as of June 30, 2018, there were currently outstanding warrants to purchase 3,077,425 shares of our common stock and (ii) we issued additional warrants to purchase 13,800,000 shares of common stock in our recent underwritten public offering which closed on July 17, 2018. The conversion of our Series A Preferred Stock, Series B Preferred Stock and Series D Preferred Stock, as well as the exercise of our outstanding warrants could result in significant dilution to existing common shareholders, adversely affect the market price of our common stock and impair our ability to raise capital through the sale of additional equity securities.

The issuance of additional equity securities by us in the future would result in dilution to our existing common shareholders and we recently completed an underwritten public offering which resulted in a significant increase in our outstanding shares.

Our board of directors has authority, without action or vote of our shareholders, to issue all or a part of our authorized but unissued shares, except where shareholder approval is required by law. Any issuance of additional equity securities by us in the future could result in dilution to our existing common shareholders. Such issuances could be made at a price that reflects a discount or a premium to the then-current trading price of our common stock. In addition, our business strategy may include expansion through internal growth by acquiring complementary businesses, acquiring or licensing additional products or brands, or establishing strategic relationships with targeted customers and suppliers. In order to do so, or to finance the cost of our other activities, we may issue additional equity securities that could result in further dilution to our existing common shareholders. These issuances would dilute the percentage ownership interest of our existing common shareholders, which would have the effect of reducing their influence on matters on which our shareholders vote, and might dilute the book value of our common stock. For example, we issued a total of 4,436,000 shares of common stock, 9,364,000 shares of Series D Preferred Stock convertible into 9,364,000 shares of common stock, and total warrants to purchase 13,800,000 shares of common stock in our recent underwritten public offering that closed on July 17, 2018 and as a result our outstanding shares of common stock has increased significantly from 4,927,422 shares as of August 11, 2017 to 11,837,635 shares as of August 8, 2018.

ITEM 2. UNREGISTERED SALE OF EQUITY SECURITIES AND USE OF PROCEEDS

None other than what was previously disclosed on our Form 8-K filing on April 10, 2018.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

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ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

Incorporated by reference to Exhibits filed after signature page.

EXHIBIT INDEX

Exhibit number	Exhibit description	Incorporated by Reference			Filing date	Filed herewith
		Form	File no.	Exhibit		
3.1	Amended and Restated Articles of Incorporation as amended prior to December 29, 2017 (including certificates of designation of Series A, B and C Preferred Stock)	8-K	001-32188	3.1	12/29/17	
3.2	Articles of Amendment to Amended and Restated Articles of Incorporation dated effective December 29, 2017	8-K	001-32188	3.2	12/29/17	
3.3	Articles of Amendment to Amended and Restated Articles of Incorporation effective January 19, 2018	8-K	001-32188	3.1	1/19/18	
3.4	Articles of Amendment to the Amended and Restated Articles of Incorporation of Oragenics, Inc. Certificate of Designation and Rights of Series D Convertible Preferred Stock	8-K	001-32188	3.1	7/17/18	
3.5	Bylaws	SB-2	333-100568	3.2	10/16/02	
3.6	First Amendment to Bylaws	8-K	001-32188	3.1	6/9/10	
3.7	Second Amendment to Bylaws	8-K	001-32188	3.1	8/24/10	
4.1	Form of Common Stock Purchase Warrant	8-K	001-32188	4.1	4/10/18	
4.2	Form of Warrant	8-K	001-32188	4.1	7/17/18	
10.1	Securities Purchase Agreement, dated as of April 6, 2018, by and among Oragenics, Inc. and the Investors	8-K	001-32188	10.1	4/10/18	
10.2	Exclusive Channel Collaboration Agreement with Intrexon Corporation dated June 9, 2015, as amended and subsequently assigned to ActoBio Therapeutics, Inc., a wholly owned subsidiary of Intrexon Corporation					X
31.1	Certification of Principal Executive Officer pursuant to Rule 13a-14 and Rule 15d-14(a), promulgated under the Securities and Exchange Act of 1934, as amended.					X
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14 and Rule 15d-14(a), promulgated under the Securities and Exchange Act of 1934, as amended.					X
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Principal Executive Officer).					X
32.2	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chief Financial Officer).					X

101.INS	XBRL Instance Document	
101.SCH	XBRL Taxonomy Extension Schema	X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase	X
101.DEF	XBRL Taxonomy Extension Definition Linkbase	X
101.LAB	XBRL Taxonomy Extension Label Linkbase	X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase	X

* Confidential treatment has been granted as to certain portions of this exhibit pursuant to Rule 406 of the Securities Act of 1933, as amended, or Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

SIGNATURES

In accordance with the requirements of the Exchange Act, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 13th day of August, 2018.

ORAGENICS, INC.

BY: /s/ Alan F. Joslyn Ph.D.
Alan F. Joslyn Ph.D., President, Chief Executive Officer and Principal Executive Officer

BY: /s/ Michael Sullivan
Michael Sullivan, Chief Financial Officer and Principal Accounting Officer

EXHIBIT 10.2

EXCLUSIVE CHANNEL COLLABORATION AGREEMENT

THIS EXCLUSIVE CHANNEL COLLABORATION AGREEMENT (the "**Agreement**") is made and entered into effective as of June 9, 2015 (the "**Effective Date**") by and between **INTREXON CORPORATION**, a Virginia corporation with offices at 20374 Seneca Meadows Parkway, Germantown, MD 20876, U.S.A. ("**Intrexon**"), Intrexon Actobiotics NV, a *naamloze vennootschap* under Belgian law with registered offices at Technologiepark 4, 9052 Zwijnaarde (CBE no. 0882.251.820 (Ghent), Belgium ("**Actobiotics**"), and **ORAGENICS, INC.,** a Florida corporation having its principal place of business at 4902 Eisenhower Boulevard, Suite 125, Tampa, FL 33634, U.S.A. ("**Oragenics**"). Intrexon and Actobiotics together on the one hand and Oragenics on the other hand may be referred to herein individually as a "**Party**", and collectively as the "**Parties**."

RECITALS

WHEREAS, Intrexon has expertise in and owns or controls proprietary technology relating to the identification, design and production of genetically modified cells, DNA vectors and *in vivo* control of expression;

WHEREAS, Actobiotics (formerly known as ActoGeniX NV and now legally operating under the name above), a wholly-owned subsidiary of Intrexon, Controls proprietary technology known as AG013 and a related *L. lactis* expression platform; and

WHEREAS, Oragenics now desires to become Intrexon's exclusive channel collaborator with respect to such technology for the purpose of developing the Program (as defined herein), and Intrexon is willing to appoint Oragenics as a channel collaborator in such field under the terms and conditions of this Agreement.

NOW THEREFORE, in consideration of the foregoing and the covenants and promises contained herein, the Parties agree as follows:

ARTICLE 1

DEFINITIONS

As used in this Agreement, the following capitalized terms shall have the following meanings:

1.1 "**Actobiotics IP**" means all Information, Patents, and proprietary biological materials that (a) are Controlled by Actobiotics as of the Effective Date or during the Term and (b) are reasonably required or useful for Oragenics to conduct the Program. For the avoidance of doubt, the Actobiotics IP shall include the AG013 Regulatory Rights, and any Information, Patents, and proprietary biological materials relating to AG013 and to other *L. lactis* strains under development that express human Trefoil Factor.

1.2 "**Affiliate**" means, with respect to a particular Party, any other person or entity that directly or indirectly controls, is controlled by, or is in common control with such Party. As

used in this Section 1.2, the term "controls" (with correlative meanings for the terms "controlled by" and "under common control with") means the ownership, directly or indirectly, fifty percent (50%) or more of the voting securities or other ownership interest of an entity, or the possession, directly or indirectly, of the power to direct the management or policies of an entity, whether through the ownership of voting securities, by contract, or otherwise. Notwithstanding the foregoing, Third Security shall be deemed not to be an Affiliate of Intrexon or Oragenics, and neither Party shall be deemed to be an Affiliate of the other Party. In addition, any other person, corporation, partnership, or other entity that would be an Affiliate of a Intrexon or Oragenics solely because it and Intrexon are under common control by Randal J. Kirk or by investment funds managed by Third Security or an affiliate of Third Security shall also be deemed not to be an Affiliate of Intrexon or Oragenics. Further notwithstanding the foregoing, none of the KFLP Group shall be deemed to be an Affiliate of Oragenics, and any person, corporation, partnership, or other entity that would otherwise be an Affiliate of Oragenics solely because it and Oragenics are under common control by a member of the KFLP Group shall not be deemed to be an Affiliate of Oragenics.

1.3 "**AG013**" shall mean the existing drug product candidate as described in Investigational New Drug application number 13995 filed with the FDA and under clinical development as of the Effective Date comprising genetically modified *L. lactis* that expresses a human Trefoil Factor and that is indicated for the treatment of oral mucositis, which regulatory application, corresponding drug product candidate and intellectual property rights are owned by Actobiotics and licensed to Oragenics in accord with the terms and conditions of this Agreement.

1.4 "**AG013 Regulatory Rights**" means all Information Controlled by Actobiotics (or otherwise by Intrexon) and existing as of the Effective Date relating to the regulatory approval of AG013, including regulatory filings, data, clinical trial reports, and rights thereunder.

1.5 "**Applicable Laws**" has the meaning set forth in Section 8.2(d)(xii).

1.6 "**Approval Milestone Event**" means the first to occur for a particular Oragenics Product of (i) the First Commercial Sale of such Oragenics Product anywhere in the Territory, or (ii) the ninetieth (90^{th}) day after the approval of an FDA New Product Application for such Oragenics Product by the FDA or equivalent regulatory action in a foreign jurisdiction.

1.7 "**Authorizations**" has the meaning set forth in Section 8.2(d)(xii).

1.8 "**CC**" has the meaning set forth in Section 2.2(b).

1.9 "**Channel-Related Program IP**" has the meaning set forth in Section 6.1(c).

1.10 "**Claims**" has the meaning set forth in Section 9.1.

1.11 "**CMCC**" has the meaning set forth in Section 2.2(b).

1.12 "**Committees**" has the meaning set forth in Section 2.2(a).

1.13 "**Commercialize**" or "**Commercialization**" means any activities directed to marketing, promoting, distributing, importing for sale, offering to sell and/or selling Oragenics Products.

1.14 "**Commercialization Milestone Event**" means any one of the Phase II Milestone Event, the Phase IIb/III Milestone Event, the Regulatory Approval Application Milestone Event, the Approval Milestone Event, the New Indication Milestone Event, and the New Product Milestone Event.

1.15 "**Commercial Sale**" means for a given product and country the sale for value of that product by a Party (or, as the case may be, by an Affiliate or permitted sublicensee of a Party), to a Third Party after regulatory approval (if necessary) has been obtained for such product in such country.

1.16 "**Company Sale**" means the sale of Oragenics, whether in a single transaction or in a series of related transactions that are consummated contemporaneously (or consummated pursuant to contemporaneous agreements), to one or more Third Parties on an arm's length basis, pursuant to which such Third Party or Third Parties acquires (i) (whether by merger, consolidation, sale or transfer of capital stock, recapitalization, or otherwise) more than fifty percent (50%) of Oragenics' common stock other than a Reverse Merger, or (ii) all or substantially all of the assets of Oragenics determined on a consolidated basis.

1.17 **"Complementary In-Licensed Third Party IP**" has the meaning set forth in Section 3.8(a).

1.18 "**Confidential Information**" means each Party's confidential Information, inventions, non-public know-how or non-public data disclosed pursuant to this Agreement or any other confidentiality agreement between the Parties and shall include, without limitation, manufacturing, technical, marketing, financial, personnel and other business information and plans, whether in oral, written, graphic or electronic form.

1.19 "**Control**" means, with respect to Information, a Patent or other intellectual property right, that a Party owns or has a license from a Third Party to such right and has the ability to grant a license or sublicense as provided for in this Agreement under such right without violating the terms of any agreement or other arrangement with any Third Party.

1.20 "**CRC**" has the meaning set forth in Section 2.2(b).

1.21 "**Diligent Efforts**" means, with respect to a Party's obligation under this Agreement, the level of efforts and resources reasonably required to diligently develop, manufacture, and/or Commercialize (as applicable) each Oragenics Product in a sustained manner, consistent with the efforts and resources a similarly situated company working in the Field would typically devote to a product of similar market potential, profit potential, strategic value and/or proprietary protection, based on market conditions then prevailing. With respect to a particular task or obligation, Diligent Efforts requires that the applicable Party promptly assign responsibility for such task and consistently make and implement decisions and allocate resources designed to advance progress with respect to such task or obligation.

1.22 "**Equity Agreement**" has the meaning set forth in Section 5.1.

1.23 "**Excess Product Liability Costs**" has the meaning set forth in Section 9.3.

1.24 "**Executive Officer**" means : (i) the Chief Executive Officer of the applicable Party, or (2) another senior executive officer of such Party who has been duly appointed by the Chief Executive Officer to act as the representative of the Party to resolve, as the case may be, (a) a Committee dispute, provided that such appointed officer is not a member of the applicable Committee and occupies a position senior to the positions occupied by the applicable Party's members of the applicable Committee, or (b) a dispute described in Section 11.1.

1.25 "**FDA**" has the meaning set forth in Section 8.2(d)(xiii).

1.26 "**FDA New Product Application**" means a "New Drug Application" or a "Biologics License Application" (as both of such are defined according to relevant FDA guidelines and regulations establishing the mechanisms for the submission of new drug products in the United States of America for regulatory approval prior to commercial sale and marketing), but excluding any Supplemental FDA Applications.

1.27 "**Field**" means, irrespective of whether such requires regulatory approval, (i) the treatment of oral mucositis in humans, (ii) the administration to humans of a trefoil factor via genetically modified bacteria (including *L. lactis*) for the treatment of diseases and conditions of the oral cavity, throat, and esophagus, or (iii) both of (i) and (ii). Notwithstanding the foregoing, the Field shall exclude (a) the delivery of anti-cancer effectors for the purpose of treatment or prophylaxis of cancer, and (b) the Prior Field. For the sake of clarity, the Field does include the amelioration of symptoms or complications of cancer (as opposed to the treatment of the cancer itself), including those symptoms or complications that are side effects of other cancer treatments, such as, for example, the delivery of AG013 to treat oral mucositis in cancer patients.

1.28 "**Field Infringement**" has the meaning set forth in Section 6.3(b).

1.29 "**First Commercial Sale**" means, with respect to an Oragenics Product and country, the first sale to a Third Party of such Oragenics Product in such country after any necessary regulatory approvals and any necessary pricing or reimbursement approvals have been obtained in such country.

1.30 "**Fully Loaded Cost**" means the direct cost of the applicable good, product or service plus indirect charges and overheads reasonably allocable to the provision of such good, product or service in accordance with US GAAP. Subject to the approval of a project and its associated budget by the JSC, Intrexon and/or Actobiotics will bill for its respective internal direct costs incurred through the use of annualized standard full-time equivalents; such rate shall be based upon the actual fully loaded costs of those personnel of Intrexon and its Affiliates (including Actobiotics) directly involved in the provision of such good, product or service. Intrexon may, from time to time, adjust such full-time equivalent rate based on changes to its actual fully loaded costs and will review the accuracy of its full-time equivalent rate at least quarterly. Intrexon and Actobiotics shall provide Oragenics with reasonable documentation indicating the basis for any direct costs (including costs charged to Intrexon and/or Actobiotics by JSC-authorized Third Party providers), indirect charges, any allocable overhead, and any such adjustment in full-time equivalent rate.

1.31 "**Initial Financing Period**" has the meaning set forth in Section 10.2(e).

1.32 "**Initial Study**" means a study to be conducted under the Program to determine according topre-set criteria the next steps with respect to the advancement of AG013 as a clinical candidate, which study, guidelines, and criteria are described in a written plan exchanged between and approved by the Parties prior to the Effective Date.

1.33 "**In-Licensed Program IP**" has the meaning set forth in Section 3.8(a).

1.34 "**Information**" means information, results and data of any type whatsoever, in any tangible or intangible form whatsoever, including without limitation, databases, inventions, practices, methods, techniques, specifications, formulations, formulae, knowledge, know-how, skill, experience, test data including pharmacological, biological, chemical, biochemical, toxicological and clinical test data, analytical and quality control data, stability data, studies and procedures, and patent and other legal information or descriptions.

1.35 "**Infringement**" has the meaning set forth in Section 6.3(a).

1.36 "**Intrexon Channel Technology**" means Intrexon's current and future technology directed towards the design, identification, culturing, and/or production of genetically modified cells, including without limitation the technology embodied in the Intrexon Materials and the Intrexon IP, and specifically including without limitation the following of Intrexon's platform areas and capabilities: (1) UltraVector®, (2) DNA and RNA MOD engineering, (3) protein engineering, (4) transcription control chemistry, (5) genome engineering, (6) cell system engineering, and (7) the Actobiotics IP.

1.37 "**Intrexon Indemnitees**" has the meaning set forth in Section 9.2.

1.38 "**Intrexon IP**" means the Intrexon Patents and Intrexon Know-How.

1.39 "**Intrexon Know-How**" means all Information (other than Intrexon Patents) that (a) is Controlled by Intrexon as of the Effective Date or during the Term and (b) is reasonably required or useful for Oragenics to conduct the Program. For the avoidance of doubt, the Intrexon Know-How shall include any Information (other than Intrexon Patents) in the Channel-Related Program IP and the AG013 Regulatory Rights.

1.40 "**Intrexon Materials**" means the genetic code and associated amino acids and gene constructs, in each case that are Controlled by Intrexon, used alone or in combination and such other proprietary reagents and biological materials including but not limited to plasmid vectors, virus stocks, cells and cell lines, antibodies, and ligand-related chemistry, in each case that are reasonably required or provided to Oragenics by or on behalf of Intrexon to conduct the Program.

1.41 "**Intrexon Patents**" means all Patents that (a) are Controlled by Intrexon as of the Effective Date or during the Term; and (b) are reasonably required or useful for Oragenics to conduct the Program. For the avoidance of doubt, the Intrexon Patents shall include any Patent in the Channel-Related Program IP.

1.42 "**Intrexon Trademarks**" means those trademarks related to the Intrexon Channel Technology that are established from time to time by Intrexon for use across its channel partnerships or collaborations.

1.43 "**Inventions**" has the meaning set forth in Section 6.1(b).

1.44 "**IPC**" has the meaning set forth in Section 2.2(b).

1.45 "**JSC**" has the meaning set forth in Section 2.2(b).

1.46 "**KFLP**" means the Koski Family Limited Partnership.

1.47 "**KFLP Group**" means KFLP, each of its general partners, and Beverly Koski (as sole owner of Koski Management, Inc.).

1.48 "**Losses**" has the meaning set forth in Section 9.1.

1.49 "**Net Sales**" means, with respect to any Oragenics Product, the net sales of such Oragenics Product by Oragenics, any Affiliates of Oragenics (including without limitation net sales of Oragenics Product to a non-Affiliate sublicensee but not including net sales by such non-Affiliate sublicensee), and any Product Sublicensees as determined in accordance with US GAAP as the gross amount invoiced on account of sales of Oragenics Product less the usual and customary discounts as determined in accordance with US GAAP. In the case of any sale for value, such as barter or counter-trade other than in an arm's length transaction exclusively for cash, Net Sales shall be deemed to be the net sales at which substantially similar quantities of the product are sold for cash in an arm's length transaction in the relevant country. If Oragenics Product is sold to any Third Party together with other products or services, the price of such product, solely for purposes of the calculation of Net Sales, shall be deemed to be no less than the price at which such product would be sold in a similar transaction to a third party not also purchasing the other products or services.

1.50 "**New Indication Milestone Event**" means the filing by or on behalf of Oragenics, or an Affiliate or permitted sublicensee of Oragenics, of a Supplemental FDA Application with the FDA (or an equivalent filing with another equivalent regulatory agency) which Supplemental FDA Application seeks approval of an indication for use of an Oragenics Product for a use other than the current regulatory-approved indication for the respective Oragenics Product. Notwithstanding the foregoing and in order to incentivize Oragenics to pursue new indications for the product AG013 in parallel with the existing indication (as such existing indication is described in Investigational Drug Application no. 13995) for product AG013, the New Indication Milestone Event will be deemed not to have occurred if the filed regulatory package under the prior sentence relies upon one or more human clinical trials for the specific new indication, which clinical trial(s) were conducted simultaneously and in parallel with human clinical trials underpinning the first-approved indication for AG013. For the avoidance of doubt and clarification purposes, any occurrence of the New Indication Milestone Event shall not also be deemed the occurrence of the New Product Milestone Event or vice versa.

1.51 "**New Product Milestone Event**" means the filing by or on behalf of Oragenics, or an Affiliate or permitted sublicensee of Oragenics, of a regulatory package with the FDA or with another equivalent regulatory agency, which regulatory package seeks approval of, or seeks permission to begin human trials in support of approval of, a subject Oragenics Product that is deemed (according to relevant FDA guidelines) to be a different drug product than the first Oragenics Product that was clinically pursued under the Program. For purposes of the New Product Milestone Event, the subject Oragenics Product shall be deemed to be a "different" Oragenics Product from the first Oragenics Product (and thus constitute an occurrence of the New Product Milestone Event) if regulatory approval of the subject Oragenics Product must be obtained from the FDA under a different FDA New Product Application than the first Oragenics Product. For the avoidance of doubt and clarification purposes, any occurrence of the New Product Milestone Event shall not also be deemed the occurrence of the New Indication Milestone Event or vice versa.

1.52 "**Oragenics Indemnitees**" has the meaning set forth in Section 9.1.

1.53 "**Oragenics Independent IP**" has the meaning set forth in Section 6.1(f).

1.54 "**Oragenics Product**" means any product in the Field that is created, produced, developed, or identified in whole or in part, directly or indirectly, by or on behalf of Oragenics during the Term through use or practice of Intrexon Channel Technology, Intrexon IP, Actobiotics IP, or the Intrexon Materials. For clarity, the continued development and Commercialization of AG013 shall be pursued under the Program as an Oragenics Product.

1.55 "**Oragenics Program Patent**" has the meaning set forth in Section 6.2(b).

1.56 "**Oragenics Termination IP**" means all Patents or other intellectual property that Oragenics or any of its Affiliates Controls as of the Effective Date or during the Term that cover, or is otherwise necessary or useful for, the development, manufacture or Commercialization of a Reverted Product or necessary or useful for Intrexon to operate in the Field. Notwithstanding the foregoing, Oragenics Termination IP shall not include Oragenics Independent IP.

1.57 "**Patents**" means (a) all patents and patent applications (including provisional applications), (b) any substitutions, divisions, continuations, continuations-in-part, reissues, renewals, registrations, requests for continued examination, confirmations, re-examinations, extensions, supplementary protection certificates and the like of the foregoing, and (c) any foreign or international equivalents of any of the foregoing.

1.58 "**Phase II Milestone Event**" means the first dosing of a patient by or on behalf of Oragenics, or an Affiliate or permitted sublicensee of Oragenics, in a phase II clinical trial (as such is defined by relevant FDA guidelines) for a given Oragenics Product, irrespective of whether such occurs in the United States of America under the jurisdiction of the FDA or elsewhere under the jurisdiction of a foreign regulatory agency.

1.59 "**Phase IIb/III Milestone Event**" means the first to occur for a particular Oragenics Product of (i) the meeting of the primary endpoint by or on behalf of Oragenics, or an Affiliate or permitted sublicensee of Oragenics, in a phase IIb clinical trial (as such is defined by relevant FDA guidelines wherein the subject clinical trial endpoints are designed to be sufficient for regulatory approval of the clinical product without a subsequent clinical phase III trial) for a given Oragenics Product, irrespective of whether such occurs in the United States of America under the jurisdiction of the FDA or elsewhere under the jurisdiction of a foreign regulatory agency, or (ii) the meeting of the primary endpoint by or on behalf of Oragenics, or an Affiliate or permitted sublicensee of Oragenics, in a phase III clinical trial (as such is defined by relevant FDA guidelines) for a given Oragenics Product, irrespective of whether such occurs in the United States of America under the jurisdiction of the FDA or elsewhere under the jurisdiction of a foreign regulatory agency.

1.60 "**Prior Field**" means the "Field" as recited and defined in Section 1.24 of the prior "Exclusive Channel Collaboration Agreement" dated September 30, 2013 and previously executed by and between Intrexon and Oragenics. For clarity, the use of "Field" in the prior sentence does not have the meaning ascribed in Section 1.27 of this Agreement.

1.61 "**Product-Specific Program Patent**" means any issued Intrexon Patent where all the claims are directed to Inventions that relate solely and specifically to Oragenics Products. In the event of a disagreement between the Parties as to whether a particular Intrexon Patent is or is not a Product-Specific Program Patent, the Parties shall seek to resolve the issue through discussions at the IPC, provided that if the Parties are unable to resolve the disagreement, the issue shall be submitted to arbitration pursuant to Section 11.2. Any Intrexon Patent that is subject to such a dispute shall be deemed not to be a Product-Specific Program Patent unless and until (a) Intrexon agrees in writing that such Patent is a Product-Specific Program Patent or (b) an arbitrator or arbitration panel determines, pursuant to Article 11, that such Intrexon Patent is a Product-Specific Program Patent.

1.62 "**Product Sublicense**" has the meaning set forth in Section 3.2(c).

1.63 "**Product Sublicensee**" has the meaning set forth in Section 3.2(c).

1.64 "**Program**" has the meaning set forth in Section 2.1(a).

1.65 "**Proposed Terms**" has the meaning set forth in Section 11.2.

1.66 "**Prosecuting Party**" has the meaning set forth in Section 6.2(c).

1.67 "**Recovery**" has the meaning set forth in Section 6.3(f).

1.68 "**Regulatory Approval Application Milestone Event**" means for a given Oragenics Product, the first to occur of (a) the filing by Oragenics, an Affiliate thereof, or a permitted sublicensee thereof, of an FDA New Product Application with the FDA seeking approval of such Oragenics Product, or (b) the filing of an equivalent approval or marketing application for such Oragenics Product with an equivalent regulatory authority in a foreign jurisdiction.

1.69 "**Retained Product**" has the meaning set forth in Section 10.4(a).

1.70 "**Reverse Merger**" means the sale of Oragenics, whether in a single transaction or in a series of related transactions that are consummated contemporaneously (or consummated pursuant to contemporaneous agreements), to one or more Third Parties on an arm's length basis, pursuant to which such Third Party or Third Parties acquire(s) via merger more than fifty percent (50%) of Oragenics' common stock in a form of transaction wherein Oragenics is the surviving entity.

1.71 "**Reverted Product**" has the meaning set forth in Section 10.4(c).

1.72 "**SEC**" means the United States Securities and Exchange Commission.

1.73 "**Sublicensing Revenue**" means any cash consideration, or the cash equivalent value of non-cash consideration, regardless of whether in the form of upfront payments, milestones, or royalties, actually received by Oragenics or its Affiliate from a Third Party in consideration for a grant of a sublicense under the Intrexon IP or any rights to develop or Commercialize Oragenics Products, but excluding: (a) any amounts paid as bona fide reimbursement for research and development costs to the extent incurred following such grant; (b) bona fide loans or any payments in consideration for a grant of equity of Oragenics to the extent that such consideration is equal to or less than fair market value (i.e. any amounts in excess of fair market value shall be Sublicensing Revenue); (c) any amounts paid by Oragenics to a Third Party for the right to operate under or utilize Third Party owned intellectual property that is used to make or use an Oragenics Product underlying the Sublicensing Revenue, (d) subject to the waiver provisions of Section 5.2(c), any payments received by Oragenics from permitted sublicensees for the achievement of a Commercialization Milestone Event that is the same as (or substantially similar to) a Commercialization Milestone Event for which Intrexon is entitled to receive an equity-based milestone payment under Section 5.2(a), and (e) amounts received from sublicensees in respect of any Oragenics Product sales that are included in Net Sales and for which Intrexon receives revenue sharing payments under Section 5.4(a). For clarity, Sublicensing Revenue includes milestone payments for Oragenics Products received by Oragenics from a sublicensee of Oragenics (including a Product Sublicensee) for (i) the achievement by the Oragenics sublicensee of any milestone event that is not the same as, or substantially similar to, a Commercialization Milestone Event, (ii) the achievement by the Oragenics sublicensee of the second or subsequent occurrence of the same (or substantially similar) Commercialization Milestone Event, irrespective of whether the first occurrence of the Commercialization Milestone Event in question was achieved by Oragenics, or its Affiliate or a sublicensee, and (iii) the achievement by a permitted sublicensee of Oragenics of the first occurrence of the same (or substantially similar) Commercialization Milestone Event where Intrexon elects to share such milestone payment as Sublicensing Revenue in accord with Section 5.2(c).

1.74 "**Sublicensing Revenue Rate**" means a percentage of Sublicensing Revenue applicable to a proposed sublicense by Oragenics as follows: (a) with respect to any sublicense of an AG013 Oragenics Product (including new indications thereof), any revenues Oragenics receives from a Product Sublicensee under a Product Sublicense that are not a percentage of Product Sublicensee's Net Sales of Oragenics Products, and any amounts recovered under Section 6.3(f), the Sublicensing Revenue Rate shall be fifty percent (50%); and (b) with respect to any other sublicense, the Sublicensing Revenue Rate shall be determined in accordance with Section 3.2.

1.75 "**Superior Therapy**" means a therapy in the Field that, based on the data then available, (a) demonstrably appears to offer either superior efficacy or safety or significantly lower cost of therapy, as compared with both (i) those therapies that are marketed (either by Oragenics or others) at such time for the indication and (ii) those therapies that are being actively developed by Oragenics for such indication; (b) demonstrably appears to represent a substantial improvement over such existing therapies; and (c) has intellectual property protection and a regulatory approval pathway that, in each case, would not present a significant barrier to commercial development.

1.76 "**Supplemental FDA Application**" means a "Supplemental New Drug Application" or a "Supplemental Biologics License Application" (as both of such are defined according to relevant FDA guidelines and regulations establishing the mechanisms for the submission of data in support of the FDA granting approval for new, amended, and/or expanded label indications for a prior-approved drug product in the United States of America).

1.77 "**Supplemental In-Licensed Third Party IP**" has the meaning set forth in Section 3.8(a).

1.78 "**Support Memorandum**" has the meaning set forth in Section 11.2.

1.79 "**Technology Access Fee**" has the meaning set forth in Section 5.1.

1.80 "**Term**" has the meaning set forth in Section 10.1.

1.81 "**Territory**" means the entire world.

1.82 "**Third Party**" means any individual or entity other than the Parties or their respective Affiliates.

1.83 "**Third Security**" means Third Security, LLC.

1.84 "**US GAAP**" means generally accepted accounting principles in the United States.

1.85 "**Work Plan**" has the meaning set forth in Section 2.1(c).

ARTICLE 2

SCOPE OF CHANNEL COLLABORATION; MANAGEMENT

2.1 Direction of the Program.

(a) Generally. The general purpose of the channel collaboration described in this Agreement will be to use the Intrexon Channel Technology to research, develop and

Commercialize products for use in the Field, including the continued development and Commercialization of AG013 (collectively, the "**Program**"). As provided below, the JSC shall establish, monitor, and govern projects for the Program. Either Party may propose other potential projects in the Field for review and consideration by the JSC.

(b) Advancement of AG013; the Initial Study. The Parties have concluded that the Program would benefit from the Initial Study being conducted before further other clinical activity is pursued for AG013, and, as such, have agreed that the Initial Study shall be conducted by Intrexon and/or Actobiotics under Section 4.7 immediately following the Effective Date. Exhibit A contains a general description of the Initial Study, and Intrexon shall supply to Oragenics a complete study plan, in agreement with the parameters (including timing, budget, data evaluation criteria, and resulting implications with respect to subsequent AG013 clinical activity) set forth in Exhibit A, for the Initial Study prior to commencement of the study. Following the completion of the Initial Study, the JSC will promptly meet and review the data produced under the Initial Study and apply the criteria set forth in Exhibit A, with the purpose of determining the immediate clinical path forward for AG013 under the Program.

(c) Management via Work Plan. The Parties shall mutually draft and finalize at the JSC, within thirty (30) days following completion of the Initial Study an initial version of a Program-wide work plan describing the development of Oragenics Products, including advancement of AG013 as an Oragenics Product, in the Field (**"Work Plan**"), which Work Plan shall be adopted by the JSC. The Work Plan shall serve as a basis for the operation of the Program on a going-forward basis, and may be modified by the JSC subject to the rest of this Article 2, including to introduce parallel research projects for the collaborative pursuit of new indications for AG013 and/or of new Oragenics Products in the Field. Notwithstanding the foregoing, the Parties (i) agree to conduct the Initial Study under the Program beginning immediately after the Effective Date, and (ii) commit to have the JSC meet regularly prior to the finalization of the Work Plan in order to conduct and monitor, and to review the results of, the Initial Study in accord with Section 2.1(b) above and to discuss other issues of relevance to the Program.

2.2 Committees.

(a) Generally. The Parties desire to establish several committees (collectively, "**Committees**") to oversee the Program and to facilitate communications between the Parties with respect thereto. Each of such Committees shall have the responsibilities and authority allocated to it in this Article 2. Each of the Committees shall have the obligation to exercise its authority consistent with the respective purpose for such Committee as stated herein and any such decisions shall be made in good faith.

(b) Formation and Purpose. Promptly following the Effective Date, the Parties shall confer and then create the JSC and the IPC, and, optionally, create one or more of the other Committees listed in the chart below. Each Committee shall have the purpose indicated in the chart. To the extent that after conferring both Parties agree to not create a Committee (other than the JSC and the IPC), the creation of such Committee shall be deferred until one Party informs the other Party of its then desire to create the so-deferred Committee, at which point the Parties will thereafter promptly create the so-deferred Committee and promptly schedule a meeting of such Committee within a reasonable time.

Committee	Purpose
Joint Steering Committee ("**JSC**")	Establish projects for the Program and establish the priorities, as well as approve budgets for such projects. Approve all subcommittee projects and plans.
Chemistry, Manufacturing and Controls Committee ("**CMCC**")	Establish project plans and review and approve activities and budgets for chemistry, manufacturing, and controls under the Program.
Clinical/Regulatory Committee ("**CRC**")	Review and approve all research and development plans and projects, including clinical projects, associated with any necessary regulatory approvals, all associated publications, and all regulatory filings and correspondence relating to gaining regulatory approval under the Program; and review and approve itemized budgets with respect to the foregoing.
Commercialization Committee ("**CC**")	Establish project plans and review and approve activities and budgets for Commercialization activities under the Program.
Intellectual Property Committee ("**IPC**")	Evaluate intellectual property issues in connection with the Program; review and approve itemized budgets with respect to the foregoing.

2.3 General Committee Membership and Procedure.

(a) Membership. For each Committee, each Party shall designate an equal number of representatives (not to exceed four (4) for each Party) with appropriate expertise to serve as members of such Committee. For the JSC the representatives must all be employees of such Party or an Affiliate of such Party, and for Committees other than the JSC the representatives must all be employees of such Party or an Affiliate of such Party with the caveat that each Party may designate for each such other Committee up to one (1) representative who is not an employee if : (i) such non-employee representative agrees in writing to be bound to the terms of this Agreement for the treatment and ownership of Confidential Information and Inventions of the Parties, and (ii) the other Party consents to the designation of such non-employee representative, which consent shall not be unreasonably withheld. Each representative

as qualified above may serve on more than one (1) Committee as appropriate in view of the individual's expertise. Each Party may replace its Committee representatives at any time upon written notice to the other Party. Each Committee shall have a chairperson; the chairperson of each committee shall serve for a two-year term and the right to designate which representative to the Committee will act as chairperson shall alternate between the Parties, with Oragenics selecting the chairperson first for the JSC, CRC and CC, and Intrexon selecting the chairperson first for the CMCC and IPC. The chairperson of each Committee shall be responsible for calling meetings, preparing and circulating an agenda in advance of each meeting of such Committee, and preparing and issuing minutes of each meeting within fifteen (15) days thereafter.

(b) Meetings. Each Committee shall hold meetings at such times as it elects to do so, but in no event shall such meetings be held less frequently than once every six (6) months, with the caveat that both Parties may agree to suspend activities of a given Committee other than the JSC until such time as one Party informs the other Party of its then desire to reactivate the so-suspended Committee, at which point the Parties will thereafter schedule and hold the next meeting for the reactivated Committee within one (1) month. Meetings of any Committee may be held in person or by means of telecommunication (telephone, video, or web conferences). To the extent that a Committee holds any meetings in person, the Parties will alternate in designating the location for such in-person meetings, with Oragenics selecting the first meeting location for each Committee. A reasonable number of additional representatives of a Party may attend meetings of a Committee in a non-voting capacity. Each Party shall be responsible for all of its own expenses of participating in any Committee excepting that an Intrexon employee or agent serving on a Committee shall not prevent Intrexon from recouping the Fully Loaded Costs otherwise derived from the labor of that employee or agent in the course of providing manufacturing or support services as set forth in Sections 4.6 and 4.7 below.

(c) Meeting Agendas. Each Party will disclose to the other proposed agenda items along with appropriate information at least three (3) business days in advance of each meeting of the applicable Committee; provided, that a Party may provide its agenda items to the other Party within a lesser period of time in advance of the meeting, or may propose that there not be a specific agenda for a particular meeting, so long as such other Party consents to such later addition of such agenda items or the absence of a specific agenda for such Committee meeting.

(d) Limitations of Committee Powers. Each Committee shall have only such powers as are specifically delegated to it hereunder or from time to time as agreed to in writing by the mutual consent of the Parties and shall not be a substitute for the rights of the Parties. Without limiting the generality of the foregoing, no Committee shall have any power to amend this Agreement. Any amendment to the terms and conditions of this Agreement shall be implemented pursuant to Section 12.7 below. Additionally, no member of any Committee shall be able to vote in such Committee and thereby bind its respective Party on any material matter except as otherwise properly authorized, approved, or delegated by such Party in accord with Section 2.5.

2.4 Committee Decision-Making. If a Committee is unable to reach unanimous consent on a particular matter within thirty (30) days of its initial consideration of such matter, then either Party may provide written notice of such dispute to the Executive Officer of the other

Party. The Executive Officers of each of the Parties will meet at least once in person or by means of telecommunication (telephone, video, or web conferences) to discuss the dispute and use their good faith efforts to resolve the dispute within thirty (30) days after submission of such dispute to the Executive Officers. If any such dispute is not resolved by the Executive Officers within thirty (30) days after submission of such dispute to such officers, then the Executive Officer of the Party specified in the applicable subsection below shall have the authority to finally resolve such dispute acting in good faith.

(a) Casting Vote at JSC. If a dispute at the JSC is not resolved pursuant to Section 2.4 above, then the Executive Officer of Oragenics shall have the authority to finally resolve such dispute.

(b) Casting Vote at CMCC. If a dispute at the CMCC is not resolved pursuant to Section 2.4 above, then (i) in the case of any disputes relating to the Intrexon Materials, the manufacture of an Oragenics Product active pharmaceutical ingredient, or the manufacturing of other components of Oragenics Products contracted for or manufactured by Intrexon, the Executive Officer of Intrexon shall have the authority to finally resolve such dispute; and (ii) in the case of any other disputes, the Executive Officer of Oragenics shall have the authority to finally resolve such dispute.

(c) Casting Vote at CRC. If a dispute at the CRC is not resolved pursuant to Section 2.4 above, then the Executive Officer of Oragenics shall have the authority to finally resolve such dispute.

(d) Casting Vote at CC. If a dispute at the CC is not resolved pursuant to Section 2.4 above, then the Executive Officer of Oragenics shall have the authority to finally resolve such dispute.

(e) Casting Vote at IPC. If a dispute at the IPC is not resolved pursuant to Section 2.4 above, then the Executive Officer of Intrexon shall have the authority to finally resolve such dispute, provided that such authority shall be shared by the Parties with respect to Product-Specific Program Patents (i.e., neither Party shall have the casting vote on such matters, and any such disputes shall be resolved pursuant to Article 11).

(f) Other Committees. If any additional Committee other than those set forth in Section 2.2(b) is formed, then the Parties shall, at the time of such formation, agree on which Party shall have the authority to finally resolve a dispute that is not resolved pursuant to Section 2.4 above.

(g) Restrictions. Neither Party shall exercise its right to finally resolve a dispute at a Committee in accordance with this Section 2.4 in a manner that (i) excuses such Party from any of its obligations specifically enumerated under this Agreement; (ii) expands the obligations of the other Party under this Agreement; (iii) negates any consent rights or other rights specifically allocated to the other Party under this Agreement; (iv) purports to resolve any dispute involving the breach or alleged breach of this Agreement; (v) resolves a matter if the provisions of this Agreement specify that mutual agreement is required for such matter; or (vi) would require the other Party to perform any act that is inconsistent with applicable law.

2.5 Authorization of Committee Representatives. Each representative serving on a Committee shall be responsible for ensuring that he or she acts only as duly authorized by its respective Party and obtains any advance approvals, delegations, or other authorizations from his or her respective Party in advance of making any Committee votes. Any Committee representative shall only be able to bind its respective appointing Party via any Committee vote or other material Committee activity to the extent such vote or other activity has been previously approved by the Party, is within the authority duly delegated to the representative by the respective Party, or is otherwise authorized by its respective Party as may be required by that Party's corporate charter or bylaws, or by its board of directors. Any action or vote taken without valid authority shall be considered null and void and shall be without effect unless subsequently approved by a vote in accord with this Section 2.5.

ARTICLE 3

LICENSE GRANTS

3.1 Licenses to Oragenics.

(a) Subject to the terms and conditions of this Agreement, Intrexon and Actobiotics hereby grant to Oragenics a license under the Intrexon IP and the Actobiotics IP to research, develop, use, import, export, make, have made, sell, and offer for sale Oragenics Products in the Field in the Territory. Such license shall be exclusive (even as to Intrexon and Actobiotics) with respect to any clinical development, selling, offering for sale or other Commercialization of Oragenics Products in the Field, and shall be otherwise non-exclusive.

(b) Subject to the terms and conditions of this Agreement, Intrexon and Actobiotics hereby grant to Oragenics a non-exclusive, royalty-free license to use and display the Intrexon Trademarks and Actobiotics trademarks, solely in connection with the Commercialization of Oragenics Products, in the promotional materials, packaging, and labeling for Oragenics Products, as provided under and in accordance with Section 4.9.

(c) Subject to the terms and conditions of this Agreement, Intrexon and Actobiotics hereby grant to Oragenics an exclusive license in the Field under the AG013 Regulatory Rights, including an exclusive right in the Field to make reference to for purposes of conducting clinical trials and obtaining regulatory approval for AG013 as an Oragenics Product.

3.2 Sublicensing. Except as provided in this Section 3.2, Oragenics shall not sublicense the rights granted under Section 3.1 to any Third Party, or transfer the Intrexon Materials to any Third Party, or otherwise grant any Third Party the right to research, develop, use, or Commercialize Oragenics Products or use or display the Intrexon Trademarks, in each case except with Intrexon's written consent, which written consent may be withheld in Intrexon's sole discretion. The parties shall agree, in connection with any such sublicense not covered under Sections 3.2(a) through 3.2(c) below, on the applicable Sublicensing Revenue Rate with respect to such sublicense. Notwithstanding the foregoing, Oragenics (and its Product Sublicensees only to the extent set forth in Section 3.2(a) below) shall have a limited right to sublicense under the circumstances described in Sections 3.2(a) through 3.2(c) below.

(a) Oragenics may transfer, to the extent reasonably necessary and after providing Intrexon with reasonable advance notice thereof, Intrexon Materials that are or that produce Oragenics Products to a Third Party contractor performing contract manufacturing responsibilities for Oragenics Products, and may in connection therewith grant limited sublicenses necessary to enable such Third Party to perform such activities. If Oragenics transfers any Intrexon Materials under this Section 3.2(a), Oragenics will remain obligated to ensure that the rights of Intrexon in and to the Intrexon Materials and Intrexon IP and under the provisions of Articles 6 and 7 of this Agreement are not violated by any such Third Party contractor. A Product Sublicensee of Oragenics may transfer, to the extent reasonably necessary and upon the consent of Intrexon, which consent shall not be unreasonably withheld, Intrexon Materials that are or that produce ingredients for the Oragenics Product sublicensed by the Product Sublicensee to a Third Party contractor performing on behalf of that Product Sublicensee contract manufacturing responsibilities for Oragenics Products, and may in connection therewith grant limited sublicenses to the extent necessary to enable such Third Party to perform such activities. Oragenics will require and ensure that if any Product Sublicensee transfers any Intrexon Materials under this Section 3.2(a), that such Product Sublicensee, after obtaining Intrexon's consent, will take commercially reasonable steps, including contractually obligating any such Third Party contractors, to ensure that the rights of Intrexon in and to the Intrexon Materials and Intrexon IP and under the provisions of Articles 6 and 7 of this Agreement are not violated by any Third Party contractors of such Product Sublicensees.

(b) Oragenics may, with Intrexon's written consent, which written consent shall not be unreasonably withheld, conditioned, or delayed, sublicense the rights granted under Section 3.1 to an Affiliate, or transfer the Intrexon Materials to an Affiliate, or grant an Affiliate the right to use or display the Intrexon Trademarks. In the event that Intrexon consents to any such grant or transfer to an Affiliate, Oragenics shall remain responsible for, and be guarantor of, the performance by any such Affiliate and shall cause such Affiliate to comply with the provisions of this Agreement in connection with such performance (as though such Affiliate were Oragenics), including any payment obligations owed to Intrexon hereunder.

(c) Oragenics may grant a sublicense of the rights granted under Section 3.1 (and not including a right to sublicense under this Section 3.2(c)) to a Third Party licensee of any Oragenics Product that is the subject of an effective Investigational New Drug Application or equivalent application or investigational exemption with a foreign regulatory body (a "**Product Sublicensee**") to the extent necessary to permit such Third Party to research, develop, use, import, export, make, have made, sell, and offer for sale that Oragenics Product (a "**Product Sublicense**"), provided, that (i) such Product Sublicense is expressly limited to the appropriate Oragenics Product, (ii) such Product Sublicensee does not grant the Product Sublicensee any rights to Intrexon IP other than that incorporated into the Oragenics Product at the time of the Product Sublicense, (iii) does not purport to relieve Oragenics of any of its obligations under this Agreement, (iv) the Product Sublicensee agrees in writing, in a document in form reasonably acceptable to Intrexon and to which Intrexon is an express third party beneficiary, to abide by the following provisions of this Agreement: Sections 3.1., 3.3-3.6, 3.8, 3.10, and 3.11 and Articles 6, 7, and 10, (v) the Product Sublicense is presented in full to the JSC by Oragenics before execution by Oragenics and the prospective Product Sublicensee and as soon as is reasonably practical for the purpose of allowing the JSC to review and comment upon the terms and scope of the Product Sublicense agreement before execution, and (vi) the Product Sublicensee is not controlled by or otherwise affiliated with a member of the KFLP Group.

3.3 Limitation on Sublicensees. None of the enforcement rights under the Intrexon Patents that are granted to Oragenics pursuant to Section 6.3 shall be transferred to, or exercised by, a sublicensee except with Intrexon's prior written consent, which may be withheld in Intrexon's sole discretion.

3.4 No Non-Permitted Use. Oragenics hereby covenants that it shall not, nor shall it permit any Affiliate or, if applicable, (sub)licensee, to use or practice, directly or indirectly, any Intrexon IP, Intrexon Channel Technology, or Intrexon Materials for any purposes other than those expressly permitted by this Agreement.

3.5 Exclusivity. Intrexon, Actobiotics and Oragenics mutually agree that, under the channel collaboration established by this Agreement, it is intended that the Parties will be exclusive to each other in the Field. To this end, neither Intrexon, Actobiotics, nor its Affiliates shall make the Intrexon Channel Technology, Intrexon Materials or Actobiotics IP available to any Third Party for the purpose of developing or Commercializing products in the Field, and neither Intrexon nor any Affiliate shall pursue (either by itself or with a Third Party or Affiliate) the research, development or Commercialization of any product for purpose of sale in the Field, outside of the Program. Further, other than Oragenics' activities within the Program, neither Oragenics nor its Affiliates shall pursue (either by itself or with a Third Party or Affiliate) the research, development or Commercialization of any product that uses, incorporates, references in a related regulatory filing, or is produced from Intrexon Channel Technology, Intrexon Materials, or Intrexon IP for purpose of sale in the Field.

3.6 Off Label Use. For purpose of clarity, (a) following the First Commercial Sale of an Oragenics Product, the use by direct or indirect purchasers or other users of Oragenics Products outside the Field (i.e. "off label use") shall not constitute a breach by Oragenics of the terms of Section 3.4 or 3.5, provided that neither Oragenics nor its Affiliate (nor any Third Party under contract with either of them) marketed or promoted Oragenics Products for such off-label use; and (b) following the First Commercial Sale of a product by Intrexon, an Intrexon Affiliate, or a Third Party sublicensee, collaborator, or partner of Intrexon, the use by direct or indirect purchasers or other users of such products in the Field (i.e. "off label use") shall not constitute a breach by Intrexon of the terms of Section 3.5, provided that neither Intrexon nor its Affiliate (nor any Third Party under contract with either of them) marketed or promoted such products for such off-label use.

3.7 No Prohibition on Intrexon. Except as explicitly set forth in Sections 3.1 and 3.5, nothing in this Agreement shall prevent Intrexon from practicing or using the Intrexon Materials, Intrexon Channel Technology, and Intrexon IP for any purpose, and to grant to Third Parties the right to do the same. Without limiting the generality of the foregoing, Oragenics acknowledges that Intrexon has all rights, in Intrexon's sole discretion, to make the Intrexon Materials, Intrexon Channel Technology (including any biological materials used in an Oragenics Product), and Intrexon IP available to Third Party channel partners or collaborators for use in fields outside the Field.

3.8 Rights to Clinical and Regulatory Data. With the exception of the AG013 Regulatory Rights, Oragenics shall own and control all clinical data and regulatory filings relating to Commercialization of Oragenics Products (except to the extent such become Reverted Products). Oragenics shall provide (or shall cause any applicable Product Sublicensee to provide) full copies of all clinical and non-clinical data and reports, regulatory filings, and communications from regulatory authorities that relate specifically and solely to Oragenics Products. To the extent that there exist any clinical and non-clinical data and reports, regulatory filings, and communications from regulatory authorities owned by Oragenics (or a Product Sublicensee) that relate both to Oragenics Products and other products produced by Oragenics (or a Product Sublicensee) outside the Field, Oragenics shall provide (or shall cause any applicable Product Sublicensee to provide) to Intrexon upon Intrexon's request copies of the portions of such data, reports, filings, and communications that relate to Oragenics Products. Subject to its ongoing obligations of exclusivity under Section 3.5, Intrexon shall be permitted, directly or in conjunction with or through partners or other channel collaborators, to reference this data, reports, filings, and communications relating to Oragenics Products in regulatory filings made to obtain regulatory approval for products indicated for use in fields outside the Field. Intrexon shall have the right to use any such information in developing and Commercializing products outside the Field and to license any Third Parties to do so.

3.9 Third Party Licenses.

(a) Intrexon shall obtain, at its sole expense, any licenses from Third Parties that are required in order to practice the Intrexon Channel Technology in the Field where the licensed intellectual property is reasonably necessary for Intrexon to conduct genetic and cell engineering and related analytic activities under JSC established plans for the Program (but excluding intellectual property directed to any specific target genes, cells lines or genetic transformation methodologies) ("**Supplemental In-Licensed Third Party IP**"). Other than with respect to Supplemental In-Licensed Third Party IP, Oragenics shall be solely responsible for obtaining, at its sole expense, any licenses from Third Parties that Oragenics determines, in its sole discretion, are required in order to lawfully make, use, sell, offer for sale, or import Oragenics Products ("**Complementary In-Licensed Third Party IP**"). Supplemental In-Licensed Third Party IP and Complementary In-Licensed Third Party IP are collectively referred to as "**In-Licensed Program IP**".

(b) In the event that either Party desires to license from a Third Party any Supplemental In-Licensed Third Party IP or Complementary In-Licensed Third Party IP, such Party shall so notify the other Party, and the IPC shall discuss such In-Licensed Program IP and its applicability to the Oragenics Products and to the Field. As provided above in Section 3.9(a), Intrexon shall have the sole right and responsibility to pursue a license under Supplemental In-Licensed Third Party IP, and Oragenics hereby covenants that it shall not itself directly license such Supplemental In-Licensed Third Party IP at any time, provided that Oragenics may (but shall not be obligated to) obtain such a license directly if the Third Party owner or licensee of such Supplemental In-Licensed Third Party IP brings an infringement action against Oragenics or its Affiliates or threatens to bring such action (solely to the extent such threats would reasonably be considered to subject the Third Party owner or licensee to declaratory judgment action jurisdiction) and, after written notice to Intrexon of such action, Intrexon fails to obtain a license to such Supplemental In-Licensed Third Party IP using Diligent Efforts within ninety

(90) days after such notice. Following the IPC's discussion of any Complementary In-Licensed Third Party IP, subject to Section 3.9(c), Oragenics shall have the right to pursue a license under Complementary In-Licensed Third Party IP, at Oragenics' sole expense. For the avoidance of doubt, Intrexon may at any time obtain a license under Complementary In-Licensed Third Party IP outside the Field, at Intrexon's sole expense, provided that if Intrexon decides to seek to obtain such a license, it shall use reasonable efforts to coordinate its licensing activities in this regard with Oragenics.

(c) Oragenics shall provide the proposed terms of any license under Complementary In-Licensed Third Party IP and the final version of the definitive license agreement for any Complementary In-Licensed Third Party IP to the IPC for review and discussion prior to signing, and shall consider Intrexon's comments thereto in good faith. To the extent that Oragenics obtains a license under Supplemental In-Licensed Third Party IP, Oragenics shall provide the final version of the definitive license agreement for such Supplemental In-Licensed Third Party IP to the IPC. If Oragenics acquires rights under any In-Licensed Program IP outside the Field, it will do so on a non-exclusive basis unless it obtains the prior written consent of Intrexon for such license outside the Field to be exclusive. Any Party that is pursuing a license to any In-Licensed Program IP with respect to the Field under this Section 3.9 shall keep the other Party reasonably informed of the status of any negotiations relating thereto. For purposes of clarity, (i) any costs incurred by Intrexon in obtaining and maintaining licenses to Supplemental In-Licensed Third Party IP shall be borne solely by Intrexon, and (ii) any costs incurred by Oragenics in obtaining and maintaining licenses to Complementary In-Licensed Third Party IP (and, to the limited extent provided in subsection (b), Supplemental In-Licensed Third Party IP) shall be borne solely by Oragenics.

(d) For any Third Party license under which Oragenics or its Affiliates obtain a license under Patents claiming inventions or know-how specific to or used or incorporated into the development, manufacture, and/or Commercialization of Oragenics Products, Oragenics shall use commercially reasonable efforts to ensure that Oragenics will have the ability, pursuant to Section 10.4(h), to assign such agreement to Intrexon or grant a sublicense to Intrexon thereunder (having the scope set forth in Section 10.4(h)).

(e) The licenses granted to Oragenics under Section 3.1 may include sublicenses under Intrexon IP that has been licensed to Intrexon by one or more Third Parties. Any such sublicenses are subject to the terms and conditions set forth in the applicable upstream license agreement, subject to the cost allocation set forth in Section 3.9(c), provided that Intrexon shall either provide unredacted copies of such upstream license agreements to Oragenics or shall disclose in writing to Oragenics all of such terms and conditions that are applicable to Oragenics. Oragenics shall not be responsible for complying with any provisions of such upstream license agreements unless, and to the extent that, such provisions have been disclosed to Oragenics as provided in the preceding sentence.

(f) If either Party receives notice from a Third Party concerning activities of a Party taken in conjunction with performance of obligations under this Agreement, which notice alleges infringement by a Party of, or offers license under, Patents or other intellectual property rights owned or controlled by that Third Party, the receiving Party shall inform the other party thereof within five (5) business days.

3.10 Licenses to Intrexon. Subject to the terms and conditions of this Agreement, Oragenics hereby grants to Intrexon a non-exclusive, worldwide, fully-paid, royalty-free license, under any applicable Patents or other intellectual property Controlled by Oragenics or its Affiliates, solely to the extent necessary for Intrexon to conduct those responsibilities assigned to it under this Agreement, which license shall be sublicensable solely to Intrexon's Affiliates or to any Intrexon subcontractors as permitted in accord with Section 4.6 or as otherwise permitted to be used by Intrexon in conjunction with support services under Section 4.7 (subject to JSC research plan approval)

3.11 Restrictions Relating to Intrexon Materials. Oragenics and its permitted sublicensees shall use the Intrexon Materials solely for purposes of the Program and not for any other purpose without the prior written consent of Intrexon. With respect to the Intrexon Materials comprising Intrexon's vector assembly technology, Oragenics shall not, and shall ensure that Oragenics personnel and permitted sublicensees do not, except as otherwise expressly permitted under this Agreement, (a) distribute, sell, lend or otherwise transfer such Intrexon Materials to any Third Party; (b) co-mingle such Intrexon Materials with any other proprietary biological or chemical materials without Intrexon's written consent; or (c) analyze such Intrexon Materials or in any way attempt to reverse engineer or sequence such Intrexon Materials.

ARTICLE 4

OTHER RIGHTS AND OBLIGATIONS

4.1 Development and Commercialization. Subject to Sections 4.6 and 4.7, Oragenics shall be solely responsible for the development and Commercialization of Oragenics Products in the Field. Oragenics shall be responsible for all costs incurred in connection with the Program except that Intrexon shall be responsible for the following: (a) costs of establishing manufacturing capabilities and facilities in connection with Intrexon's manufacturing obligation under Section 4.6 (provided, however, that Intrexon may include an allocable portion of such costs, through depreciation and amortization, when calculating the Fully Loaded Cost of manufacturing an Oragenics Product, to the extent such allocation, depreciation, and amortization is permitted by US GAAP, it being recognized that the majority of non-facilities scale-up costs cannot be capitalized and amortized under US GAAP); (b) costs of basic research with respect to the Intrexon Channel Technology and Intrexon Materials (i.e., platform improvements) but, for clarity, excluding research described in Section 4.7 or research requested by the JSC for the development of an Oragenics Product (which research costs shall be reimbursed by Oragenics); (c) payments under Section 3.9(c)(i) in respect of Supplemental In-Licensed Third Party IP; and (d) costs of filing, prosecution and maintenance of Intrexon Patents. The costs encompassed within clause (a) of the previous sentence shall include the scale-up of Intrexon Materials for generating data for regulatory approval submissions and Commercialization of Oragenics Products undertaken pursuant to Section 4.6, which shall be at Intrexon's cost whether it elects to conduct such efforts internally or through Third Party contractors retained by either Intrexon or Oragenics (with Intrexon's consent).

4.2 Transfer of Technology and Information. The JSC shall develop a plan and protocol for each project and timing for the transfer of relevant data and Intrexon Materials.

4.3 Information and Reporting. Oragenics will keep Intrexon informed about Oragenics' efforts to develop and Commercialize Oragenics Products, including reasonable and accurate summaries of Oragenics' (and its Affiliates' and, if applicable, (sub)licensees') global development plans (as updated), including preclinical, clinical and regulatory plans, global marketing plans (as updated), progress towards meeting the goals and milestones in such plans and explanations of any material deviations, and significant developments in the development and/or Commercialization of the Oragenics Products, including initiation or completion of a clinical trial, submission of a United States or international regulatory filing, receipt of a response to such United States or international regulatory filing, clinical or product safety event, receipt of regulatory approval or commercial launch, and manufacturing costs and pricing information. As set forth in Section 3.8 above, Oragenics shall also provide to Intrexon copies of all final preclinical protocols and reports, final clinical protocols and reports, and regulatory correspondence and filings generated by Oragenics as soon as practical after they become available. Intrexon will keep Oragenics informed about Intrexon's efforts (a) to establish manufacturing capabilities and facilities for Oragenics Products (and Intrexon Materials relevant thereto) and otherwise perform its manufacturing responsibilities under Section 4.6 and (b) to undertake discovery-stage research for the Program with respect to the Intrexon Channel Technology and Intrexon Materials. Unless otherwise provided herein or directed by the JSC in accord with Section 4.2 above, such disclosures by Oragenics and Intrexon will be coordinated by the JSC and made in connection with JSC meetings at least once every six (6) months while Oragenics Products are being developed or Commercialized anywhere in the world, and shall be reflected in the minutes of such meetings.

4.4 Regulatory Matters. At all times after the Effective Date, Oragenics shall own and maintain, at its own cost, all regulatory filings and regulatory approvals for Oragenics Products that Oragenics is developing or Commercializing pursuant to this Agreement. As such, Oragenics shall be responsible for reporting all adverse events related to such Oragenics Products to the appropriate regulatory authorities in the relevant countries, in accordance with the applicable laws and regulations of such countries. To the extent that Intrexon will itself develop, or in collaboration with other third parties develop, Intrexon Materials outside of the Field, Intrexon may request that Oragenics and Intrexon establish and execute a separate safety data exchange agreement, which agreement will address and govern the timely exchange of safety information generated by Oragenics, Intrexon, and relevant third parties with respect to specific Intrexon Materials. The decision to list or not list Patents in any regulatory filing for an Oragenics Product (for example, as required by 21 C.F.R. § 314.53(b)), add or delete a Patent from a regulatory filing, or to otherwise identify a Patent to a third party in compliance with laws or regulations relating to regulatory approvals (for example, in compliance with 42 U.S.C. § 262(a)(1)(A)(k) *et seq.*) shall be determined by Intrexon, after consultation with Oragenics, except with respect to Product Specific Program Patents, which will be mutually determined by the Parties.

4.5 Diligence.

(a) Oragenics shall use, and shall require its Product Sublicensees to use, Diligent Efforts to develop and Commercialize Oragenics Products.

(b) Without limiting the generality of the foregoing, Intrexon may, from time to time, notify Oragenics that it believes it has identified a Superior Therapy, and in such case Intrexon shall provide to Oragenics its then-available information about such therapy and reasonable written support for its conclusion that the therapy constitutes a Superior Therapy. Oragenics shall have the following obligations with respect to such proposed Superior Therapy: (i) within sixty (60) days after such notification, Oragenics shall prepare and deliver to the JSC for review and approval a development plan detailing how Oragenics will pursue the Superior Therapy (including a proposed budget); (ii) Oragenics shall revise the development plan as directed by the JSC; and (iii) following approval of the development plan by the JSC, Oragenics shall use Diligent Efforts to pursue the development of the Superior Therapy under the Program in accordance with such development plan. If Oragenics fails to comply with the foregoing obligations, or if Oragenics unreasonably exercises its casting vote at the JSC to either (x) prevent the approval of a development plan for a Superior Therapy; (y) delay such approval more than sixty (60) days after delivery of the development plan to the JSC; or (z) approve a development plan that is insufficient in view of the nature and magnitude of the opportunity presented by the Superior Therapy, then Intrexon shall have the termination right set forth in Section 10.2(c) (subject to the limitation set forth therein). For clarity, any dispute arising under this 4.5, including any dispute as to whether a proposed project constitutes a Superior Therapy (as with any other dispute under this Agreement) shall be subject to dispute resolution in accordance with Article 11.

(c) The activities of Oragenics' Affiliates and any permitted sublicensees shall be attributed to Oragenics for the purposes of evaluating Oragenics' fulfillment of the obligations set forth in this Section 4.5.

4.6 Manufacturing. Intrexon shall have the option and, in the event it so elects, shall use Diligent Efforts, to perform any manufacturing activities in connection with the Program that relate to the Intrexon Materials, including through the use of a suitable Third Party contract manufacturer. To the extent that Intrexon so elects, Intrexon may request that Oragenics and Intrexon establish and execute a separate manufacturing and supply agreement, which agreement will establish and govern the production, quality assurance, and regulatory activities associated with manufacture of Intrexon Materials. Except as provided in Section 4.1, any manufacturing undertaken by Intrexon pursuant to the preceding sentence shall be performed in exchange for cash payments equal to Intrexon's Fully Loaded Cost in connection with such manufacturing, on terms to be negotiated by the Parties in good faith. In the event that Intrexon does not manufacture Intrexon Materials, bulk drug product or bulk quantities of other components of Oragenics Products, then Intrexon shall provide to Oragenics or a contract manufacturer selected by Oragenics and approved by Intrexon all Information Controlled by Intrexon that is (a) related to the manufacturing of such Intrexon Materials, bulk drug product or bulk qualities of other components of Oragenics Products, for use in the Field and (b) reasonably necessary to enable Oragenics or such contract manufacturer (as appropriate) for the sole purpose of manufacturing such Intrexon Materials, bulk drug product or bulk quantities of other components of Oragenics Products. The costs and expenses incurred by Intrexon in carrying out such transfer shall be borne by Intrexon. Any manufacturing Information transferred hereunder to Oragenics or its contract manufacturer shall not be further transferred to any Third Party, including any Product Sublicensee, or any Oragenics Affiliate without the prior written consent of Intrexon; provided, however, that Intrexon shall not unreasonably withhold such consent if necessary to permit Oragenics to switch manufacturers.

4.7 Support Services. The study plan produced by Intrexon under Section 1.2(b) and the Work Plan shall describe tasks by which Intrexon (by itself, through its Affiliates (including Actobiotics), or through designated Third Parties) will provide support services to Oragenics for the research and development of Oragenics Products under the Program, which tasks may be updated or amended from time to time by the JSC. Oragenics will compensate Intrexon for such support services with cash payments equal to Intrexon's Fully Loaded Cost in connection with such services. Additionally, from time to time, on an ongoing basis, Oragenics shall request, or Intrexon may propose, that Intrexon (by itself, through its Affiliates (including Actobiotics), or through designated Third Parties) perform certain additional support services with respect to the Program. To the extent that the Parties mutually agree that Intrexon (or its Affiliates (including Actobiotics) should perform such additional services, the Parties shall negotiate in good faith the terms under which services would be performed, it being understood that Intrexon and/or Actobiotics (as appropriate) would be compensated for such services by cash payments equal to their Fully Loaded Cost in connection with such services.

4.8 Compliance with Law. Each Party shall comply, and shall ensure that its Affiliates, (sub)licensees and Third Party contractors comply, with all applicable laws, regulations, and guidelines applicable to the Program, including without limitation those relating to the transport, storage, and handling of Intrexon Materials and Oragenics Products.

4.9 Trademarks and Patent Marking. To the extent permitted by applicable law and regulations, Oragenics shall, and shall ensure that the packaging, promotional materials, and labeling for Oragenics Products, as appropriate, shall carry, in a conspicuous location, the applicable Intrexon Trademark(s), subject to Oragenics' reasonable approval of the size, position, and location thereof. Consistent with the U.S. patent laws, Oragenics shall ensure that Oragenics Products, or their respective packaging or accompanying literature as appropriate, bear applicable and appropriate patent markings for Intrexon Patent numbers. Oragenics shall provide Intrexon with copies of any materials containing the Intrexon Trademarks or patent markings prior to using or disseminating such materials, in order to obtain Intrexon's approval thereof. Oragenics' use of the Intrexon Trademarks and patent markings shall be subject to prior review and approval of the IPC. Oragenics acknowledges Intrexon's sole ownership of the Intrexon Trademarks and agrees not to take any action inconsistent with such ownership. Oragenics covenants that it shall not use any trademark confusingly similar to any Intrexon Trademarks in connection with any products (including any Oragenics Product). From time to time during the Term, Intrexon shall have the right to obtain from Oragenics samples of Oragenics Product sold by Oragenics or its Affiliates or sublicensees, or other items which reflect public uses of the Intrexon Trademarks or patent markings, for the purpose of inspecting the quality of such Oragenics Products, the use of the Intrexon Trademarks, or the accuracy of the patent markings. In the event that Intrexon inspects under this Section 4.9, Intrexon shall notify the result of such inspection to Oragenics in writing thereafter. Oragenics shall comply with reasonable policies provided by Intrexon from time-to-time to maintain the goodwill and value of the Intrexon Trademarks.

4.10 Reporting Compliance. During the Term, in the event that Intrexon notifies Oragenics that Intrexon has reasonably concluded, after consultation with its outside advisors, that Intrexon will be required to consolidate Oragenics' financial statements with its own or otherwise incorporate summary financial information of Oragenics in one of or more of Intrexon's financial reports and filings as required by US GAAP or SEC requirements, Oragenics shall comply with the additional obligations set forth below in this Section 4.10.

(a) Oragenics shall keep its books and records consistent with US GAAP.

(b) Oragenics shall provide to Intrexon a complete set of draft basic financial statements and a draft of Oragenics' Form 10-Q within twenty-eight (28) days after the end of the calendar quarter. Such financial statements may be unaudited and should be prepared in accordance with SEC and US GAAP requirements. Additionally, if not otherwise disclosed in any such draft Form 10-Q of Oragenics, Oragenics shall provide Intrexon with its anticipated cash dry date concurrent with providing the draft Form 10-Q.

(c) Oragenics shall provide to Intrexon a complete set of draft audited financial statements, including accompanying footnotes, as of and for the end of each fiscal year and a draft of Oragenics' Form 10-K within sixty (60) days after the end of such fiscal year. Such financial statements must be prepared in accordance with SEC and US GAAP requirements. Additionally, if not otherwise disclosed in any such Form 10-K of Oragenics, Oragenics shall provide Intrexon with its anticipated cash dry date concurrent with providing the draft Form 10-K.

(d) Oragenics shall communicate in writing as soon as practical to Intrexon any material weaknesses or significant deficiencies in internal accounting controls as well as context regarding the cause and planned disposition of such material weakness or significant deficiencies.

(e) Oragenics shall communicate in writing as soon as practical to Intrexon any adverse event which may result in a material adjustment to the carrying value of Intrexon's holdings in Oragenics securities.

(f) Oragenics shall provide to Intrexon, within a reasonable time frame, any other items related to Oragenics operations that may be reasonably requested by Intrexon to meet its compliance requirements under applicable laws and regulations, including filing requirements with the SEC and any other regulators.

(g) Oragenics shall work with its external auditors to cause any necessary auditor consents or other items needed from such external auditors to be provided timely to Intrexon in order for Intrexon to meet any SEC filing requirements or other compliance requirements under applicable laws and regulations.

4.11 Modification of Deadlines. The parties agree that the delivery deadlines in Section 4.10 will be modified to the extent necessary to ensure that such deliverables are provided by Oragenics in a reasonable time frame prior to the date necessary for Intrexon to meet any disclosure obligation under rules or regulations to which Intrexon may be or become subject from time to time. Intrexon will provide Oragenics with notice as promptly as practicable regarding any changes in Intrexon's disclosure obligations that would require a change in delivery deadlines or cure periods per this Section 4.11.

4.12 Transfer of Information. Promptly following the Effective Date and in order to support timely adoption of the Work Plan by the JSC, Intrexon shall promptly provide to Oragenics copies of relevant data, regulatory approvals and regulatory filings that relate to the development and clinical testing of AG013. Thereafter, as additional projects are included in the Program, the JSC shall develop a plan and protocol for each such project relating to the transfer of relevant data and Intrexon Materials.

ARTICLE 5

COMPENSATION

5.1 Technology Access Fee. In partial consideration for Oragenics' appointment as an exclusive channel collaborator in the Field and the other rights granted to Oragenics hereunder, contemporaneously with the execution of this Agreement Oragenics shall deliver to Intrexon a note in the amount of five million United States dollars ($5,000,000) (the "**Technology Access Fee**") to Intrexon, all in accordance with the terms and conditions of that certain Stock Issuance Agreement of even date herewith (the "**Equity Agreement**"). Provided that all closing conditions for the full payment of the fee under this Section 5.1 to Intrexon as set forth in the Equity Agreement that are within the reasonable control of Intrexon have been satisfied or waived, the full payment to Intrexon of the Technology Access Fee (including the final issuance of any shares by Oragenics as payment therefor per the terms and conditions set forth in the Equity Agreement) is a condition subsequent to the effectiveness of this Agreement.

5.2 Milestones.

(a) Oragenics Commercialization Milestones. Upon the attainment of certain Commercialization Milestone Events by an Oragenics Product (whether such attainment is achieved by Oragenics or by a permitted sublicensee), Oragenics has agreed to pay Intrexon milestone payments as set forth in this Section 5.2. The milestone payments are each payable, at Oragenics' election but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock (using Fair Market Value, as defined in the Equity Agreement, to calculate the number of shares to be issued to Intrexon in lieu of cash). The specific milestone payments due to Intrexon upon achievement of each of the Commercialization Milestone Events are set forth in Sections 5.2(a)(i) through 5.3(a)(vi) below.

(i) Oragenics shall pay Intrexon a milestone payment of two million United States dollars ($2,000,000) within thirty (30) days of each achievement of the Phase II Milestone Event for each different Oragenics Product, said payment being made, at Oragenics' option but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock. A second or a subsequent occurrence of the Phase II Milestone Event shall only give rise to an obligation upon Oragenics to make the payment to Intrexon under this Section 5.2(a)(i) if such respective second or subsequent occurrence of the Phase II Milestone Event occurs after the FDA has granted an approval to an FDA New Product Application for at least one Oragenics Product under the Program.

(ii) Oragenics shall pay Intrexon a milestone payment of five million United States dollars ($5,000,000) within thirty (30) days of each achievement of the Phase

IIb/III Milestone Event for each different Oragenics Product, said payment being made, at Oragenics' option but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock. A second or a subsequent occurrence of the Phase IIb/III Milestone Event shall only give rise to an obligation upon Oragenics to make the payment to Intrexon under this Section 5.2(a)(ii) if such respective second or subsequent occurrence of the Phase IIb/III Milestone Event occurs after the FDA has granted an approval to an FDA New Product Application for at least one Oragenics Product under the Program.

(iii) Oragenics shall pay Intrexon a milestone payment of five million United States dollars ($5,000,000) within thirty (30) days of each achievement of the Regulatory Approval Application Milestone Event for each different Oragenics Product, said payment being made, at Oragenics' option but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock. A second or a subsequent occurrence of the Regulatory Approval Application Milestone Event shall only give rise to an obligation upon Oragenics to make the payment to Intrexon under this Section 5.2(a)(iii) if such respective second or subsequent occurrence of the Regulatory Approval Application Milestone Event occurs after the FDA has granted an approval to an FDA New Product Application for at least one Oragenics Product under the Program.

(iv) Oragenics shall pay Intrexon a milestone payment of ten million United States dollars ($10,000,000) within thirty (30) days of each achievement of the Approval Milestone Event for each different Oragenics Product, said payment being made, at Oragenics' option but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock.

(v) Oragenics shall pay Intrexon a one-time milestone payment of five million United States dollars ($5,000,000) within thirty (30) days of the first instance of the achievement of the New Indication Milestone Event, said payment being made, at Oragenics' option but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock.

(vi) Oragenics shall pay Intrexon a one-time milestone payment of five million United States dollars ($5,000,000) within thirty (30) days of the first instance of the achievement of the New Product Milestone Event, said payment being made, at Oragenics' option but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock.

For purposes of subsections (i) through (iv) above in this Section 5.2(a), a later Oragenics Product shall be deemed to be a "different" Oragenics Product from an earlier Oragenics Product (and thus trigger a subsequent occurrence of the respective milestone payment obligation under any one of subsections (i) through (iv)) if regulatory approval of the later Oragenics Products must be obtained from the FDA under a different FDA New Product Application than the earlier Oragenics Product. Conversely and for clarity, a later Oragenics Product shall not be deemed "different" from an earlier Oragenics Product for these milestones if the respective Commercialization Milestone Event occurs in support of a supplemental FDA New Drug Product Application that was being pursued to obtain labeling approval for new, added, expanded, or amended indications for an earlier Oragenics Product that had already obtained

FDA approval (i.e., the respective milestone shall not be triggered a second time in these instances of Oragenics pursuing new indications for pre-existing and pre-approved Oragenics Products). Notwithstanding anything in this Agreement to the contrary, but subject to its obligation under Section 4.5(a), Oragenics shall have sole and exclusive control over clinical trials (including patient dosing) and regulatory filings (including the jurisdictions in which such filings are made) for the purpose of the Commercialization Milestones in Section 5.2(a)(i)-(vi) as applicable.

(b) Milestones After Company Sale or After Reverse Merger. In the event that Oragenics consummates a Company Sale prior to paying to Intrexon any one or more of the respective milestone payments set forth in Sections 5.2(a)(i) through 5.2(a)(vi) and this Agreement is transferred or assigned to the buyer in connection with such Company Sale, then all subsequent payments for Commercialization Milestone Events shall thereafter each be payable only in cash to Intrexon. In the event that Oragenics consummates a Reverse Merger, subsequent milestone payments to Intrexon set forth in Sections 5.2(a)(i) through 5.2(a)(vi), shall be payable, at Intrexon's option (and not Oragenics' option), only in cash to Intrexon.

(c) Product Sublicense Milestones. If (A) a Commercialization Milestone Event occurs that gives rise to a right for Intrexon to receive a payment from Oragenics under Section 5.2(a), (B) that Commercialization Milestone Event is achieved by an Oragenics Product licensed to a Product Sublicensee under a respective Product Sublicense, and (C) Oragenics is due to receive a milestone payment from the Product Sublicensee for achievement of that same (or substantially similar) Commercialization Milestone Event by the sublicensed Oragenics Product under the respective Product Sublicense, then Intrexon may elect at its own discretion to waive that particular milestone payment from Oragenics for that particular Commercialization Milestone Event and instead designate the amount of the payment due to Oragenics from the Product Sublicensee for achievement of that same (or substantially similar) Commercialization Milestone Event as Sublicensing Revenue for which Intrexon will be entitled to receive revenue sharing under Section 5.4(b). If it so elects under this Section 5.2(c), Intrexon must notify Oragenics in writing of its waiver of the equity-based milestone and election to share the milestone payment due from the Product Sublicensee as Sublicensing Revenue at least five (5) business days prior to the deadline for Oragenics to make a payment for the waived milestone payment. The actual receipt by Intrexon of its full share of the Product Sublicensee milestone payment as Sublicensing Revenue will be a condition subsequent to making final any waiver of Intrexon's rights to receive the particular milestone payment otherwise due from Oragenics under Section 5.2(a). Oragenics will pay Intrexon any amount due under this Section 5.2(c) within the later of (i) thirty (30) days from underlying Commercialization Milestone Event, or (ii) ten (10) days following the date stipulated in the underlying Product Sublicense for Oragenics to receive the milestone payment.

(d) Consolidation. The Parties agree that Oragenics' option to pay any milestone payments that come due for achievement of Commercialization Milestone Events under this Agreement in equity shall in no event require Intrexon to accept equity of Oragenics as payment if, upon Intrexon's reasonable conclusion after consultation with its outside advisors, receipt of such equity payment by Intrexon would cause Intrexon to have to consolidate Oragenics' financial statements with Intrexon's financial statements. To this end, upon each achievement of any Commercialization Milestone Event that triggers a milestone payment being

due by Oragenics to Intrexon under Section 5.2(a) above, Oragenics shall notify Intrexon as soon as possible if Oragenics intends to elect to pay the specific milestone payment in equity, such notification being in writing and delivered to Intrexon in no event less than ten (10) business days from the date of achievement of the respective Commercialization Milestone Event. If Oragenics does not so-notify Intrexon within the time frame set forth in the prior sentence, such specific Commercialization Milestone payment shall become payable to Intrexon solely in cash. Additionally, upon receiving any notice from Oragenics under the second sentence of this Section 5.2(d) of Oragenics' intent to pay a particular Commercialization Milestone payment in equity, Intrexon will therefrom have five (5) business days to consult with its outside advisors to conclude whether the expected payment of Oragenics equity to Intrexon is reasonably likely to cause Intrexon to be required to consolidate Oragenics' financial statements with its own. If Intrexon reasonably concludes, after consultation with its outside advisors, that payment of the respective amount in Oragenics equity would cause consolidation, (i) Intrexon may notify Oragenics of this conclusion within such five (5) business days from Intrexon's receipt of Oragenics' notice under this subsection, and (ii) upon Intrexon so-notifying Oragenics, the payment due for achievement of the respective Commercialization Milestone Event shall be payable by Oragenics solely in cash, provided, however, that in the event Oragenics reasonably concludes that such cash payment would have an adverse effect on its working capital needs over the next twelve (12) months then such cash payment shall be in the form of an interest bearing (under Section 5.9) promissory note with a maturity date of less than twelve (12) months and including other conventional market terms that would not be expected to unreasonably have an adverse effect on Oragenics working capital needs over such next twelve (12) months.

5.3 Equity Agreement Controls. All issuances of stock to Intrexon shall be in accordance with the terms and conditions of the Equity Agreement, which Equity Agreement shall control to the extent it may conflict with Sections 5.1 through 5.2 of this Agreement.

5.4 Revenue Sharing.

(a) No later than thirty (30) days after each calendar quarter in which there is positive Net Sales arising from the sale of any Oragenics Product in the Field in the Territory, Oragenics shall pay a royalty to Intrexon of twelve percent (12%) of such Net Sales, on an Oragenics Product-by-Oragenics Product basis. Commencing with the Effective Date, in the event that no Net Sales occur for a particular Oragenics Product in any calendar quarter, neither Oragenics nor Intrexon shall owe any payments hereunder with respect to such Oragenics Product.

(b) No later than thirty (30) days after each calendar quarter in which Oragenics or any Oragenics Affiliate receives Sublicensing Revenue, Oragenics shall pay to Intrexon a percentage of such Sublicensing Revenue equal to the applicable Sublicensing Revenue Rate.

(c) Intrexon and Actobiotics shall be responsible for determining how any revenue sharing payments from Oragenics due under Section 5.4(a) and 5.4(b) above are distributed among Intrexon and Actobiotics.

5.5 Method of Payment. Except for payments payable as and made in the form of common stock, payments due to Intrexon under this Agreement shall be paid in United States dollars by wire transfer to a bank (or banks as otherwise set forth in Section 5.8) designated in writing by Intrexon. All references to "dollars" or "$" herein shall refer to United States dollars.

5.6 Payment Reports and Records Retention. Within thirty (30) days after the end of each calendar quarter during which Net Sales have been generated, during which Sublicensing Revenue has been received, or during which a Commercialization Milestone Event has been achieved or a payment for such is made or due, Oragenics shall deliver to Intrexon a written report that shall contain at a minimum for the applicable calendar quarter:

(a) gross sales of each Oragenics Product (on a country-by-country basis);

(b) itemized calculation of Net Sales, showing all applicable deductions and calculations;

(c) itemized calculation of Sublicensing Revenue, including any offsets claimed for Third Party license costs;

(d) the amount of the payment (if any) due pursuant to Section 5.4(a) and/or 5.4(b);

(e) the amount of the payment (if any) made or made due by the achievement of an applicable Commercialization Milestone Event during the present calendar quarter;

(f) the amount of taxes, if any, withheld to comply with any applicable law; and

(g) the exchange rates used in any of the foregoing calculations.

For three (3) years after each sale or other commercial use of Oragenics Product, after incurring any component item Oragenics incorporated into its calculation of Sublicensing Revenues, payments in accord with Section 5.2(b), or Net Sales as reported to Intrexon, Oragenics shall keep (and shall ensure that its Affiliates and, if applicable, (sub)licensees shall keep) complete and accurate records of such sales, commercial use, or component item in sufficient detail to confirm the accuracy of the payment calculations hereunder.

5.7 Audits.

(a) Upon the written request of Intrexon, Oragenics shall permit an independent certified public accounting firm of internationally recognized standing selected by Intrexon, and reasonably acceptable to Oragenics, to have access to and to review, during normal business hours and upon no less than thirty (30) days prior written notice, the applicable records of Oragenics and its Affiliates to verify the accuracy and timeliness of the reports and payments made by Oragenics under this Agreement. Such review may cover the records for sales made in any calendar year ending not more than three (3) years prior to the date of such request. The accounting firm shall disclose to both Parties whether the royalty reports and/or know-how reports conform to the provisions of this Agreement and/or US GAAP, as applicable, and the specific details concerning any discrepancies. Such audit may not be conducted more than once in any calendar year.

(b) If such accounting firm concludes that additional amounts were owed during such period, Oragenics shall pay additional amounts, with interest from the date originally due as set forth in Section 5.9, within thirty (30) days of receipt of the accounting firm's written report. If the amount of the underpayment is greater than five percent (5%) of the total amount actually owed for the period audited, then Oragenics shall in addition reimburse Intrexon for all costs related to such audit; otherwise, Intrexon shall pay all costs of the audit. In the event of overpayment, any amount of such overpayment shall be fully creditable against amounts payable for the immediately succeeding calendar quarter(s); provided, however, that if such overpayment is reasonably expected to exceed the amount projected to be payable to Intrexon by Oragenics over next two calendar quarters combined, Intrexon will promptly repay to Oragenics any amount exceeding that projected amount.

(c) Intrexon shall (i) treat all information that it receives under this Section 5.7 in accordance with the confidentiality provisions of Article 7 and (ii) cause its accounting firm to enter into an acceptable confidentiality agreement with Oragenics obligating such firm to retain all such financial information in confidence pursuant to such confidentiality agreement, in each case except to the extent necessary for Intrexon to enforce its rights under this Agreement.

5.8 Taxes. The Parties will cooperate in good faith to obtain the benefit of any relevant tax treaties to minimize as far as reasonably possible any taxes which may be levied on any amounts payable hereunder. Oragenics shall deduct or withhold from any payments any taxes that it is required by applicable law to deduct or withhold. Notwithstanding the foregoing, if Intrexon is entitled under any applicable tax treaty to a reduction of the rate of, or the elimination of, applicable withholding tax, it may deliver to Oragenics or the appropriate governmental authority (with the assistance of Oragenics to the extent that this is reasonably required and is expressly requested in writing) the prescribed forms necessary to reduce the applicable rate of withholding or to relieve Oragenics of its obligation to withhold tax, and Oragenics shall apply the reduced rate of withholding tax, or dispense with withholding tax, as the case may be, provided that Oragenics has received evidence of Intrexon's delivery of all applicable forms (and, if necessary, its receipt of appropriate governmental authorization) at least fifteen (15) days prior to the time that the payment is due. If, in accordance with the foregoing, Oragenics withholds any amount, it shall make timely payment to the proper taxing authority of the withheld amount, and send to Intrexon proof of such payment within forty-five (45) days following that latter payment. Additionally, Intrexon may on an Oragenics Product-by-Oragenics Product basis, and acting upon reasonable advice of outside tax and/or accounting advisors, request in writing that Oragenics make all of, or a percentage of, any payment that becomes due under Section 5.2 or Section 5.4 above to Intrexon's Affiliate directly (instead of to Intrexon), to the extent that such Affiliate has contributed intellectual property to the respective Oragenics Product. To the extent that Oragenics has received such a request from Intrexon under the prior sentence at least thirty (30) days prior to the time that the payment is due, Oragenics shall honor the request to make the applicable payments (in whole or in part, as applicable) to the Intrexon Affiliate.

5.9 Late Payments. Any amount owed by Oragenics to Intrexon under this Agreement that is not paid within the applicable time period set forth herein shall accrue interest at the lower of (a) two percent (2%) per month, compounded, or (b) the highest rate permitted under applicable law.

ARTICLE 6

INTELLECTUAL PROPERTY

6.1 Ownership.

(a) Subject to the license granted under Section 3.1, all rights in the Intrexon IP shall remain with Intrexon.

(b) Oragenics and/or Intrexon may solely or jointly conceive, reduce to practice or develop discoveries, inventions, processes, techniques, and other technology, whether or not patentable, in the course of performing the Program (collectively "**Inventions**"). Each Party shall promptly provide the other Party with a detailed written description of any such Inventions that relate to the Field. Inventorship shall be determined in accordance with United States patent laws.

(c) Intrexon shall solely own all right, title and interest in all Inventions related to Intrexon Channel Technology, together with all Patent rights and other intellectual property rights therein (the "**Channel-Related Program IP**"). Oragenics hereby assigns all of its right, title and interest in and to the Channel-Related Program IP to Intrexon. Oragenics agrees to execute such documents and perform such other acts as Intrexon may reasonably request to obtain, perfect and enforce its rights to the Channel-Related Program IP and the assignment thereof.

(d) Notwithstanding anything to the contrary in this Agreement, any discovery, invention, process, technique, or other technology, whether or not patentable, that is conceived, reduced to practice or developed by Oragenics solely or jointly through the use of the Intrexon Channel Technology, Intrexon IP, or Intrexon Materials in breach of the terms and conditions of this Agreement, together with all patent rights and other intellectual property rights therein, shall be solely owned by Intrexon and shall be included in the Channel-Related Program IP.

(e) All Information regarding Channel-Related Program IP shall be Confidential Information of Intrexon. Oragenics shall be under appropriate written agreements with each of its employees, contractors, or agents working on the Program, pursuant to which such person shall grant all rights in the Inventions to Oragenics (so that Oragenics may convey certain of such rights to Intrexon, as provided herein) and agree to protect all Confidential Information relating to the Program.

(f) All rights, technology, and intellectual property (A) owned by Oragenics or licensed from a Third Party by Oragenics as of the Effective Date, or (B) thereafter developed by Oragenics independent of the Program, Actobiotics IP, Intrexon Channel Technology, Intrexon IP or Intrexon Materials, shall be owned by and remain the property of Oragenics (the "**Oragenics Independent IP**").

6.2 Patent Prosecution.

(a) Intrexon shall have the sole right, but not the obligation, to (a) conduct and control the filing, prosecution and maintenance of the Intrexon Patents, and (b) conduct and control the filing, prosecution, and maintenance of any applications for patent term extension and/or supplementary protection certificates for the Intrexon Patents that may be available as a result of the regulatory approval of any Oragenics Product. At the reasonable request of Intrexon, Oragenics shall cooperate with Intrexon in connection with such filing, prosecution, and maintenance, at Intrexon's expense. Under no circumstances shall Oragenics (a) file, attempt to file, or assist anyone else in filing, or attempting to file, any Patent application, either in the United States or elsewhere, that claims or uses or purports to claim or use or relies for support upon an Invention owned by Intrexon, (b) use, attempt to use, or assist anyone else in using or attempting to use, the Intrexon Know-How, Intrexon Materials, or any Confidential Information of Intrexon to support the filing of a Patent application, either in the United States or elsewhere, that contains claims directed to the Intrexon IP, Intrexon Materials, or the Intrexon Channel Technology, or (c) without prior approval of the IPC, file, attempt to file, or assist anyone else in filing, or attempting to file, any application for patent term extension or supplementary protection certificate, either in the United States or elsewhere, that relies upon the regulatory approval of an Oragenics Product.

(b) Oragenics shall have the sole right, but not the obligation, to conduct and control the filing, prosecution and maintenance of any Patents claiming Inventions that are owned by Oragenics or its Affiliates and not assigned to Intrexon under Section 6.1(c) ("**Oragenics Program Patents**"). At the reasonable request of Oragenics, Intrexon shall cooperate with Oragenics in connection with such filing, prosecution, and maintenance, at Oragenics' expense.

(c) As used herein, "**Prosecuting Party**" means Intrexon in the case of Intrexon Patents and Oragenics in the case of Oragenics Program Patents. The Prosecuting Party shall be entitled to use patent counsel selected by it and reasonably acceptable to the non-Prosecuting Party (including in-house patent counsel as well as outside patent counsel) for the prosecution of the Intrexon Patents and Oragenics Program Patents, as applicable. The Prosecuting Party shall:

(i) regularly provide the other Party in advance with reasonable information relating to the Prosecuting Party's prosecution of Patents hereunder, including by providing copies of substantive communications, notices and actions submitted to or received from the relevant patent authorities and copies of drafts of filings and correspondence that the Prosecuting Party proposes to submit to such patent authorities (it being understood that, to the extent that any such information is readily accessible to the public, the Prosecuting Party may, in lieu of directly providing copies of such information to such other Party, provide such other Party with sufficient information that will permit such other Party to access such information itself directly);

(ii) consider in good faith and consult with the non-Prosecuting Party regarding its timely comments with respect to the same; provided, however, that if, within fifteen (15) days after providing any documents to the non-Prosecuting Party for comment, the Prosecuting Party does not receive any written communication from the non-Prosecuting Party indicating that it has or may have comments on such document, the Prosecuting Party shall be entitled to assume that the non-Prosecuting Party has no comments thereon;

(iii) consult with the non-Prosecuting Party before taking any action that would reasonably be expected to have a material adverse impact on the scope of claims within the Intrexon Patents and Oragenics Program Patents, as applicable.

6.3 Infringement of Patents by Third Parties.

(a) Except as expressly provided in the remainder of this Section 6.3, Intrexon shall have the sole right to take appropriate action against any person or entity directly or indirectly infringing any Intrexon Patent (or asserting that an Intrexon Patent is invalid or unenforceable) (collectively, "**Infringement**"), either by settlement or lawsuit or other appropriate action.

(b) Notwithstanding the foregoing, Oragenics shall have the first right, but not the obligation, to take appropriate action to enforce Product-Specific Program Patents against any Infringement that involves a commercially material amount of allegedly infringing activities in the Field ("**Field Infringement**"), either by settlement or lawsuit or other appropriate action. If Oragenics exercises the foregoing right, Intrexon agrees to be named in any such action if required. If Oragenics fails to take the appropriate steps to enforce Product-Specific Program Patents against any Field Infringement within one hundred eighty (180) days of the date one Party has provided notice to the other Party pursuant to Section 6.3(g) of such Field Infringement, then Intrexon shall have the right (but not the obligation), at its own expense, to enforce Product-Specific Program Patents against such Field Infringement, either by settlement or lawsuit or other appropriate action.

(c) With respect to any Field Infringement that cannot reasonably be abated through the enforcement of Product-Specific Program Patents pursuant to Section 6.3(b) but can reasonably be abated through the enforcement of Intrexon Patent(s) (other than the Product-Specific Program Patents), Intrexon shall be obligated to choose one of the following courses of action: (i) enforce one or more of the applicable Intrexon Patent(s) in a commercially reasonable manner against such Field Infringement, or (ii) enable Oragenics to do so directly. The Party enforcing the applicable Intrexon Patent(s) shall bear the costs and expenses of such enforcement. The determination of which Intrexon Patent(s) to assert shall be made by Intrexon in its sole discretion; provided, however, that Intrexon shall consult in good faith with Oragenics on such determination. For the avoidance of doubt, Intrexon has no obligations under this Agreement to enforce any Intrexon Patents against, or otherwise abate, any Infringement that is not a Field Infringement.

(d) In the event a Party pursues an action under this Section 6.3, the other Party shall reasonably cooperate with the enforcing Party with respect to the investigation and prosecution of any alleged, threatened, or actual Infringement, at the enforcing Party's expense.

(e) Oragenics shall not settle or otherwise compromise any action under this Section 6.3 in a way that diminishes the rights or interests of Intrexon outside the Field or adversely affects any Intrexon Patent without Intrexon's prior written consent, which consent shall not be unreasonably withheld. Intrexon shall not settle or otherwise compromise any action under this Section 6.3 in a way that diminishes the rights or interests of Oragenics in the Field or adversely affects any Intrexon Patent with respect to the Field without Oragenics' prior written consent, which consent shall not be unreasonably withheld.

(f) Except as otherwise agreed to by the Parties in writing, any settlements, damages or other monetary awards recovered pursuant to a suit, proceeding, or action brought pursuant to Section 6.3 will be allocated first to the costs and expenses of the Party controlling such action, and second, to the costs and expenses (if any) of the other Party (to the extent not otherwise reimbursed), and any remaining amounts (the **"Recovery"**) will be shared by the Parties as follows: In any action initiated by Intrexon pursuant to Section 6.3(a) that does not involve Field Infringement, or in any action initiated by Intrexon pursuant to Section 6.3(b), Intrexon shall retain one hundred percent (100%) of any Recovery. In any action initiated by Oragenics pursuant to Section 6.3(b), Oragenics shall retain one hundred percent (100%) of any Recovery, but such Recovery shall be shared with Intrexon as Sublicensing Revenue. In any action initiated by Intrexon or Oragenics pursuant to Section 6.3(c), the enforcing Party shall retain one hundred percent (100%) of any Recovery.

(g) Oragenics shall promptly notify Intrexon in writing of any suspected, alleged, threatened, or actual Infringement of which it becomes aware, and Intrexon shall promptly notify Oragenics in writing of any suspected, alleged, threatened, or actual Field Infringement of which it becomes aware.

ARTICLE 7

CONFIDENTIALITY

7.1 Confidentiality. Except to the extent expressly authorized by this Agreement or otherwise agreed in writing by the Parties, each Party agrees that it shall keep confidential and shall not publish or otherwise disclose and shall not use for any purpose other than as provided for in this Agreement any Confidential Information disclosed to it by the other Party pursuant to this Agreement, except to the extent that the receiving Party can demonstrate by competent evidence that specific Confidential Information:

(a) was already known to the receiving Party, other than under an obligation of confidentiality, at the time of disclosure by the other Party;

(b) was generally available to the public or otherwise part of the public domain at the time of its disclosure to the receiving Party;

(c) became generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the receiving Party in breach of this Agreement;

(d) was disclosed to the receiving Party, other than under an obligation of confidentiality to a Third Party, by a Third Party who had no obligation to the disclosing Party not to disclose such information to others; or

(e) was independently discovered or developed by the receiving Party without the use of Confidential Information belonging to the disclosing Party, as documented by the receiving Party's written records.

The foregoing non-use and non-disclosure obligation shall continue (i) indefinitely, for all Confidential Information that qualifies as a trade secret under applicable law; or (ii) for the Term of this Agreement and for seven (7) years thereafter, in all other cases.

7.2 Authorized Disclosure. Notwithstanding the limitations in this Article 7, either Party may disclose the Confidential Information belonging to the other Party to the extent such disclosure is reasonably necessary in the following instances:

(a) complying with applicable laws or regulations or valid court orders, *provided that* the Party making such disclosure provides the other Party with reasonable prior written notice of such request or demand for disclosure and makes a reasonable effort to obtain, or to assist the other Party in obtaining, a protective order preventing or limiting the disclosure and/or requiring that the terms and conditions of this Agreement be used only for the purposes for which the law or regulation required, or for which the order was issued;

(b) to regulatory authorities in order to seek or obtain approval to conduct clinical trials, or to gain regulatory approval, of Oragenics Products or any products being developed by Intrexon or its other licensees and/or channel partners or collaborators, provided that the Party making such disclosure (i) provides the other Party with reasonable opportunity to review any such disclosure in advance and to suggest redactions or other means of limiting the disclosure of such other Party's Confidential Information and (ii) does not unreasonably reject any such suggestions;

(c) disclosure to investors and potential investors, acquirers, or merger candidates who agree to maintain the confidentiality of such information, *provided that* such disclosure is used solely for the purpose of evaluating such investment, acquisition, or merger (as the case may be);

(d) disclosure on a need-to-know basis to Affiliates, licensees, sublicensees, employees, consultants or agents (such as CROs and clinical investigators) who agree to be bound by obligations of confidentiality and non-use at least equivalent in scope to those set forth in this Article 7; and

(e) disclosure of the terms of this Agreement by Intrexon to collaborators and other channel partners or collaborators who agree to be bound by obligations of confidentiality and non-use at least equivalent in scope to those set forth in this Article 7.

7.3 Publicity; Publications. The Parties agree that the public announcement of the execution of this Agreement shall be substantially in the form of a press release (the form of which shall be mutually agreed to by the Parties) and/or the filing of a Form 8-K by one or both

of the Parties (to the extent required by relevant laws or regulations relating to required disclosure of material information to public markets and/or the SEC). Each Party will provide the other Party with the opportunity to review and comment, prior to submission or presentation, on external reports, securities filings, publications and presentations (e.g., press releases, reports to government agencies, abstracts, posters, manuscripts and oral presentations) that refer to the Program, Oragenics Products, or programs that are approved by the JSC. For such reports, publications, and presentations, the disclosing Party will provide the other Party at least fifteen (15) calendar days for review of the proposed submission or presentation. In the case of a Form 8-K filing, such shall be provided to the non-filing Party by the filing party as soon as practicable prior to filing for review and comment. For reports and manuscripts, the disclosing Party will provide the other Party at least thirty (30) days for review of the report or manuscript. The presenting Party will act in good faith to incorporate the comments of the other Party and shall, in any event, redact any Confidential Information of the other Party and cooperate with the other Party to postpone such submissions or presentations if necessary to provide the other Party with sufficient time to prepare and file any related Patent applications before the submission or presentation occurs, as appropriate.

7.4 Terms of the Agreement. Each Party shall treat the terms of this Agreement as the Confidential Information of other Party, subject to the exceptions set forth in Section 7.2. Notwithstanding the foregoing, each Party acknowledges that the other Party may be obligated to file a copy of this Agreement with the SEC, either as of the Effective Date or at some point during the Term. Each Party shall be entitled to make such a required filing, provided that it requests confidential treatment of certain commercial terms and sensitive technical terms hereof to the extent such confidential treatment is reasonably available to it. In the event of any such filing, the filing Party shall provide the other Party with a copy of the Agreement marked to show provisions for which the filing Party intends to seek confidential treatment and shall reasonably consider and incorporate the other Party's comments thereon to the extent consistent with the legal requirements governing redaction of information from material agreements that must be publicly filed. The other Party shall promptly provide any such comments.

7.5 Proprietary Information and Operational Audits.

(a) For the purpose of confirming compliance with the Field-limited licenses granted in Article 3, the diligence obligations of Article 4, and the confidentiality obligations under Article 7, Oragenics acknowledges that Intrexon's authorized representative(s), during regular business hours may (i) examine and inspect Oragenics' facilities and (ii) inspect all data and work products relating to this Agreement, subject to restrictions imposed by applicable laws. Any examination or inspection hereunder shall require five (5) business days written notice from Intrexon to Oragenics. Oragenics will make itself and the pertinent employees and/or agents available, on a reasonable basis, to Intrexon for the aforementioned compliance review.

(b) For the purpose of confirming compliance with the diligence obligations of Section 4.6, and the confidentiality obligations under Article 7, Intrexon acknowledges that Oragenics authorized representative(s), during regular business hours may (i) examine and inspect Intrexon's facilities and (ii) inspect all data and work products relating to this Agreement. Any examination or inspection hereunder shall require five (5) business days written notice from Oragenics to Intrexon. Intrexon will make itself and the pertinent employees and/or agents available, on a reasonable basis, to Oragenics for the aforementioned compliance review.

(c) In view of the Intrexon Confidential Information, Intrexon Know-How, and Intrexon Materials transferred to Oragenics hereunder, Intrexon from time-to-time, but no more than quarterly, may request that Oragenics confirm the status of the Intrexon Materials at Company (i.e. how much used, how much shipped, to whom and any unused amounts destroyed (by whom, when) as well as any amounts returned to Intrexon or destroyed). Within ten (10) business days of Oragenics' receipt of any such written request, Oragenics shall provide the written report to Intrexon.

7.6 Intrexon and Actobiotics Commitment. Intrexon and Actobiotics shall use reasonable efforts to obtain an agreement with its other licensees and channel partners or collaborators to enable Oragenics to disclose confidential information of such licensees and channel partners or collaborators to regulatory authorities in order to seek or obtain approval to conduct clinical trials, or to gain regulatory approval of, Oragenics Products, in a manner consistent with the provisions of Section 7.2(b).

ARTICLE 8

REPRESENTATIONS AND WARRANTIES

8.1 Representations and Warranties of Oragenics. Oragenics hereby represents and warrants to Intrexon and Actobiotics that, as of the Effective Date:

(a) Corporate Power. Oragenics is duly organized and validly existing under the laws of Florida and has corporate full power and authority to enter into this Agreement and to carry out the provisions hereof.

(b) Due Authorization. Oragenics is duly authorized to execute and deliver this Agreement and to perform its obligations hereunder, and the person executing this Agreement on Oragenics' behalf has been duly authorized to do so by all requisite corporate action.

(c) Binding Agreement. This Agreement is a legal and valid obligation binding upon Oragenics and enforceable in accordance with its terms, except as such enforcement may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on availability of equitable relief, including specific performance. The execution, delivery and performance of this Agreement by Oragenics does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound. Oragenics is aware of no action, suit or inquiry or investigation instituted by any governmental agency which questions or threatens the validity of this Agreement.

8.2 Representations and Warranties of Intrexon and Actobiotics. Intrexon and Actobiotics hereby represent and warrant to Oragenics that, as of the Effective Date:

(a) Corporate Power. Intrexon and Actobiotics are duly organized and validly existing under the laws of the jurisdiction of its organization and have full corporate power and authority to enter into this Agreement and to carry out the provisions hereof.

(b) Due Authorization. Intrexon and Actobiotics are duly authorized to execute and deliver this Agreement and to perform its obligations hereunder, and the person executing this Agreement on Intrexon's and Actobiotics's behalf has been duly authorized to do so by all requisite corporate action.

(c) Binding Agreement. This Agreement is a legal and valid obligation binding upon Intrexon and Actobiotics and enforceable in accordance with its terms, except as such enforcement may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on availability of equitable relief, including specific performance. The execution, delivery and performance of this Agreement by Intrexon and Actobiotics does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound. Intrexon is aware of no action, suit or inquiry or investigation instituted by any governmental agency which questions or threatens the validity of this Agreement.

(d) Additional Intellectual Property Representations.

(i) Intrexon and Actobiotics possesses sufficient rights to enable them to grant all rights and licenses it purports to grant to Oragenics with respect to the Intrexon IP and Actobiotics IP under this Agreement;

(ii) The Intrexon IP and the Actobiotics IP existing as of the Effective Date constitute all of the intellectual property Controlled by Intrexon and Actobiotics as of such date that is necessary for the development, manufacture or Commercialization of Oragenics Products;

(iii) Intrexon and Actobiotics have not granted, and during the Term Intrexon and Actobiotics will not grant, any right or license, to any Third Party under the Intrexon IP and Actobiotics IP that conflicts with the rights or licenses granted or to be granted to Oragenics hereunder

(iv) There is no pending litigation, and neither Intrexon nor Actobiotics has received any written notice of any claims or litigation, seeking to invalidate or otherwise challenge the Intrexon IP or Intrexon's rights therein or the Actobiotics IP or Actobiotics's rights therein;

(v) None of the Intrexon IP or Actobiotics IP is subject to any pending re-examination, opposition, interference or litigation proceedings;

(vi) All of the Intrexon Patents and Actobiotics Patents have been filed and prosecuted in accordance with all applicable laws and have been maintained, with all applicable fees with respect thereto (to the extent such fees have come due) having been paid;

(vii) Intrexon and Actobiotics have entered into agreements with each of its current and former officers, employees and consultants involved in research and development work, including development of the Intrexon's and Actobiotics's products and technology providing Intrexon and Actobiotics, to the extent permitted by law, with title and ownership to patents, patent applications, trade secrets and inventions conceived, developed, reduced to practice by such person, solely or jointly with other of such persons, during the period of employment by or contract with Intrexon or Actobiotics (except where the failure to have entered into such an agreement would not have a material adverse effect on the rights granted to Oragenics herein), and neither Intrexon nor Actobiotics is aware that any of its employees or consultants is in material violation thereof;

(viii) To Intrexon's and/or Actobiotics's knowledge, there is no infringement, misappropriation or violation by Third Parties of any Intrexon Channel Technology, Intrexon IP, or Actobiotics IP in the Field;

(ix) There is no pending or, to Intrexon's and/or Actobiotics's knowledge, threatened action, suit, proceeding or claim by others against Intrexon that Intrexon infringes, misappropriates or otherwise violates any intellectual property or other proprietary rights of others in connection with the use of the Intrexon Channel Technology, Intrexon IP, and Actobiotics IP, and neither Intrexon nor Actobiotics has received any written notice of such claim;

(x) To Intrexon's and/or Actobiotics's knowledge, no employee of Intrexon or Actobiotics is the subject of any claim or proceeding involving a violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, non-disclosure agreement or any restrictive covenant to or with a former employer (A) where the basis of such violation relates to such employee's employment with Intrexon or Actobiotics or actions undertaken by the employee while employed with Intrexon or Actobiotics and (B) where such violation is relevant to the use of the Intrexon Channel Technology or Actobiotics IP in the Field;

(xi) None of the Patents in the Actobiotics IP or Intrexon IP, and, to Intrexon's and/or Actobiotics's knowledge, none of the Patents licensed in the Actobiotics IP or Intrexon IP to Intrexon or its Affiliates, have been adjudged invalid or unenforceable by a court of competent jurisdiction or applicable government agency, in whole or in part, and there is no pending or, to Intrexon's and/or Actobiotics's knowledge, threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intrexon Patents; and

(xii) Except as otherwise disclosed in writing to Oragenics, Intrexon and Actobiotics: (A) are in material compliance with all statutes, rules or regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product that is under development, manufactured or distributed by Intrexon and Actobiotics in the Field ("**Applicable Laws**"); (B) has not received any FDA Form 483, notice of adverse finding, warning letter, untitled letter or other correspondence or notice from the United States Food and Drug Administration (the "**FDA**") or any other federal, state, local or foreign governmental or regulatory authority alleging or asserting material noncompliance with any

Applicable Laws or any licenses, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws ("**Authorizations**"), which would, individually or in the aggregate, result in a material adverse effect; (C) possesses all material Authorizations necessary for the operation of its business as described in the Field and such Authorizations are valid and in full force and effect and Intrexon is not in material violation of any term of any such Authorizations; and (D) since January 1, 2011, (1) has not received notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from the FDA or any other federal, state, local or foreign governmental or regulatory authority or third party alleging that any product operation or activity is in material violation of any Applicable Laws or Authorizations and has no knowledge that the FDA or any other federal, state, local or foreign governmental or regulatory authority or third party is considering any such claim, litigation, arbitration, action, suit investigation or proceeding; (2) has not received notice that the FDA or any other federal, state, local or foreign governmental or regulatory authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any material Authorizations and has no knowledge that the FDA or any other federal, state, local or foreign governmental or regulatory authority is considering such action; (3) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were materially complete and correct on the date filed (or were corrected or supplemented by a subsequent submission); and (4) has not, either voluntarily or involuntarily, initiated, conducted, or issued or caused to be initiated, conducted or issued, any recall, market withdrawal or replacement, safety alert, post-sale warning, "dear doctor" letter, or other notice or action relating to the alleged lack of safety or efficacy of any product or any alleged product defect or violation and, to Intrexon's knowledge, no third party has initiated, conducted or intends to initiate any such notice or action

(xiii) Prior to the Effective Date, Intrexon and Actobiotics have provided Oragenics with copies of all material correspondence, communications, and filings with the FDA and other regulatory authorities regarding AG013 and its pre-clinical and clinical testing, and associated underlying reports and data.

except, in each of (ix) through (xiii), for any instances which would not, individually or in the aggregate, result in a material adverse effect on the rights granted to Oragenics hereunder or Intrexon's or Actobiotics's ability to perform its obligations hereunder.

8.3 Warranty Disclaimer. EXCEPT FOR THE EXPRESS WARRANTIES PROVIDED IN THIS ARTICLE 8 OR IN THE EQUITY AGREEMENT, EACH PARTY HEREBY DISCLAIMS ANY AND ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF TITLE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT OF THE INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES.

ARTICLE 9

INDEMNIFICATION

9.1 Indemnification by Intrexon. Intrexon agrees to indemnify, hold harmless, and defend Oragenics and its Affiliates and their respective directors, officers, employees, and agents (collectively, the "**Oragenics Indemnitees**") from and against any and all liabilities, damages, costs, expenses, or losses (including reasonable legal expenses and attorneys' fees) (collectively, "**Losses**") resulting from any claims, suits, actions, demands, or other proceedings brought by a Third Party (collectively, "**Claims**") to the extent arising from (a) the negligence or willful misconduct of Intrexon or any of its Affiliates, or their respective employees or agents, (b) the use, handling, storage or transport of Intrexon Materials or materials that are Actobiotics IP, by Intrexon or its Affiliates, licensees (other than Oragenics) or sublicensees; or (c) breach by Intrexon or Actobiotics of any representation, warranty or covenant in this Agreement. Notwithstanding the foregoing, Intrexon shall not have any obligation to indemnify the Oragenics Indemnitees to the extent that a Claim arises from (i) the negligence or willful misconduct of Oragenics or any of its Affiliates, licensees, or sublicensees, or their respective employees or agents; or (ii) a breach by Oragenics of a representation, warranty, or covenant of this Agreement.

9.2 Indemnification by Oragenics. Oragenics agrees to indemnify, hold harmless, and defend Intrexon, its Affiliates and Third Security, and their respective directors, officers, employees, and agents (and any Third Parties which have licensed to Intrexon intellectual property rights within Intrexon IP on or prior to the Effective Date, to the extent required by the relevant upstream license agreement) (collectively, the "**Intrexon Indemnitees**") from and against any Losses resulting from Claims, to the extent arising from any of the following: (a) the negligence or willful misconduct of Oragenics or any of its Affiliates or their respective employees or agents; (b) the use, handling, storage, or transport of Intrexon Materials or materials that are Actobiotics IP by Oragenics or its Affiliates, licensees, or sublicensees; (c) breach by Oragenics of any material representation, warranty or covenant in this Agreement; or (d) the design, development, manufacture, regulatory approval, handling, storage, transport, distribution, sale or other disposition of any Oragenics Product by Oragenics or its Affiliates, licensees, or sublicensees. Notwithstanding the foregoing, Oragenics shall not have any obligation to indemnify the Intrexon Indemnitees to the extent that a Claim arises from (i) the negligence or willful misconduct of Intrexon or any of its Affiliates, or their respective employees or agents; or (ii) a breach by Intrexon of a representation, warranty, or covenant of this Agreement.

9.3 Product Liability Claims. Notwithstanding the provisions of Section 9.2, any Losses arising out of any Third Party claim, suit, action, proceeding, liability or obligation involving any actual or alleged death or bodily injury arising out of or resulting from the development, manufacture or Commercialization of any Oragenics Products for use or sale in the Field, to the extent that such Losses exceed the amount (if any) covered by the applicable Party's product liability insurance ("**Excess Product Liability Costs**"), shall be paid by Oragenics, except to the extent such Losses arise out of any Third-Party Claim based on the gross negligence or willful misconduct of a Party, its Affiliates, or its Affiliates' sublicensees, or any of the respective officers, directors, employees and agents of each of the foregoing entities, in the performance of obligations or exercise of rights under this Agreement.

9.4 Control of Defense. As a condition precedent to any indemnification obligations hereunder, any entity entitled to indemnification under this Article 9 shall give written notice to the indemnifying Party of any Claims that may be subject to indemnification, promptly after learning of such Claim. If such Claim falls within the scope of the indemnification obligations of this Article 9, then the indemnifying Party shall assume the defense of such Claim with counsel reasonably satisfactory to the indemnified Party. The indemnified Party shall cooperate with the indemnifying Party in such defense. The indemnified Party may, at its option and expense, be represented by counsel of its choice in any action or proceeding with respect to such Claim. The indemnifying Party shall not be liable for any litigation costs or expenses incurred by the indemnified Party without the indemnifying Party's written consent, such consent not to be unreasonably withheld. The indemnifying Party shall not settle any such Claim if such settlement (a) does not fully and unconditionally release the indemnified Party from all liability relating thereto or (b) adversely impacts the exercise of the rights granted to the indemnified Party under this Agreement, unless the indemnified Party otherwise agrees in writing.

9.5 Insurance. Immediately prior to, and during marketing of Oragenics Products, Oragenics shall maintain, and shall cause its permitted sublicensees to maintain, in effect and good standing a product liability insurance policy issued by a reputable insurance company in amounts considered standard for the industry. Immediately prior to, and during the conduct of any clinical trials, Oragenics shall maintain, and shall cause any relevant permitted sublicensees to maintain, in effect and good standing a clinical trials liability insurance policy issued by a reputable insurance company in amounts considered standard for the industry. At Intrexon's reasonable request, Oragenics shall provide Intrexon with all details regarding such policies, including without limitation copies of the applicable liability insurance contracts. Oragenics shall use reasonable efforts to include Intrexon as an additional insured on any such policies.

ARTICLE 10

TERM; TERMINATION

10.1 Term. The term of this Agreement shall commence upon the Effective Date and shall continue until terminated pursuant to Section 10.2 or 10.3 (the "**Term**").

10.2 Termination for Material Breach; Termination Under Section 4.5(b)

(a) Either Party shall have the right to terminate this Agreement upon written notice to the other Party if the other Party commits any material breach of this Agreement that such breaching Party fails to cure within sixty (60) days following written notice from the non-breaching Party specifying such breach, provided, however, that solely for purposes of Section 9.5 the cure period shall be ninety (90) days.

(b) Intrexon shall have the right to terminate this Agreement, at its sole discretion, if the Technology Access Fee has not been paid in accordance with the terms and conditions of this Agreement and the Equity Agreement, including if the full principal on the Note (as defined in the Equity Agreement) has not been paid within the timeframes set forth in the Note (including the issuance to Intrexon of any shares in payment thereof).

(c) Intrexon shall have the right to terminate this Agreement under the circumstances set forth in Section 4.5(b) upon written notice to Oragenics, such termination to become effective sixty (60) days following such written notice unless Oragenics remedies the circumstances giving rise to such termination within such sixty (60) day period.

(d) Intrexon shall have the right to terminate this Agreement should Oragenics execute any purported assignment of this Agreement contrary to the prohibitions in Section 12.8, such termination occurring upon Intrexon providing written notice to Oragenics and becoming effective immediately upon such written notice.

(e) Intrexon hereby acknowledges that Oragenics will need to raise additional capital in order to carry out its obligations under this Agreement and during the sixteen (16) month period commencing on the Effective Date (the "**Initial Financing Period**") Intrexon shall not have the right during the Initial Financing Period (i) to terminate this Agreement under Section 10.2(a) based on the failure of a Party to use Diligent Efforts or to comply with any other diligence obligations hereunder (including Section 4.5), or (ii) to terminate this Agreement under Section 10.2(c). Notwithstanding the foregoing, (i) the Parties shall pursue the Initial Study in accord with the terms and conditions of this Agreement with Diligent Efforts during the Initial Financing Period, and (ii) the Parties, for clarity, shall only be absolved of failing to advance the Program (other than the Initial Study) with Diligent Efforts during the Initial Financing Period to the extent that any such failure to use Diligent Efforts is due to Oragenics working capital and financing considerations. Additionally, Intrexon agrees to reasonably cooperate to assist Oragenics in its undertaking to seek financing during the Initial Financing Period, and agrees to participate in any financing to the extent necessary for Oragenics to obtain financing necessary to support Program activities during the Initial Financing Period (including for the Initial Study) up to the lesser of (i) the amount of Intrexon's pro rata equity holdings in Oragenics as of the Effective Date, and (ii) ten million United States dollars($10,000,000) total. Notwithstanding the foregoing, Intrexon's agreement to participate in financing under the prior sentence shall not obligate Intrexon to participate in any such financing to the extent that such financing occurs or closes after a Reverse Merger.

10.3 Termination by Oragenics. Following the full payment of the Technology Access Fee to Intrexon in full satisfaction of the terms of the Equity Agreement, Oragenics shall have the right to voluntarily terminate this Agreement in its entirety upon ninety (90) days written notice to Intrexon.

10.4 Effect of Termination. In the event of termination of this Agreement pursuant to Section 10.2 or Section 10.3, the following shall apply:

(a) Retained Products. Oragenics shall be permitted to continue the clinical development and Commercialization in the Field of any product resulting from the Program that, at the time of any termination, satisfies at least one of the following criteria (a "**Retained Product**"):

(i) the particular product is an Oragenics Product that is being sold by Oragenics (or, as may be permitted in accord with this Agreement, its Affiliates or sublicensees) triggering profit sharing payments therefor under Sections 5.4(a) or 5.4(b) of this Agreement,

(ii) the particular product is an Oragenics Product has received regulatory approval,

(iii) the particular product is an Oragenics Product that is the subject of an application for regulatory approval in the Field that is pending before the applicable regulatory authority,

(iv) the particular product is the specific Oragenics Product AG013, and such Oragenics Product has been the subject of at least one completed phase II clinical trial (as such is defined by relevant FDA guidelines) during the Term, or

(v) the particular product is an Oragenics Product other than AG013, and such Oragenics Product is the subject of at least an ongoing phase I, phase II or phase III clinical trial in the Field (in the case of a termination by Intrexon due to an Oragenics uncured breach pursuant to Section 10.2(a) or a termination by Oragenics pursuant to Section 10.3).

Such rights to continue development and Commercialization under this Section 10.4(a) shall be subject to Oragenics' full compliance with the payment provisions in Article 5, a continuing obligation for Oragenics to use in accord with Sections 4.5(a) and 4.5(c) Diligent Efforts to develop and Commercialize any Retained Products, and all other provisions of this Agreement that survive termination.

(b) Termination of Licenses. Except as necessary for Oragenics to continue to obtain regulatory approval for, clinically develop, use, manufacture and Commercialize the Retained Products in the Field as permitted by Section 10.4(a), all rights and licenses granted by Intrexon to Oragenics under this Agreement shall terminate and shall revert to Intrexon without further action by either Intrexon or Oragenics. Oragenics' license with respect to Retained Products shall be exclusive or non-exclusive, as the case may be, on the same terms as set forth in Section 3.1.

(c) Reverted Products. All Oragenics Products other than the Retained Products shall be referred to herein as the "**Reverted Products**." Oragenics shall immediately cease, and shall cause its Affiliates and, if applicable, (sub)licensees to immediately cease, all development and Commercialization of the Reverted Products, and Oragenics shall not use or practice, nor shall it cause or permit any of its Affiliates or, if applicable, (sub)licensees to use or practice, directly or indirectly, any Intrexon IP with respect to the Reverted Products. Oragenics shall immediately discontinue making any representation regarding its status as a licensee or channel collaborator of Intrexon with respect to the Reverted Products.

(d) Intrexon Materials. Oragenics shall promptly return, or at Intrexon's request, destroy, any Intrexon Materials in Oragenics' possession or control at the time of termination other than any Intrexon Materials necessary for the continued development, regulatory approval, use, manufacture and Commercialization of the Retained Products in the Field.

(e) Licenses to Intrexon. Oragenics is automatically deemed to grant to Intrexon a worldwide, fully paid, royalty-free, exclusive (even as to Oragenics and its Affiliates), irrevocable, license (with full rights to sublicense) under the Oragenics Termination IP, to make, have made, import, use, offer for sale and sell Reverted Products and to use the Intrexon Channel Technology, the Intrexon Materials, and/or the Intrexon IP in the Field, subject to any exclusive rights held by Oragenics in Reverted Products pursuant to Section 10.4(c). The Parties shall also take such actions and execute such other instruments and documents as may be reasonably necessary to document such license to Intrexon.

(f) Regulatory Filings. Oragenics shall promptly assign to Intrexon, and will provide full copies of, all regulatory approvals and regulatory filings that relate specifically and solely to Reverted Products. Oragenics shall also take such actions and execute such other instruments, assignments and documents as may be necessary to effect the transfer of rights thereunder to Intrexon. To the extent that there exist any regulatory approvals and regulatory filings that relate both to Reverted Products and other products, Oragenics shall provide copies of the portions of such regulatory filings that relate to Reverted Products and shall reasonably cooperate to assist Intrexon in obtaining the benefits of such regulatory approvals with respect to the Reverted Products.

(g) Data Disclosure. Oragenics shall provide to Intrexon copies of the relevant portions of all material reports and data, including clinical and non-clinical data and reports, obtained or generated by or on behalf of Oragenics or its Affiliates to the extent that they relate to Reverted Products, within sixty (60) days of such termination unless otherwise agreed, and Intrexon shall have the right to use any such Information in developing and Commercializing Reverted Products and to license any Third Parties to do so.

(h) Third-Party Licenses. At Intrexon's request, Oragenics shall promptly provide to Intrexon copies of all Third-Party agreements under which Oragenics or its Affiliates obtained a license under Patents claiming inventions or know-how specific to or used or incorporated into the development, manufacture and/or Commercialization of the Reverted Products. At Intrexon's request such that Intrexon may Commercialize the Reverted Products, Oragenics shall promptly work with Intrexon to either, as appropriate, (A) assign to Intrexon the Third Party agreement(s), or (B) grant a sublicense (with an appropriate scope) to Intrexon under the Third Party agreement(s). Thereafter Intrexon shall be fully responsible for all obligations due for its actions under the sublicensed or assigned Third Party agreements. Notwithstanding the above, if Intrexon does not wish to assume any financial or other obligations associated with a particular Third Party agreement identified to Intrexon under this Section 10.4(h), then Intrexon shall so notify Oragenics and Oragenics shall not make such assignment or grant such sublicense (or cause it to be made or granted).

(i) Remaining Materials. At the request of Intrexon, Oragenics shall transfer to Intrexon all quantities of Reverted Product (including final products or work-in-process) in the possession of Oragenics or its Affiliates. Oragenics shall transfer to Intrexon all such quantities of Reverted Products without charge, except that Intrexon shall pay the reasonable costs of shipping.

(j) Third Party Vendors. At Intrexon's request, Oragenics shall promptly provide to Intrexon copies of all agreements between Oragenics or its Affiliates and Third Party suppliers, vendors, or distributors that relate to the supply, sale, or distribution of Reverted Products in the Territory. At Intrexon's request, Oragenics shall promptly: (A) with respect to such Third Party agreements relating solely to the applicable Reverted Products and permitting assignment, immediately assign (or cause to be assigned), such agreements to Intrexon, and (B) with respect to all other such Third Party agreements, Oragenics shall reasonably cooperate to assist Intrexon in obtaining the benefits of such agreements. Oragenics shall be liable for any costs associated with assigning a Third Party agreement to Intrexon or otherwise obtaining the benefits of such agreement for Intrexon, to the extent such costs are directly related to Oragenics' breach. For the avoidance of doubt, Intrexon shall have no obligation to assume any of Oragenics' obligations under any Third Party agreement.

(k) Commercialization. Intrexon shall have the right to develop and Commercialize the Reverted Products itself or with one or more Third Parties, and shall have the right, without obligation to Oragenics, to take any such actions in connection with such activities as Intrexon (or its designee), at its discretion, deems appropriate.

(l) Confidential Information. Each Party shall promptly return, or at the other Party's request destroy, any Confidential Information of the other Party in such Party's possession or control at the time of termination; provided, however, that each Party shall be permitted to retain (i) a single copy of each item of Confidential Information of the other Party in its confidential legal files for the sole purpose of monitoring and enforcing its compliance with Article 7, (ii) Confidential Information of the other Party that is maintained as archive copies on the recipient Party's disaster recovery and/or information technology backup systems, or (iii) Confidential Information of the other Party necessary to exercise such Party's rights in Retained Products (in the case of Oragenics) or Reverted Products (in the case of Intrexon). The recipient of Confidential Information shall continue to be bound by the terms and conditions of this Agreement with respect to any such Confidential Information retained in accordance with this Section 10.4(l).

10.5 Surviving Obligations. Termination or expiration of this Agreement shall not affect any rights of either Party arising out of any event or occurrence prior to termination, including, without limitation, any obligation of Oragenics to pay any amount which became due and payable under the terms and conditions of this Agreement prior to expiration or such termination. The following portions of this Agreement shall survive termination or expiration of this Agreement: Sections 3.1 (as applicable with respect to 10.4(b), 5.5, 5.7 (only as to any pre-termination period), 6.1, 6.2 (with subsection (c) surviving only to the extent relating to Intrexon Patents that are relevant to Retained Products that, to Intrexon's knowledge, are being developed or Commercialized at such time, if any), 4.10, 4.11, 7.1, 7.2, 7.4, 7.5, 10.4, and 10.5; Articles 9 (excluding 9.5), 11, and 12; and any relevant definitions in Article 1. Further, Article 7 and Sections 4.5(a), 4.5(c), 5.2 through 5.9, and 9.5 will survive termination of this Agreement only to the extent there are any applicable Retained Products.

ARTICLE 11

DISPUTE RESOLUTION

11.1 Disputes. It is the objective of the Parties to establish procedures to facilitate the resolution of disputes arising under this Agreement in an expedient manner by mutual cooperation and without resort to litigation. In the event of any disputes, controversies or differences which may arise between the Parties out of or in relation to or in connection with this Agreement (other than disputes arising from a Committee), including, without limitation, any alleged failure to perform, or breach, of this Agreement, or any issue relating to the interpretation or application of this Agreement, then upon the request of either Party by written notice, the Parties agree to meet and discuss in good faith a possible resolution thereof, which good faith efforts shall include at least one in-person meeting between the Executive Officers of each Party. If the matter is not resolved within thirty (30) days following the written request for discussions, either Party may then invoke the provisions of Section 11.2. For the avoidance of doubt, any disputes, controversies or differences arising from a Committee pursuant to Article 2 shall be resolved solely in accordance with Section 2.4.

11.2 Arbitration. Any dispute, controversy, difference or claim which may arise between the Parties and not from a Committee, out of or in relation to or in connection with this Agreement (including, without limitation, arising out of or relating to the validity, construction, interpretation, enforceability, breach, performance, application or termination of this Agreement) that is not resolved pursuant to Section 11.1 shall, subject to Section 11.10, be settled by binding "baseball arbitration" as follows. Either Party, following the end of the thirty (30) day period referenced in Section 11.1, may refer such issue to arbitration by submitting a written notice of such request to the other Party. Promptly following receipt of such notice, the Parties shall meet and discuss in good faith and seek to agree on an arbitrator to resolve the issue, which arbitrator shall be neutral and independent of both Parties and all of their respective Affiliates, shall have significant experience and expertise in licensing and partnering agreements in the pharmaceutical and biotechnology industries, and shall have some experience in mediating or arbitrating issues relating to such agreements. If the Parties cannot agree on a single arbitrator within fifteen (15) days of request by a Party for arbitration, then each Party shall select an arbitrator meeting the foregoing criteria and the two (2) arbitrators so selected shall select within ten (10) days of their appointment a third arbitrator meeting the foregoing criteria. Within fifteen (15) days after an arbitrator(s) is selected (in the case of the three-person panel, when the third arbitrator is selected), each Party will deliver to both the arbitrator(s) and the other Party a detailed written proposal setting forth its proposed terms for the resolution for the matter at issue (the "**Proposed Terms**" of the Party) and a memorandum (the "**Support Memorandum**") in support thereof. The Parties will also provide the arbitrator(s) a copy of this Agreement, as it may be amended at such time. Within fifteen (15) days after receipt of the other Party's Proposed Terms and Support Memorandum, each Party may submit to the arbitrator(s) (with a copy to the other Party) a response to the other Party's Support Memorandum. Neither Party may have any other communications (either written or oral) with the arbitrator(s) other than for the sole purpose of engaging the arbitrator or as expressly permitted in this Section 11.2; provided that, the arbitrator(s) may convene a hearing if the arbitrator(s) so chooses to ask questions of the Parties and hear oral argument and discussion regarding each Party's Proposed Terms. Within sixty (60) days after the arbitrator's appointment, the arbitrator(s) will select one of the two Proposed

Terms (without modification) provided by the Parties that he or she believes is most consistent with the intention underlying and agreed principles set forth in this Agreement. The decision of the arbitrator(s) shall be final, binding, and unappealable. For clarity, the arbitrator(s) must select as the only method to resolve the matter at issue one of the two sets of Proposed Terms, and may not combine elements of both Proposed Terms or award any other relief or take any other action.

11.3 Governing Law. This Agreement shall be governed by and construed under the substantive laws of the State of New York, excluding any conflicts or choice of law rule or principle that might otherwise refer construction or interpretation of this Agreement to the substantive law of another jurisdiction.

11.4 Award. Any award to be paid by one Party to the other Party as determined by the arbitrator(s) as set forth above under Section 11.2 shall be promptly paid in United States dollars free of any tax, deduction or offset; and any costs, fees or taxes incident to enforcing the award shall, to the maximum extent permitted by law, be charged against the losing Party. Each Party agrees to abide by the award rendered in any arbitration conducted pursuant to this Article 11, and agrees that, subject to the United States Federal Arbitration Act, 9 U.S.C. §§ 1-16, judgment may be entered upon the final award in any United States District Court located in New York and that other courts may award full faith and credit to such judgment in order to enforce such award. The award shall include interest from the date of any damages incurred for breach of the Agreement, and from the date of the award until paid in full, at a rate fixed by the arbitrator(s). With respect to money damages, nothing contained herein shall be construed to permit the arbitrator(s) or any court or any other forum to award consequential, incidental, special, punitive or exemplary damages. By entering into this agreement to arbitrate, the Parties expressly waive any claim for consequential, incidental, special, punitive or exemplary damages. The only damages recoverable under this Agreement are direct compensatory damages.

11.5 Costs. Each Party shall bear its own legal fees. The arbitrator(s) shall assess his or her costs, fees and expenses against the Party losing the arbitration.

11.6 Injunctive Relief. Nothing in this Article 11 will preclude either Party from seeking equitable relief or interim or provisional relief from a court of competent jurisdiction, including a temporary restraining order, preliminary injunction or other interim equitable relief, concerning a dispute either prior to or during any arbitration if necessary to protect the interests of such Party or to preserve the status quo pending the arbitration proceeding. Specifically, the Parties agree that a material breach by either Party of its obligations in Section 3.4 or Article 7 of this Agreement may cause irreparable harm to the other Party, for which damages may not be an adequate remedy. Therefore, in addition to its rights and remedies otherwise available at law, including, without limitation, the recovery of damages for breach of this Agreement, upon an adequate showing of material breach of such Section 3.4 or Article 7, and without further proof of irreparable harm other than this acknowledgement, such non-breaching Party shall be entitled to seek (a) immediate equitable relief, specifically including, but not limited to, both interim and permanent restraining orders and injunctions, without bond, and (b) such other and further equitable relief as the court may deem proper under the circumstances. For the avoidance of doubt, nothing in this Section 11.6 shall otherwise limit a breaching Party's opportunity to cure a material breach as permitted in accordance with Section 10.2.

11.7 Confidentiality. The arbitration proceeding shall be confidential and the arbitrator(s) shall issue appropriate protective orders to safeguard each Party's Confidential Information. Except as required by law, no Party shall make (or instruct the arbitrator(s) to make) any public announcement with respect to the proceedings or decision of the arbitrator(s) without prior written consent of the other Party. The existence of any dispute submitted to arbitration, and the award, shall be kept in confidence by the Parties and the arbitrator(s), except as required in connection with the enforcement of such award or as otherwise required by applicable law.

11.8 Survivability. Any duty to arbitrate under this Agreement shall remain in effect and be enforceable after termination of this Agreement for any reason.

11.9 Jurisdiction. For the purposes of this Article 11, the Parties acknowledge their diversity and agree to accept the jurisdiction of any United States District Court located in New York for the purposes of enforcing or appealing any awards entered pursuant to this Article 11 and for enforcing the agreements reflected in this Article 11 and agree not to commence any action, suit or proceeding related thereto except in such courts.

11.10 Patent Disputes. Notwithstanding any other provisions of this Article 11, and subject to the provisions of Section 6.2, any dispute, controversy or claim relating to the scope, validity, enforceability or infringement of any Intrexon Patents shall be submitted to a court of competent jurisdiction in the country in which such Patent was filed or granted.

ARTICLE 12

GENERAL PROVISIONS

12.1 Use of Name. No right, express or implied, is granted by this Agreement to either Party to use in any manner the name of the other or any other trade name or trademark of the other in connection with the performance of this Agreement, except that (a) either Party may use the name of the other Party as required by law or regulation and in press releases accompanying quarterly and annual earnings reports approved by the Audit Committee of the issuer's Board of Directors, and (b) Oragenics may use the Intrexon Trademarks in accord with the licenses and restrictions set forth herein.

12.2 LIMITATION OF LIABILITY. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES ARISING FROM OR RELATING TO ANY BREACH OF THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS PARAGRAPH IS INTENDED TO LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF ANY PARTY UNDER ARTICLE 9, OR DAMAGES AVAILABLE FOR BREACHES OF THE OBLIGATIONS SET FORTH IN ARTICLE 7.

12.3 Independent Parties. Neither Party is the employee or legal representative of the other Party for any purpose. Neither Party shall have the authority to enter into any contracts in the name of or on behalf of the other Party. This Agreement shall not constitute, create, or in any way be interpreted as a joint venture, partnership, or business organization of any kind.

12.4 Notice. All notices, including notices of address change, required or permitted to be given under this Agreement shall be in writing and deemed to have been given when delivered if personally delivered or sent by facsimile (provided that the party providing such notice promptly confirms receipt of such transmission with the other party by telephone), on the business day after dispatch if sent by a nationally-recognized overnight courier and on the third business day following the date of mailing if sent by certified mail, postage prepaid, return receipt requested. All such communications shall be sent to the address or facsimile number set forth below (or any updated addresses or facsimile number communicated to the other Party in writing):

If to Intrexon and/or Actobiotics:	Intrexon Corporation 20374 Seneca Meadows Parkway Germantown, MD 20876 Attention: Senior Vice President, Health Sector Fax: (301) 556-9901
with a copy to:	Intrexon Corporation 20374 Seneca Meadows Parkway Germantown, MD 20876 Attention: Legal Department Fax: (301) 556-9902
If to Oragenics:	Oragenics, Inc. 4902 Eisenhower Boulevard, Suite 125, Tampa, FL 33634 Attention: Chief Executive Officer Fax: (813) 286-7904
with a copy to:	Shumaker, Loop & Kendrick, LLP 101 E. Kennedy Blvd., Suite 2800 Tampa, FL 33602 Attention: Mark Catchur, Esq. Fax: (813) 229-1660

12.5 Severability. In the event any provision of this Agreement is held to be invalid or unenforceable, the valid or enforceable portion thereof and the remaining provisions of this Agreement will remain in full force and effect.

12.6 Waiver. Any waiver (express or implied) by either Party of any breach of this Agreement shall not constitute a waiver of any other or subsequent breach.

12.7 Entire Agreement; Amendment. This Agreement, including any exhibits attached hereto, constitute the entire, final, complete and exclusive agreement between the

Parties and supersede all previous agreements or representations, written or oral, with respect to the subject matter of this Agreement (including any prior confidentiality agreement between the Parties). All information of Intrexon or Oragenics to be kept confidential by the other Party under any prior confidentiality agreement, as of the Effective Date, shall be maintained as Confidential Information by such other Party under the obligations set forth in Article 7 of this Agreement. This Agreement may not be modified or amended except in a writing signed by a duly authorized representative of each Party.

12.8 Non-assignability; Binding on Successors. Any attempted assignment of the rights or delegation of the obligations under this Agreement shall be void without the prior written consent of the non-assigning or non-delegating Party; provided, however, that either Party may assign its rights or delegate its obligations under this Agreement without such consent (a) to an Affiliate of such Party or (b) to its successor in interest in connection with any merger, acquisition, consolidation, corporate reorganization, or similar transaction, or sale of all or substantially all of its assets, provided that such assignee agrees in writing to assume and be bound by the assignor's obligations under this Agreement. This Agreement shall be binding upon, and inure to the benefit of, the successors, executors, heirs, representatives, administrators and permitted assigns of the Parties. Notwithstanding the foregoing, in the event that either Party assigns this Agreement to its successor in interest by way of merger, acquisition, consolidation, corporate reorganization, or similar transaction, or sale of all or substantially all of its assets (whether this Agreement is actually assigned or is assumed by such successor in interest or its affiliate by operation of law (e.g., in the context of a reverse triangular merger)), the intellectual property rights of such successor in interest or any of its Affiliates other than those licensed in this Agreement shall be automatically excluded from the rights licensed to the other Party under this Agreement.

12.9 Force Majeure. Neither Party shall be liable to the other for its failure to perform any of its obligations under this Agreement, except for payment obligations, during any period in which such performance is delayed because rendered impracticable or impossible due to circumstances beyond its reasonable control, including without limitation earthquakes, governmental regulation, fire, flood, labor difficulties, civil disorder, acts of terrorism and acts of God, provided that the Party experiencing the delay promptly notifies the other Party of the delay.

12.10 No Other Licenses. Neither Party grants to the other Party any rights or licenses in or to any intellectual property, whether by implication, estoppel, or otherwise, except to the extent expressly provided for under this Agreement.

12.11 Non-Solicitation. During the Term and for a period of one (1) year following the end of the Term, neither Oragenics nor Intrexon may directly or indirectly solicit in order to offer to employ, engage in any discussion regarding employment with, or hire any employee of the other Party or an individual who was employed by the other party within one (1) year prior to such solicitation, discussion, or hire, without the prior approval of such other Party. General employment solicitations or advertisements shall not be considered direct or indirect solicitations, and are not prohibited under this Agreement.

12.12 Legal Compliance. The Parties shall review in good faith and cooperate in taking such actions to ensure compliance of this Agreement with all applicable laws.

12.13 Further Assurances. Intrexon shall cause Actobiotics to take such actions and do such things as may be reasonably necessary to carry out the provisions of this Agreement applicable to Actobiotics and Intrexon shall refrain from taking any action that would reasonably be expected to cause Actobiotics to be unable to take such actions and do such things as may be reasonably necessary to carry out the provisions of this Agreement applicable to Actobiotics.

12.14 Counterparts. This Agreement may be executed in any number of counterparts (including by facsimile, PDF, or other means of electronic communication), each of which taken together will constitute one and the same instrument, and any of the Parties hereto may execute this Agreement by signing any such counterpart.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the Parties hereto have duly executed this Exclusive Channel Collaboration Agreement.

INTREXON CORPORATION

By: /s/ Gregory Frost
Name: Gregory Frost, PhD
Title: Senior Vice President, Health Sector

ORAGENICS, INC.

BY: /s/ Michael Sullivan
Name: Michael Sullivan
Title: Chief Financial Officer

INTREXON ACTOBIOTICS NV

By: /s/ Pieter Rottiers
Name: Pieter Rottiers
Title: Chief Executive Officer

[SIGNATURE PAGE FOR EXCLUSIVE CHANNEL COLLABORATION AGREEMENT]

AMENDMENT TO EXCLUSIVE CHANNEL COLLABORATION AGREEMENT

This **AMENDMENT TO EXCLUSIVE CHANNEL COLLABORATION AGREEMENT** (the "***Amendment***") is effective as of May 10, 2017 (the "***Amendment Effective Date***") by and between **INTREXON CORPORATION**, a Virginia corporation with offices at 20374 Seneca Meadows Parkway, Germantown, MD 20876 ("***Intrexon***"), **INTREXON ACTOBIOTICS NV**, a *naamloze vennootschap* under Belgian law with registered offices at Technologiepark 4, 9052 Zwijnaarde (CBE no. 0882.251.820 (Ghent), Belgium ("**Actobiotics**"), and **ORAGENICS, INC.,** a Florida corporation having its principal place of business at 4902 Eisenhower Boulevard, Suite 125, Tampa, FL 33634, U.S.A. ("**Oragenics**"). Intrexon and Actobiotics together on the one hand and Oragenics on the other hand may be referred to herein individually as a "**Party**", and collectively as the "**Parties**."

RECITALS

A. WHEREAS Intrexon, Actobiotics, and Oragenics are parties to that certain Exclusive Channel Collaboration Agreement, effective June 9, 2015 (the "***Agreement***"), pursuant to which Intrexon and Actobiotics collectively appointed Oragenics as their exclusive channel collaborator for developing and commercializing certain products in an exclusive field as defined by the Agreement;

B. WHEREAS the Intrexon, Actobiotics, and Oragenics all now mutually desire to amend the Agreement;

D. NOW, THEREFOR, the Intrexon, Actobiotics, and Oragenics agree to amend the terms of the Agreement as provided below, effective as of the Amendment Effective Date.

1. GENERALLY

1.1 Capitalized terms present within this Amendment that are not proper names or titles, that are not conventionally capitalized, or that are not otherwise defined within this Amendment shall have the meaning set forth in the Agreement.

1.2 Intrexon and Oragenics, in conjunction with and contemporaneously with this Amendment, have entered into an Amendment to Stock Issuance Agreement of even date herewith (the "***Stock Amendment***"), which Stock Amendment amends the stock Issuance Agreement by and between Intrexon and Oragenics, effective June 9, 2015 (the "***Stock Agreement***").

2. AMENDMENTS TO THE AGREEMENT

2.1 Definitions. Section 1.58 of the Agreement is hereby replaced in its entirety with the following new Section 1.58:

> **"Phase II Milestone Event**" means the earlier of (a) dosing of the last patient by or on behalf of Oragenics, or an Affiliate or permitted sublicensee of Oragenics, in a phase II clinical trial (as such is defined by relevant FDA guidelines, irrespective of

whether such occurs in the United States of America under the jurisdiction of the FDA or elsewhere under the jurisdiction of a foreign regulatory agency) for a given Oragenics Product, and (b) the twenty four (24) month anniversary of the dosing of the first patient in the phase II clinical trial. For purposes of this Section 1.58, the "dosing of the last patient" shall mean the last patient planned for under the JSC approved protocol (as such protocol may be amended and/or trial terminated during its implementation) for such phase II clinical trial having received his or her first dose.

2.2 Milestones. Section 5.2(a)(i) of the Agreement is hereby replaced in its entirety with the following new Section 5.2(a)(i):

Oragenics shall pay Intrexon a milestone payment of three million United States dollars ($3,000,000) within thirty (30) days of each achievement of the Phase II Milestone Event for each different Oragenics Product, said payment being made, at Oragenics' option but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock. A second or a subsequent occurrence of the Phase II Milestone Event shall only give rise to an obligation upon Oragenics to make the payment to Intrexon under this Section 5.2(a)(i) if such respective second or subsequent occurrence of the Phase II Milestone Event occurs after the FDA has granted an approval to an FDA New Product Application for at least one Oragenics Product under the Program.

3. MISCELLANEOUS

3.1 Full Force and Effect. This Amendment amends the terms of the Agreement and is deemed incorporated into the Agreement. The provisions of the Agreement as amended remain in full force and effect.

3.2 Entire Agreement. This Amendment, together with the Agreement, the Stock Agreement, and the Stock Amendment, constitutes the entire agreement, both written and oral, between the Parties with respect to the subject matter hereof, and any and all prior agreements with respect to the subject matter hereof, either written or oral, expressed or implied, are superseded hereby, merged and canceled, and are null and void and of no effect.

3.3 Counterparts. This Amendment may be executed in one or more counterparts, each of which will be an original and all of which together will constitute one instrument.

IN WITNESS WHEREOF, Intrexon, Actobiotics, and Oragenics have executed this Amendment by their respective duly authorized representatives as of the Amendment Effective Date.

INTREXON CORPORATION

By: /s/ Donald P. Lehr
Name: Donald P. Lehr
Title: Chief Legal Officer

ORAGENICS, INC.

By: /s/ Alan Joslyn
Name: Alan Joslyn
Title: President and CEO

INTREXON ACTOBIOTICS NV

By: /s/ Christian Ulrich
Name: Christian Ulrich
Title: Director

SECOND AMENDMENT TO EXCLUSIVE CHANNEL COLLABORATION AGREEMENT

This **SECOND AMENDMENT TO EXCLUSIVE CHANNEL COLLABORATION AGREEMENT** (the "**Amendment**") is effective as of November 8, 2017 (the "**Amendment Effective Date**") by and between **INTREXON CORPORATION**, a Virginia corporation with offices at 20374 Seneca Meadows Parkway, Germantown, MD 20876 ("**Intrexon**"), **INTREXON ACTOBIOTICS NV**, a *naamloze vennootschap* under Belgian law with registered offices at Technologiepark 4, 9052 Zwijnaarde (CBE no. 0882.251.820 (Ghent), Belgium ("**Actobiotics**"), and **ORAGENICS, INC.,** a Florida corporation having its principal place of business at 4902 Eisenhower Boulevard, Suite 125, Tampa, FL 33634, U.S.A. ("**Oragenics**"). Intrexon and Actobiotics together on the one hand and Oragenics on the other hand may be referred to herein individually as a "**Party**", and collectively as the "**Parties**."

RECITALS

A. WHEREAS Intrexon, Actobiotics, and Oragenics are parties to that certain Exclusive Channel Collaboration Agreement, effective June 9, 2015, as amended by that certain Amendment to Exclusive Channel Collaboration Agreement, effective May 10, 2017 (the "**Agreement**"), pursuant to which Intrexon and Actobiotics collectively appointed Oragenics as their exclusive channel collaborator for developing and commercializing certain products in an exclusive field as defined by the Agreement;

B. WHEREAS Intrexon, Actobiotics, and Oragenics all now mutually desire to amend the Agreement;

D. NOW, THEREFORE, Intrexon, Actobiotics, and Oragenics agree to amend the terms of the Agreement as provided below, effective as of the Amendment Effective Date.

4. GENERALLY

a. Capitalized terms present within this Amendment that are not proper names or titles, that are not conventionally capitalized, or that are not otherwise defined within this Amendment shall have the meaning set forth in the Agreement.

b. Intrexon and Oragenics, in conjunction with and contemporaneously with this Amendment, have entered into an Amendment to Stock Issuance Agreement of even date herewith (the "**Stock Amendment**"), which Stock Amendment amends the stock Issuance Agreement by and between Intrexon and Oragenics, effective June 9, 2015, as amended by that certain Amendment to Stock Issuance Agreement, effective May 10, 2017 (the "**Stock Agreement**").

5. AMENDMENTS TO THE AGREEMENT

c. **Definitions**.

i. Section 1.6 of the Agreement "**Approval Milestone Event**", Section 1.58 of the Agreement "**Phase II Milestone Event**", Section 1.59 of the Agreement "**Phase IIb/III Milestone Event**", and Section 1.60 of the Agreement "**Prior Field**" are hereby deleted in their entirety and each replaced with "Reserved".

ii. Section 1.14 of the Agreement is hereby replaced in its entirety with the following new Section 1.14:

"**Commercialization Milestone Event**" means any one of the Regulatory Approval Milestone Event, the New Indication Milestone Event, and the New Product Milestone Event.

iii. Section 1.27 of the Agreement is hereby replaced in its entirety with the following new Section 1.27:

"**Field**" means, irrespective of whether such requires regulatory approval, the treatment of oral mucositis in humans through the administration of an effector via genetically modified bacteria. Notwithstanding the foregoing, the Field shall exclude the delivery of anti-cancer effectors for the purpose of treatment or prophylaxis of cancer.

iv. Section 1.50 of the Agreement is hereby replaced in its entirety with the following new Section 1.50:

"**New Indication Milestone Event**" means for a given Oragenics Product, the approval of a Supplemental FDA Application with the FDA (or an equivalent filing with another equivalent regulatory agency) which Supplemental FDA Application sought approval of an indication for use of an Oragenics Product other than the current regulatory-approved indication for the respective Oragenics Product. Notwithstanding the foregoing and in order to incentivize Oragenics to pursue new indications for the product AG013 in parallel with the existing indication (as such existing indication is described in Investigational Drug Application no. 13995) for product AG013, the New Indication Milestone Event will be deemed not to have occurred if the filed regulatory package under the prior sentence relies upon one or more human clinical trials for the specific new indication, which clinical trial(s) were conducted simultaneously and in parallel with human clinical trials underpinning the first-approved indication for AG013. For the avoidance of doubt and clarification purposes, any occurrence of the New Indication Milestone Event shall not also be deemed the occurrence of the New Product Milestone Event or vice versa.

v. Section 1.51 of the Agreement is hereby replaced in its entirety with the following new Section 1.51:

> "**New Product Milestone Event**" means for a given Oragenics Product, the approval of a FDA New Product Application for such Oragenics Product that is deemed (according to relevant FDA guidelines) to be a different drug product than the first Oragenics Product that was clinically pursued under the Program. For purposes of the New Product Milestone Event, the subject Oragenics Product shall be deemed to be a "different" Oragenics Product from the first Oragenics Product (and thus constitute an occurrence of the New Product Milestone Event) if regulatory approval of the subject Oragenics Product had to be obtained from the FDA under a different FDA New Product Application than the first Oragenics Product. For the avoidance of doubt and clarification purposes, any occurrence of the New Product Milestone Event shall not also be deemed the occurrence of the New Indication Milestone Event or vice versa.

vi. Section 1.68 of the Agreement is hereby replaced in its entirety with the following new Section 1.68:

> "**Regulatory Approval Milestone Event**" means for a given Oragenics Product, the approval of a FDA New Product Application for such Oragenics Product by the FDA or equivalent regulatory action in a foreign jurisdiction.

vii. Section 1.74(a) of the Agreement "**Sublicensing Revenue Rate**" is hereby amended by deleting "Sublicensing Revenue Rate shall be fifty percent (50%)" and replacing it with "Sublicensing Revenue Rate shall be twenty five percent (25%)".

d. **Milestones**. Section 5.2(a) of the Agreement is hereby replaced in its entirety with the following new Section 5.2(a) and all references in the Agreement to Sections 5.2(a)(i) through 5.2(a)(vi) shall refer to Sections 5.2(a)(i) through 5.2(a)(iii):

viii. **Oragenics Commercialization Milestones**. Upon the first instance of attainment of certain Commercialization Milestone Events by an Oragenics Product (whether such attainment is achieved by Oragenics or by a permitted sublicensee), Oragenics has agreed to pay Intrexon milestone payments as set forth in this Section 5.2. The milestone payments are each payable, at Oragenics' election but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock (using Fair Market Value, as defined in the Equity Agreement, to calculate the number of shares to be issued to Intrexon in lieu of cash). The specific milestone

payments due to Intrexon upon achievement of each of the Commercialization Milestone Events are set forth in Sections 5.2(a)(i) through 5.3(a)(iii) below.

(i) Oragenics shall pay Intrexon a milestone payment of twenty seven million five hundred thousand United States dollars ($27,500,000) within six (6) months of the first instance of the achievement of the Regulatory Approval Milestone Event, said payment being made, at Oragenics' option but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock.

(ii) Oragenics shall pay Intrexon a one-time milestone payment of five million United States dollars ($5,000,000) within six (6) months of the first instance of the achievement of the New Indication Milestone Event, said payment being made, at Oragenics' option but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock.

(iii) Oragenics shall pay Intrexon a one-time milestone payment of five million United States dollars ($5,000,000) within six (6) months of the first instance of the achievement of the New Product Milestone Event, said payment being made, at Oragenics' option but subject to Sections 5.2(b) through 5.2(d), either in cash or in shares of Oragenics' common stock.

Notwithstanding anything in this Agreement to the contrary, but subject to its obligation under Section 4.5(a), Oragenics shall have sole and exclusive control over clinical trials (including patient dosing) and regulatory filings (including the jurisdictions in which such filings are made) for the purpose of the Commercialization Milestones in Section 5.2(a)(i)-(iii) as applicable.

6. MISCELLANEOUS

6.1 Full Force and Effect. This Amendment amends the terms of the Agreement and is deemed incorporated into the Agreement. The provisions of the Agreement as amended remain in full force and effect.

6.2 Entire Agreement. This Amendment, together with the Agreement, the Stock Agreement, and the Stock Amendment, constitutes the entire agreement, both written and oral, between the Parties with respect to the subject matter hereof, and any and all prior agreements with respect to the subject matter hereof, either written or oral, expressed or implied, are superseded hereby, merged and canceled, and are null and void and of no effect.

6.3 Counterparts. This Amendment may be executed in one or more counterparts, each of which will be an original and all of which together will constitute one instrument.

IN WITNESS WHEREOF, Intrexon, Actobiotics, and Oragenics have executed this Amendment by their respective duly authorized representatives as of the Amendment Effective Date.

INTREXON CORPORATION

By: /s/ Donald P. Lehr
Name: Donald P. Lehr
Title: Chief Legal Officer

ORAGENICS, INC.

By: /s/ Alan Joslyn
Name: Alan Joslyn
Title: Chief Executive Officer

INTREXON ACTOBIOTICS NV

By: /s/ Ricky Sterling
Name: Ricky Sterling
Title: Director

VIA FACSIMILE: (813) 286-7904
Oragenics, Inc.
4902 Eisenhower Boulevard, Suite 125
Tampa, FL 33634
Attention: Chief Executive Officer

VIA FACSIMILE: (813) 229-1660
Shumaker, Loop & Kendrick, LLP
101 E. Kennedy Boulevard, Suite 2800
Tampa, FL 33602
Attention: Mark Catchur, Esq.

Re: Notice of Assignment - Exclusive Channel Collaboration Agreement effective June 9, 2015

Dear Sirs:

We are pleased to advise that Intrexon Corporation has reorganized certain of its operating divisions, including the formation of a new wholly owned subsidiary of Intrexon Corporation, ActoBio Therapeutics, Inc. ("ActoBio"). ActoBio will include all of Intrexon's worldwide operations relating to its Actobiotic™ L. lactis human therapeutic platform, including products and programs being pursued in collaboration with Oragenics, Inc. ("Oragenics"). This internal reorganization will not negatively impact Oragenics or this collaboration.

This letter is Notice that effective January 1, 2018 and as permitted by Section 12.8 of the Exclusive Channel Collaboration Agreement effective June 9, 2015 (the "Agreement") Intrexon Corporation has assigned Intrexon Corporation's interests in this Agreement to ActoBio. ActoBio Therapeutics, Inc. agrees to be bound by the Agreement and assumes all rights, interest and obligations under the Agreement previously held by Intrexon Corporation. For your future use and reference, contact and correspondence addresses are provided on the attached sheet.

Please do not hesitate to contact my office if you have any questions and we appreciate your attention to this matter.

Best regards,

INTREXON CORPORATION

/s/ Donald P. Lehr
Donald P. Lehr
Chief Legal Officer

Attachment

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Alan Joslyn, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Oragenics, Inc.;

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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) 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) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(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 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:

(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.

Dated this 13th day of August, 2018

By: /s/ Alan F. Joslyn Ph.D.
Alan F. Joslyn Ph.D.
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, Michael Sullivan, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Oragenics, Inc.;

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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) 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) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(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 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:

(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.

Dated this 13th day of August, 2018

By: /s/ Michael Sullivan
Michael Sullivan
Chief Financial Officer

Exhibit 32.1

Certification of Chief Executive Officer

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350)

In connection with the Quarterly Report on Form 10-Q for the quarter ended June 30, 2018 (the "Report") of Oragenics, Inc. (the "Registrant"), as filed with the Securities and Exchange Commission on the date hereof, I, Alan Joslyn, hereby certify, to the best of my knowledge, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

/s/ Alan F. Joslyn Ph.D.
Name: Alan F. Joslyn Ph.D.
President and Chief Executive Officer

Date: August 13, 2018

Exhibit 32.2

Certification of Chief Financial Officer

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. Section 1350)

In connection with the Quarterly Report on Form 10-Q for the quarter ended June 30, 2018 (the "Report") of Oragenics, Inc. (the "Registrant"), as filed with the Securities and Exchange Commission on the date hereof, I, Michael Sullivan, hereby certify, to the best of my knowledge, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

/s/ Michael Sullivan
Name: Michael Sullivan
Chief Financial Officer

Date: August 13, 2018