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

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): May 9, 2019

INTREXON CORPORATION
(Exact Name of Registrant as Specified in Charter)

Virginia	**001-36042**	**26-0084895**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(I.R.S. Employer Identification No.)**

20374 Seneca Meadows Parkway, Germantown, Maryland 20876
(Address of Principal Executive Offices) (Zip Code)

(301) 556-9900
(Registrant's Telephone Number, including area code)

N/A
(Former Name or Former Address, if change since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 or Rule 12b-2 of the Securities Exchange Act of 1934.

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. ☐

Securities registered pursuant to 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Intrexon Corporation Common Stock, No Par Value	**XON**	**Nasdaq Global Select Market**

Item 2.02 Results of Operations and Financial Condition.

Attached as Exhibit 99.1 is a copy of a press release of Intrexon Corporation, dated May 9, 2019, reporting its financial results for the quarter ended March 31, 2019.

This information, including the Exhibit attached hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, except as shall be expressly set forth by specific reference in such filing.

Item 7.01 Regulation FD Disclosure.

On May 9, 2019, Intrexon Corporation provided two slide presentations to accompany its press release. A copy of each presentation is furnished as Exhibit 99.2 and 99.3 hereto.

This information, including the Exhibits attached hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, except as shall be expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
99.1	Press release dated May 9, 2019.
99.2	Slide presentation of Intrexon Corporation for Intrexon Health dated May 9, 2019.
99.3	Slide presentation of Intrexon Corporation for Intrexon Bioengineering dated May 9, 2019.

SIGNATURES

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

Intrexon Corporation

By: /s/ Rick L. Sterling
Rick L. Sterling
Chief Financial Officer

Dated: May 9, 2019

Intrexon Reports First Quarter 2019 Financial Results

– Quarterly GAAP revenues of $23.3 million and net loss attributable to Intrexon of $60.7 million including non-cash charges of $17.8 million –
– Quarterly Adjusted EBITDA of $(39.2) million –

GERMANTOWN, MD, May 9, 2019 – Intrexon Corporation (NASDAQ: XON), a leader in the engineering and industrialization of biology to improve the quality of life and health of the planet, today announced its first quarter financial results for 2019.

Recent Business Highlights:

- Intrexon announced alignment of its operations into two units, Intrexon Health and Intrexon Bioengineering, to better deploy resources, realize inherent synergies and position the company for growth with a core focus on healthcare. Intrexon Health, will be led by Randal J. Kirk, Chairman and Chief Executive Officer of Intrexon while Intrexon Bioengineering will be led by LTG (Ret.) Thomas Bostick, PhD, PE, Chief Operating Officer of Intrexon, who will also assume the title of President, Intrexon Bioengineering; and
- As Intrexon announced previously, the Company believes it will end the year with approximately the same net cash and short-term investment position that it held on April 3, 2019. The Company is making progress toward this goal through a combination of partnering, asset sales and operating cost reductions. The Company has initiated plans to reduce its original 2019 operating budget by approximately $70 million and commenced actions toward achieving this goal.

Intrexon Health

- Precigen, Inc., a wholly-owned subsidiary of Intrexon, opened its new nearly 5,000 square foot facility in Germantown, Maryland to support gene therapy manufacturing. The U.S. Food and Drug Administration (FDA) good manufacturing practices (GMP) compliant facility was designed with agility and control in mind, focusing on rapid manufacturing and the ability to scale production appropriately to meet early stage clinical trial needs;
- Intrexon and its majority-owned subsidiary Triple-Gene LLC (formerly Xogenex LLC) completed enrollment in the first cohort of a Phase 1 clinical trial of INXN-4001, an investigational new drug which is the world's first triple effector gene drug candidate being evaluated for the treatment of heart failure; and
- Intrexon continues advancing its proprietary yeast-based platform for robust production of cannabinoids with consistent yield and purity and with production of CBGA at 700 mg/L in stirred tank fermenter. The platform is on track to realize a target cost of goods of <$1000 USD/kg.

Intrexon Bioengineering

- Intrexon entered into a strategic licensing agreement with Surterra Wellness to utilize Intrexon's Botticelli™ next generation plant propagation platform to enable rapid production of Surterra's proprietary cannabis cultivars for the Florida market;
- Oxitec, Ltd., a wholly-owned subsidiary of Intrexon, signed two, multi-year development agreements with a collaborator to apply its 2nd generation, self-limiting technology to develop solutions for the soybean looper and fall armyworm, two insect pests that cause significant damage to agricultural crops globally; and
- AquaBounty Technologies, Inc. (NASDAQ: AQB), an investment of Intrexon, announced the FDA lifted the Import Alert on AquAdvantage® Salmon (AAS) in March. Environment and Climate Change Canada has also approved the company's Rollo Bay production facility for the commercial manufacture and grow-out of AAS.

First Quarter 2019 Financial Highlights:

- Total revenues of $23.3 million;
- Net loss of $60.7 million attributable to Intrexon, or $(0.40) per basic share, including non-cash charges of $17.8 million;
- Adjusted EBITDA of $(39.2) million, or $(0.26) per basic share; and
- Cash, cash equivalents, and short-term investments totaled $181.6 million and the value of common equity securities totaled $1.8 million at March 31, 2019.

“Our realignment into Intrexon Health and Intrexon Bioengineering is well underway,” commented Mr. Kirk. “On the healthcare side it is satisfying and exciting for all of us that we currently are dosing in clinical trials several novel therapeutic candidates of our design that incorporate our unique technology. Moreover, as we prepare to get underway with patient dosing of two Ultra-CAR-T candidates, we see the potential realization of a set of aspirations that we have held — and declared — since before our IPO and believe that these should constitute major advances in immuno-oncology. We await data with great anticipation.”

Mr. Kirk concluded, “Our share price carries implications as well, so we are determined to prosecute all that we have set ourselves to accomplish in healthcare while realizing maximum value for our shareholders from our non-healthcare assets, the portfolio of Intrexon Bioengineering. These realizations may be participating or transactional in nature, but we are determined to achieve them and indeed are currently advancing several such prospects. Combined with the cost-cutting program that we have implemented, we expect our company will be a leaner, more-focused enterprise but not one lacking ambition or impact.”

“Intrexon Bioengineering’s highly skilled teams are contributing their breadth of expertise across diverse fields to advance programs in food, agriculture, environmental, and industrial fields. We believe these programs offer a unique opportunity to realize the potential of engineered solutions in generating more efficient and sustainable approaches than current industry practices. Intrexon Bioengineering is focused on delivering these technologies and products with the goal of increasing shareholder value,” added Dr. Bostick.

First Quarter 2019 Financial Results Compared to Prior Year Period

Total revenues decreased $16.3 million from the quarter ended March 31, 2018. Collaboration and licensing revenues decreased $13.9 million from the quarter ended March 31, 2018 primarily due to the reacquisition of rights previously licensed to certain significant collaborators, including ZIOPHARM Oncology, Inc., and ARES Trading S.A., the result of which eliminated or substantially reduced revenues generated from those collaborations. The decline was also attributable to the mutual termination of the Company’s ECC with OvaScience, Inc., in March 2018. Product revenues decreased $2.3 million, or 32%, primarily due to lower customer demand for pregnant cows and cloned products. Gross margin on products declined in the current period as a result of fewer products sold and increased costs associated with new product offerings. Service revenues decreased $0.9 million, or 7%. The decrease in service revenues and the gross margin thereon relates to fewer embryos produced per bovine *in vitro* fertilization cycle performed as a result of unfavorable production results.

Research and development expenses decreased $4.2 million, or 11%. Research and development depreciation and amortization expense decreased $2.0 million primarily due to intangible assets that were impaired or abandoned in 2018. Research and development salaries, benefits and other personnel costs decreased $1.3 million primarily due to the closing of one of the Company’s research

and development facilities in Brazil in 2018. Selling, general and administrative (SG&A) expenses decreased $6.1 million, or 16%. SG&A salaries, benefits and other personnel costs decreased $4.8 million primarily due to decreased compensation expenses related to performance and retention incentives for SG&A employees as well as decreased share-based compensation expense as a result of certain 2014 stock option grants becoming fully vested in March 2018.

The Company will not host a conference call associated with this financial results release.

About Intrexon Corporation

Intrexon Corporation (NASDAQ: XON) is Powering the Bioindustrial Revolution with Better DNA™ to create biologically-based products that improve the quality of life and the health of the planet through two operating units – Intrexon Health and Intrexon Bioengineering. Intrexon Health is focused on addressing unmet medical needs through a diverse spectrum of therapeutic modalities, including gene and cell therapies, microbial bioproduction, and regenerative medicine. Intrexon Bioengineering seeks to address global challenges across food, agriculture, environmental, and industrial fields by advancing biologically engineered solutions to improve sustainability and efficiency. Our integrated technology suite provides industrial-scale design and development of complex biological systems delivering unprecedented control, quality, function, and performance of living cells. We call our synthetic biology approach Better DNA®, and we invite you to discover more at www.dna.com or follow us on Twitter at @Intrexon, on Facebook, and LinkedIn.

Non-GAAP Financial Measures

This press release presents Adjusted EBITDA and Adjusted EBITDA per share, which are non-GAAP financial measures within the meaning of applicable rules and regulations of the Securities and Exchange Commission (SEC). For a reconciliation of these measures to the most directly comparable financial measure calculated in accordance with generally accepted accounting principles and for a discussion of the reasons why the Company believes that these non-GAAP financial measures provide information that is useful to investors see the tables below under “Reconciliation of GAAP to Non-GAAP Measures.” Such information is provided as additional information, not as an alternative to Intrexon’s consolidated financial statements presented in accordance with GAAP, and is intended to enhance an overall understanding of the Intrexon’s current financial performance.

Trademarks

Intrexon, UltraCAR-T, Botticelli, Powering the Bioindustrial Revolution with Better DNA, and Better DNA are trademarks of Intrexon and/or its affiliates. Other names may be trademarks of their respective owners.

Safe Harbor Statement

Some of the statements made in this press release are forward-looking statements that involve a number of risks and uncertainties and are made pursuant to the Safe Harbor Provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements made in this press release include, but are not limited to, statements regarding clinical and pre-clinical development activities by Intrexon and its collaborators, commercial and business development plans and the submission of regulatory filings. These forward-looking statements are based upon Intrexon’s current expectations and projections about future events and generally relate to Intrexon’s plans, objectives and expectations for the development of Intrexon’s business. Although management believes that the plans and objectives reflected in or suggested by these forward-looking statements are reasonable, all forward-looking statements involve risks and uncertainties and actual future results may be materially different from the plans, objectives and expectations expressed in this press release. These risks and uncertainties include, but are not limited to, (i) Intrexon’s strategy and overall approach to its business model, including its ability to successfully enter into optimal strategic relationships with its subsidiaries and operating companies that Intrexon may form in the future, its ability to develop prospective new

platforms and partnering opportunities, and its ability to exercise more control and ownership over the development process and commercialization path; (ii) Intrexon's ability to successfully enter new markets or develop additional products, whether with its collaborators or independently; (iii) actual or anticipated variations in Intrexon's operating results; (iv) actual or anticipated fluctuations in Intrexon's competitors' or its collaborators' operating results or changes in their respective growth rates; (v) Intrexon's cash position; (vi) market conditions in Intrexon's industry; (vii) the volatility of Intrexon's stock price; (viii) Intrexon's ability, and the ability of its collaborators, to protect Intrexon's intellectual property and other proprietary rights and technologies; (ix) Intrexon's ability, and the ability of its collaborators, to adapt to changes in laws or regulations and policies; (x) the outcomes of pending or future litigation; (xi) the rate and degree of market acceptance of any products developed by a collaborator under an ECC or through a joint venture; (xii) Intrexon's ability to retain and recruit key personnel; (xiii) Intrexon's expectations related to the use of proceeds from its public offerings and other financing efforts; (xiv) Intrexon's estimates regarding expenses, future revenue, capital requirements and needs for additional financing; and (xv) Intrexon's expectations relating to its subsidiaries and other affiliates. For a discussion of other risks and uncertainties, and other important factors, any of which could cause Intrexon's actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in Intrexon's Annual Report on Form 10-K, as well as discussions of potential risks, uncertainties, and other important factors in Intrexon's subsequent filings with the SEC. All information in this press release is as of the date of the release, and Intrexon undertakes no duty to update this information unless required by law.

###

For more information regarding Intrexon Corporation, contact:

Investor Contact:
Steven Harasym
Vice President, Investor Relations
Tel: +1 (301) 556-9850
investors@dna.com

Corporate Contact:
Marie Rossi, PhD
Vice President, Communications
Tel: +1 (301) 556-9850
publicrelations@dna.com

Intrexon Corporation and Subsidiaries
Consolidated Balance Sheets
(Unaudited)

(Amounts in thousands)	March 31, 2019	December 31, 2018
Assets		
Current assets		
Cash and cash equivalents	$ 106,544	$ 102,768
Restricted cash	—	6,987
Short-term investments	75,090	119,688
Equity securities	187	384
Receivables		
Trade, net	19,859	21,195
Related parties, net	2,444	4,129
Other, net	2,578	2,754
Inventory	19,896	21,447
Prepaid expenses and other	5,577	6,131
Total current assets	232,175	285,483
Equity securities, noncurrent	1,602	1,798
Property, plant and equipment, net	136,357	128,874
Intangible assets, net	125,868	129,291
Goodwill	150,755	149,585
Investments in affiliates	17,627	18,859
Right-of-use assets	43,099	—
Other assets	2,381	2,287
Total assets	$ 709,864	$ 716,177
Current liabilities		
Accounts payable	$ 12,601	$ 13,420
Accrued compensation and benefits	7,784	10,687
Other accrued liabilities	14,096	20,620
Deferred revenue	17,149	15,554
Lines of credit	277	466
Current portion of long-term debt	564	559
Current portion of lease liabilities	4,778	—
Related party payables	2,173	256
Total current liabilities	59,422	61,562
Long-term debt, net of current portion	214,010	211,235
Deferred revenue, net of current portion	54,042	54,210
Lease liabilities, net of current portion	40,185	—
Deferred tax liabilities, net	6,720	7,213
Other long-term liabilities	662	3,235
Total liabilities	375,041	337,455
Commitments and contingencies		
Total equity		
Common stock	—	—
Additional paid-in capital	1,732,608	1,722,012
Accumulated deficit	(1,391,254)	(1,330,545)
Accumulated other comprehensive loss	(28,325)	(28,612)
Total Intrexon shareholders' equity	313,029	362,855
Noncontrolling interests	21,794	15,867
Total equity	334,823	378,722
Total liabilities and total equity	$ 709,864	$ 716,177

Intrexon Corporation and Subsidiaries
Consolidated Statements of Operations
(Unaudited)

(Amounts in thousands, except share and per share data)	Three months ended March 31, 2019	2018
Revenues		
Collaboration and licensing revenues	$ 5,970	$ 19,848
Product revenues	4,857	7,152
Service revenues	11,383	12,247
Other revenues	1,125	419
Total revenues	23,335	39,666
Operating Expenses		
Cost of products	8,290	8,530
Cost of services	7,092	6,783
Research and development	33,062	37,267
Selling, general and administrative	33,594	39,737
Total operating expenses	82,038	92,317
Operating loss	(58,703)	(52,651)
Other Income (Expense), Net		
Unrealized and realized appreciation (depreciation) in fair value of equity securities and preferred stock, net	70	(1,096)
Interest expense	(4,311)	(99)
Interest and dividend income	1,364	5,470
Other income (expense), net	506	(659)
Total other income (expense), net	(2,371)	3,616
Equity in net loss of affiliates	(1,640)	(2,460)
Loss before income taxes	(62,714)	(51,495)
Income tax benefit	578	4,086
Net loss	$ (62,136)	$ (47,409)
Net loss attributable to the noncontrolling interests	1,427	1,244
Net loss attributable to Intrexon	$ (60,709)	$ (46,165)
Net loss attributable to Intrexon per share, basic and diluted	$ (0.40)	$ (0.36)
Weighted average shares outstanding, basic and diluted	152,948,058	127,693,336

Intrexon Corporation and Subsidiaries
Reconciliation of GAAP to Non-GAAP Measures
(Unaudited)

Adjusted EBITDA and Adjusted EBITDA per share. To supplement Intrexon's financial information presented in accordance with U.S. generally accepted accounting principles ("GAAP"), Intrexon presents Adjusted EBITDA and Adjusted EBITDA per share. A reconciliation of Adjusted EBITDA to net income or loss attributable to Intrexon under GAAP appears below. Adjusted EBITDA is a non-GAAP financial measure that Intrexon calculates as net income or loss attributable to Intrexon adjusted for income tax expense or benefit, interest expense, depreciation and amortization, stock-based compensation, shares issued as compensation for services, impairment loss, expense for in-process research and development reacquired from former collaborators, bad debt expense, litigation expense, realized and unrealized appreciation or depreciation in the fair value of equity securities and preferred stock, and equity in net loss of affiliates. Adjusted EBITDA and Adjusted EBITDA per share are key metrics for Intrexon's management and Board of Directors for evaluating the Company's financial and operating performance, generating future operating plans and making strategic decisions about the allocation of capital. Intrexon's management and Board of Directors believe that Adjusted EBITDA and Adjusted EBITDA per share are useful to understand the long-term performance of Intrexon's core business and facilitate comparisons of the Company's operating results over multiple reporting periods. Intrexon is providing this information to investors and others to assist them in understanding and evaluating the Company's operating results in a manner similar to how its management and Board of Directors evaluate operating results (except for the impact of the change in deferred revenue related to upfront and milestone payments, which is adjusted in the measures evaluated by management and the Board of Directors as discussed below). While Intrexon believes that its non-GAAP financial measures are useful in evaluating its business, and may be of use to investors, this information should be considered supplemental in nature and not as a substitute for the related financial information prepared in accordance with GAAP. In addition, these non-GAAP financial measures may not be the same as non-GAAP financial measures presented by other companies. Adjusted EBITDA and Adjusted EBITDA per share are not measures of financial performance under GAAP, and are not intended to represent cash flows from operations nor earnings per share under GAAP and should not be used as an alternative to net income or loss as an indicator of operating performance or to represent cash flows from operating, investing or financing activities as a measure of liquidity. Intrexon compensates for the limitations of Adjusted EBITDA and Adjusted EBITDA per share by using them only to supplement the Company's GAAP results to provide a more complete understanding of the factors and trends affecting the Company's business. Adjusted EBITDA and Adjusted EBITDA per share have limitations as an analytical tool and you should not consider them in isolation or as a substitute for analysis of Intrexon's results as reported under GAAP.

In addition to the reasons stated above, which are generally applicable to each of the items Intrexon excludes from its non-GAAP financial measure, Intrexon believes it is appropriate to exclude certain items from the definition of Adjusted EBITDA for the following reasons:

- Interest expense may be subject to changes in interest rates which are beyond Intrexon's control;
- Depreciation of Intrexon's property and equipment and amortization of acquired identifiable intangibles can be affected by the timing and magnitude of business combinations and capital asset purchases;
- Stock-based compensation expense is a noncash expense and may vary significantly based on the timing, size and nature of awards granted and also because the value is determined using formulas which incorporate variables, such as market volatility;
- Shares issued as compensation for services and bad debt expense are noncash expenses which Intrexon excludes in evaluating its financial and operating performance;
- Impairment loss is a noncash expense which represents the write down of the book value of acquired goodwill and intangible assets when fair value is determined to be less than book value. These charges are nonrecurring and may vary significantly based on economic, regulatory, political and other circumstances;
- Expense for in-process research and development reacquired from former collaborators is a noncash expense which is expected to be an infrequent item and may vary significantly based on the scope of the repurchased rights;
- Unrealized and realized appreciation or depreciation in the fair value of securities which Intrexon holds in its collaborators may be significantly impacted by market volatility and other factors which are outside of the Company's control in the short term and Intrexon intends to hold these securities over the long term, except as otherwise disclosed; and

- Equity in net loss of affiliate reflects Intrexon's proportionate share of the income or loss of entities over which the Company has significant influence, but not control, and accounts for using the equity method of accounting. Intrexon believes excluding the impact of such losses or gains on these types of strategic investments from its operating results is important to facilitate comparisons between periods.

The following table presents a reconciliation of net loss attributable to Intrexon to EBITDA and also to Adjusted EBITDA, as well as the calculation of Adjusted EBITDA per share, for each of the periods indicated:

	Three months ended March 31,	
	2019	2018
	(In thousands)	
Net loss attributable to Intrexon	$ (60,709)	$ (46,165)
Interest expense	4,283	87
Income tax benefit	(578)	(4,086)
Depreciation and amortization	6,326	8,236
EBITDA	$ (50,678)	$ (41,928)
Stock-based compensation	8,989	11,340
Shares issued as payment for services	831	2,941
Bad debt expense	64	218
Unrealized and realized (appreciation) depreciation in fair value of equity securities and preferred stock, net	(70)	1,096
Equity in net loss of affiliates	1,640	2,460
Adjusted EBITDA	$ (39,224)	$ (23,873)
Weighted average shares outstanding, basic and diluted	152,948,058	127,693,336
Adjusted EBITDA per share, basic and diluted	$ (0.26)	$ (0.19)

Intrexon Health Overview

May 2019

Forward Looking Statements

Safe Harbor Statement

Some of the statements made in this presentation are forward-looking statements that involve a number of risks and uncertainties and are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based upon Intrexon's current expectations and projections about future events and generally relate to Intrexon's plans, objectives and expectations for the development of Intrexon's business, discussion of anticipated clinical trials and future collaborations. Although management believes that the plans and objectives reflected in or suggested by these forward-looking statements are reasonable, all forward-looking statements involve risks and uncertainties and actual future results may be materially different from the plans, objectives and expectations expressed in this presentation. These risks and uncertainties include, but are not limited to, (i) Intrexon's strategy and overall approach to its business model and its ability to exercise more control and ownership over the development process and commercialization path; (ii) Intrexon's ability to successfully enter new markets or develop additional products, whether with its collaborators or independently; (iii) Intrexon's ability to successfully enter into optimal strategic relationships with its subsidiaries and operating companies that it may form in the future; (iv) actual or anticipated variations in Intrexon's operating results; (v) actual or anticipated fluctuations in Intrexon's competitors' or its collaborators' operating results or changes in their respective growth rates; (vi) Intrexon's cash position; (vii) market conditions in Intrexon's industry; (viii) the volatility of Intrexon's stock price; (ix) Intrexon's ability, and the ability of its collaborators, to protect Intrexon's intellectual property and other proprietary rights and technologies; (x) Intrexon's ability, and the ability of its collaborators, to adapt to changes in laws or regulations and policies; (xi) the outcomes of pending and future litigation; (xii) the rate and degree of market acceptance of any products developed by Intrexon, its subsidiaries, collaborations or joint ventures; (xiii) Intrexon's ability to retain and recruit key personnel; (xiv) Intrexon's expectations related to the use of proceeds from its public offerings and other financing efforts; and (xv) Intrexon's estimates regarding expenses, future revenue, capital requirements and needs for additional financing. For a discussion of other risks and uncertainties, and other important factors, any of which could cause Intrexon's actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in Intrexon's Annual Report on Form 10-K and subsequent reports filed with the Securities and Exchange Commission. All information in this presentation is as of the date of the release, and Intrexon undertakes no duty to update this information unless required by law.

All of the pharmaceutical products described in this presentation are investigational new drugs, which are currently undergoing pre-clinical and/or human clinical trial testing. As a result, none of them have had their safety or efficacy established or are approved by the U.S. Food and Drug Administration or any other regulatory agency.

Intrexon Health Investment Overview

- Possessing the broadest and deepest gene and cell therapy technologies and capabilities
- Addressing unmet medical needs with therapeutics that are Targeted, Controllable, and Multigenic
- Eight clinical stage assets across diverse indications, more coming to the clinic
- Offering significantly improved COGS as compared with current generations
- Multiple near-term catalysts for value recognition

Board of Directors

Cesar Alvarez	• Senior Chairman of Greenberg Traurig • Recognized as one of the “100 Most Influential Lawyers in America”
Steve Frank	• Chairman of Global Healthcare Investment Banking at J.P. Morgan • Former head of Bear Stearns Worldwide Health Care Investment Banking Group
Vinita Gupta	• CEO of Lupin Limited • Named 2015 Ernst & Young Entrepreneur of the Year
Fred Hassan	• Partner and Managing Director of Warburg Pincus LLC • Former Chairman/CEO of Schering-Plough
Jeffrey Kindler	• CEO of Centrexion Corporation • Former Chairman/CEO of Pfizer, Inc.
Randal J. Kirk Chairman	• Chairman & CEO of Intrexon • Former Chairman/CEO of New River Pharmaceuticals, Inc. and Chairman of Clinical Data, Inc.
Dean Mitchell	• Executive Chairman and Board member of Covis Pharma Holdings S.a.r.l. • Former CEO, Alpharma
Robert Shapiro Lead Independent	• Chairman, Managing Director, and Co-Founder of Sandbox Industries, LLC • Former Chairman/CEO of Monsanto Company
James Turley	• Director of Citigroup and Emerson Electric Co. • Former Chairman/CEO of Ernst & Young

Executive Leadership

Randal J. Kirk
Chairman and CEO

- Co-Founder & COO of General Injectables and Vaccines (now the medical business of Henry Schein)
- Co-founder and first President of King Pharmaceuticals (now part of Pfizer)
- Board member and largest shareholder of Scios, Inc. (now part of Johnson & Johnson)
- Founder, Chairman, CEO and largest shareholder of New River Pharmaceuticals (now part of Takeda)
- Chairman and largest shareholder of Clinical Data, Inc. (now part of Allergan)
- Board member (11 years) and largest shareholder of Halozyme (traded on Nasdaq)
- Chairman, CEO and largest shareholder of Intrexon

Helen Sabzevari, PhD
President, Precigen, Inc.

- President of Precigen Inc., a dedicated discovery and clinical stage biopharmaceutical company advancing the next generation of gene and cellular therapies
- Co-founder and Chief Science Officer of Compass Therapeutics, a fully-integrated drug discovery and development company focused on manipulating the immune system to treat human disease
- Global Head of Immuno-Oncology Global Research and Early Development at EMD Serono (a subsidiary of Merck KGaA, Darmstadt, Germany). Led discovery and development of the anti-PD-L1 checkpoint inhibitor Bavencio® (avelumab), designated by the US FDA as a breakthrough therapy and approved to treat metastatic Merkel cell carcinoma and urothelial carcinoma.
- Led the Molecular Immunology Group at the Laboratory of Tumor Immunology and Biology at the US National Cancer Institute
- PhD in cell and molecular immunology and postdoctoral fellow at the department of immunology at the Scripps Research Institute

Intrexon Health's Integrated GeneRx Platform

UltraVector-optimized Gene Networks
Rapid design and construction of multigenic DNA vectors for controlling gene expression employing a library of genetic parts

Bioinformatics Analysis of Gene Regulation
Integrating data and analysis of gene regulation at the transcriptional or epigenetic level to inform design of gene therapy products

Protein Engineering
Bioinformatics approaches to design enhanced and/or novel protein functionalities including stability, localization, and catalytic activity

Microbial Strain Engineering
Producing heterologous proteins through robust and versatile microbial expression systems for enzyme discovery, gene expression, and biomolecule production

RheoSwitch-mediated Transcription Control
Clinically demonstrated small molecule-based inducible control over timing and dose of therapeutic effectors

AttSite-mediated Genome Integration
Library of serine recombinases for integrating large DNA payloads into cell lines

AdenoVerse-mediated Gene Delivery
Extensive portfolio of high-payload capacity adenoviral vectors with improved tissue selectivity and proven clinical safety, built on a highly scalable manufacturing platform

Intrexon Therapeutics are Targeted, Controllable, Multigenic

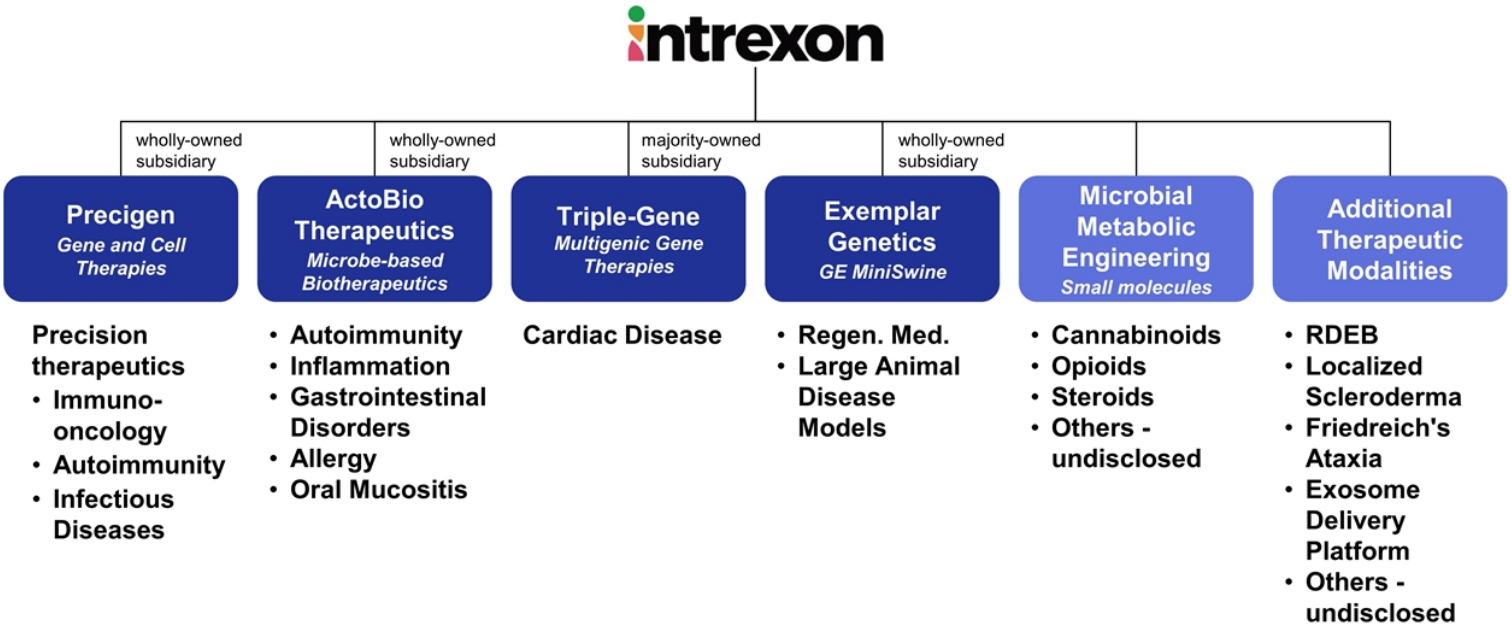
Intrexon's technology and expertise facilitate the creation of sophisticated solutions designed to treat complex diseases

Targeted: We employ cell and genome delivery systems designed to match disease and/or injury-related specifications. Our platforms include viral or non-viral gene delivery, engineered microbes, exosome-mediated RNA delivery, transient or persistent genome modifications, and autologous or universal cell therapies.

Controllable: We create modulated gene systems (including RheoSwitch® technology), in concert with DNA/RNA/protein-based regulatory motifs, to enable spatiotemporal controls over one or more therapeutic effector molecules.

Multigenic: We optimize multi-effector therapies to advance treatment or cure underlying disease etiologies and also to ameliorate effects of chronic comorbid tissue damage.

Intrexon Health Spans Broad Therapeutic Areas



Triple-Gene LLC was formerly Xogenex LLC

Eight Therapeutic Candidates in Clinical Development

	Therapeutic Area	Disease Target	Therapeutic Candidate	Preclinical	Phase I	Phase II	Phase III
Gene Therapy	Oncology [Precigen]	Ovarian Cancer	PRGN-3005	→			
	Oncology [Precigen]	Relapsed/Refractory AML Higher Risk MDS	PRGN-3006	→			
	Oncology [Precigen]	Relapsed/Refractory AML	INXN-3004	→			
	Cardiac Disease [Triple-Gene]	Heart Failure	INXN-4001	→			
	Rare Skin Disorders [Fibrocell]	Recessive Dystrophic EB	FCX-007	→	→	→	
	Rare Skin Disorders [Fibrocell]	Moderate to Severe Localized Scleroderma	FCX-013	→	→		
Biotherapeutics	Immunotherapy [Oragenics]	Oral Mucositis	AG013	→	→	→	
	Autoimmunity [ActoBio Therapeutics]	Type 1 Diabetes	AG019	→	→		

intrexon

Precigen's Pipeline Offers Rapid Value Creation and Potential for Novel Combinations

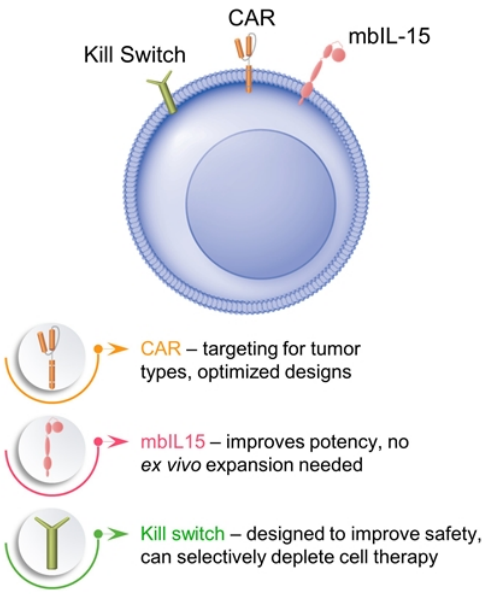
TA	Product	Platform	Indication	Discovery	Preclinical	Phase I
Immuno-oncology	**PRGN-3006**	UltraCAR-T	AML, MDS			
	INXN-3004	Viral CAR-T	AML			
	PRGN-3005	UltraCAR-T	Ovarian Cancer			
	PRGN-3007	UltraCAR-T	Undisclosed			
	PRGN-3008	UltraCAR-T	Undisclosed			
	PRGN-2009	AdenoVerse Vaccine	Solid Tumors			
	PRGN-2010	AdenoVerse Vaccine	Solid Tumors			
	PRGN-5001	Multifunctional Therapeutic	Solid Tumors			
	PRGN-2011	AdenoVerse Cytokine Therapy	Solid Tumors			
	PRGN-5002	Multifunctional Therapeutic	Solid Tumors			
Infectious disease	**PRGN-2012**	AdenoVerse Vaccine	Undisclosed			
	PRGN-2013	AdenoVerse Vaccine	Undisclosed			
Autoimmune disorders	**PRGN-3009**	Undisclosed	Undisclosed			
	PRGN-3010	Undisclosed	Undisclosed			

Precigen pipeline as of February 2019

intrexon

Precigen's UltraCAR-T™ Platform Advantages: Enhanced Potency, Safety, and Scalability

POTENCY	SAFETY	SCALABILITY
✓ Multigenic expression	✓ Kill switch	✓ Rapid manufacturing
✓ Optimized CAR design	✓ Controlled gene expression with RheoSwitch®	✓ Quick turnaround for patients
✓ Long-term persistence	✓ Non-viral gene delivery	✓ No *ex vivo* expansion
✓ Preferred/less differentiated T cell phenotype		✓ Decentralized manufacturing



intrexon

Transformative UltraCAR-T™ Candidates PRGN-3005 and PRGN-3006

PRGN-3005 UltraCAR-T™

Status

- FDA IND clearance in Feb ‘19
- Phase1 study to evaluate safety and maximal tolerated dose
- Study in collaboration with University of Washington

Patient Population

- Advanced stage platinum resistant ovarian cancer
  - 300k diagnosed annually[1]/22k in US[2]
  - Stage IV survival as low as 20%[3]

PRGN-3006 UltraCAR-T™

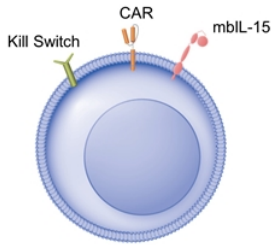
Status

- FDA IND clearance in Dec ‘18
- Phase 1/1b study to evaluate safety and maximal tolerated dose
- Study in collaboration with Moffitt Cancer Center

Patient Population

- Relapsed or refractory acute myeloid leukemia (AML)
  - 20k diagnosed in US in 2018[4]
- Higher risk myelodysplastic syndrome (MDS)
  - US incidence >10k per year[5]

UltraCAR-T™

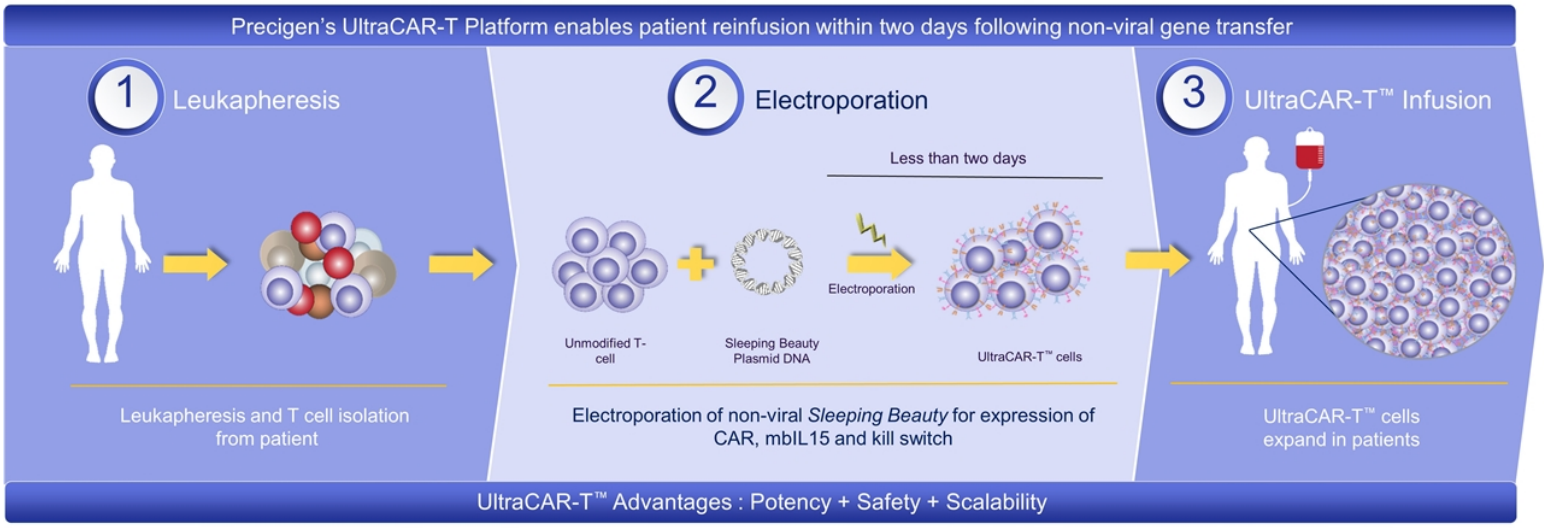


Non-viral *Sleeping Beauty* system to co-express CAR, mbIL15 and kill switch

[1]World Health Organization, International Agency for Research on Cancer, Global Cancer Observatory. Cancer Today, Estimated number of new cases in 2018, worldwide, both sexes, all ages. Accessed December 2018 via WHO IARC GCO website.
[2]American Cancer Society Ovarian Cancer Special Section. Access December 2018 via ACS website.
[3]American Cancer Society. Survival Rates for Ovarian Cancer, by Stage. Accessed December 2018 via ACS website.
[4]American Cancer Society. Key Statistics for Acute Myeloid Leukemia (AML). Accessed December 2018 via ACS website.
[5]American Cancer Society. Key Statistics for Myelodysplastic Syndromes. Accessed December 2018 via ACS website.

intrexon

UltraCAR-T™ Platform Enables Rapid Manufacturing

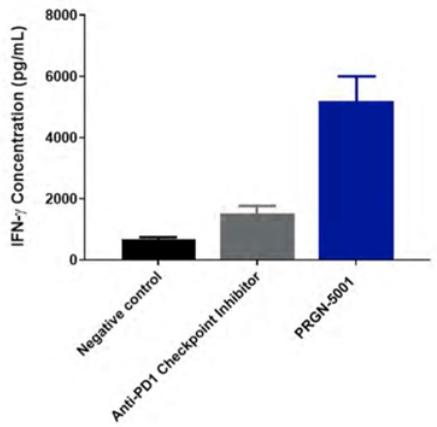


intrexon

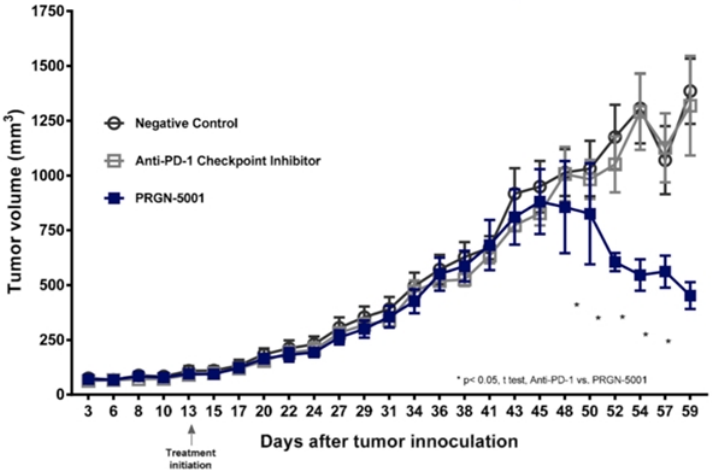
Multigenic Candidate Displays Robust Biofunctional Activity

Precigen's multigenic candidate PRGN-5001 provides improved T cell activation *in vitro* and anti-tumor response in mice compared to approved anti-PD-1 checkpoint inhibitor

Improved T cell activation



Improved anti-tumor activity

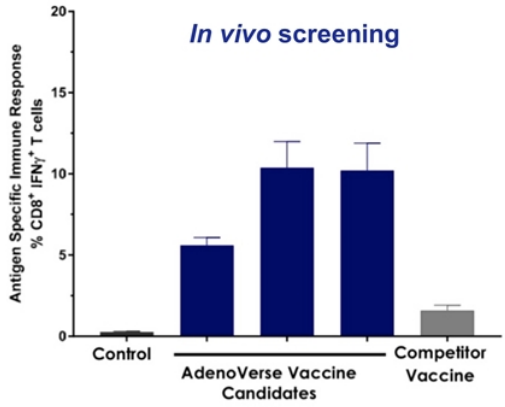


intrexon

Vaccine Candidates Generate Superior Immune Responses

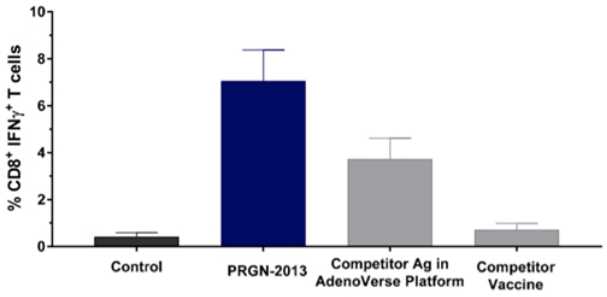
Precigen AdenoVerse™ vaccine candidates and technology platform generate superior immune responses in a mouse model system compared to competitor vaccines

In vivo screening



Novel antigen designs for infectious disease vaccine candidates produce robust antigen-specific response

Antigen specific immune response



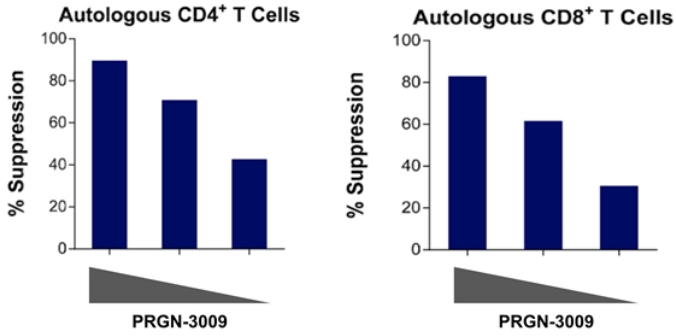
AdenoVerse™ vaccine (PRGN-2013) produces superior immune response

intrexon

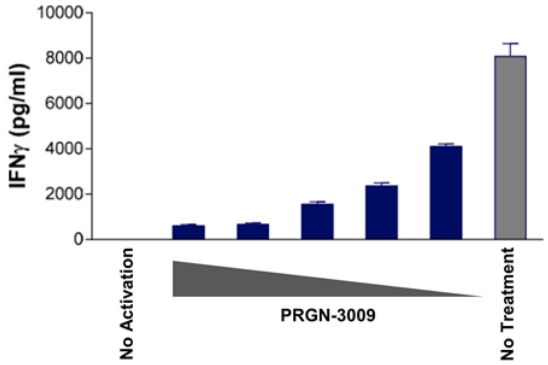
Autoimmunity Candidate Demonstrates Potent Bioactivity

Precigen's autoimmunity asset PRGN-3009 demonstrated potent suppression of effector cell function *in vitro*

Suppression of effector T cell proliferation



Suppression of inflammatory cytokine production



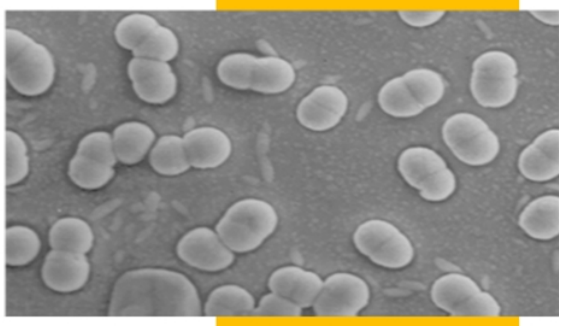
Novel multigenic approach for treatment of autoimmune disorders with unmet medical need

intrexon

ActoBiotics® Platform – A Novel Class of Oral Biotherapeutics

ActoBiotics® is a fully integrated, cost-effective & unique food microbe-based delivery platform for therapeutics

- Potential for superior efficacy and safety through oral or local targeted delivery
- Platform based on using *Lactococcus lactis*
  - Safe, food grade, living, lactic acid bacteria
  - Ongoing animal and human studies
  - Not a gut commensal: no replication in the GI tract
- Designed to perform specific biological interventions
- Accelerates development and validated regulatory path for new IND candidates
- Scalable and low cost of manufacturing



ACTOBIO THERAPEUTICS™

intrexon

Microbe-based Delivery of Biopharmaceuticals to Site of Disease

Oral ActoBiotics®

ANTIGEN-SPECIFIC TREGS MIGRATE TO INFLAMED TISSUE

- Pancreas – T1D **AG019**
- GI Track – Celiac **AG017**

AG019 Ib/IIa trial in the treatment of early onset **type 1 diabetes** is ongoing and patient enrollment is proceeding in the US and Europe

We continue to target an IND in Q2 2019 for AG017, an immune tolerance approach for the treatment of **celiac disease**

THERAPY TO TARGET MUCOSAL DISEASE PATHWAYS

- Oral cavity – OM **AG013**

Collaborator Oragenics, Inc. continues patient enrollment in the Phase IIb trial for AG013 in the treatment for **oral mucositis**

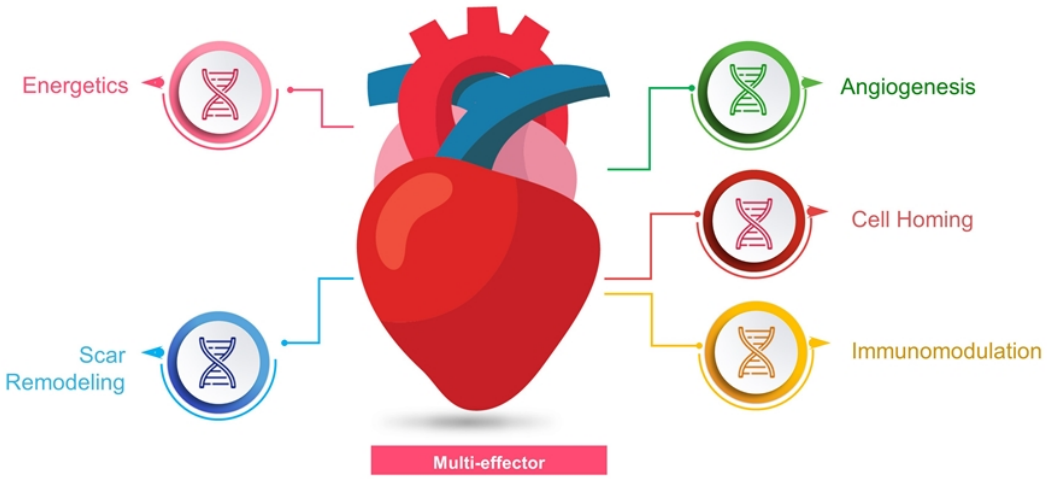
ACT BIO THERAPEUTICS™

intrexon

Triple-Gene LLC: First Triple Gene Drug to Target Heart Failure in Clinic

We are continuing patient enrollment and dosing in Phase I trial of INXN-4001, an investigational drug which is the world's first triple gene drug candidate to target heart failure, the leading cause of death in humans

- Existing treatments improve quality of life in the short-term and offer some improvement in long-term survival though at high cost and with associated complications[1]
- INXN-4001 addresses the multiple malfunctions of cardiomyocytes in patients with heart failure



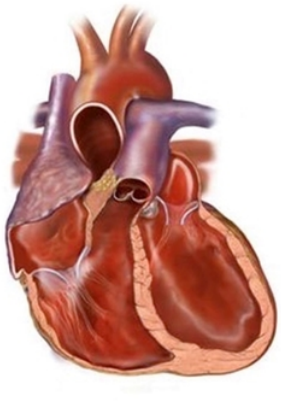
Triple-Gene LLC (formerly Xogenex LLC) is Intrexon's majority-owned subsidiary

1. Comparison of prognosis data from 1990 (Matoba et al, Jpn Circ, Jan 1990 accessed at https://www.ncbi.nlm.nih.gov/pubmed/2332933) and from 2016 (Mozzafarian et al, Circulation 2016)

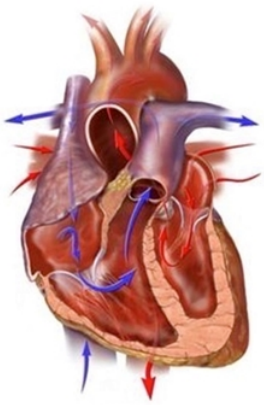
Preliminary Data Suggests Improvements in Cardiac Performance

Human Clinical Data for INXN-4001: Off Left Ventricular Assist Device (LVAD), LVEF

Characteristic	Subject 01-01	Subject 01-03	Subject 01-04
Baseline	10%	10%	10%
90 Days	20%	15%	35%
6 months	20%	-	40%



Congested Heart



Healthy Heart

Left Ventricular Ejection Fraction (LVEF)

- LVEF refers to the amount of blood being pumped out of the left ventricle each time it contracts
- LVEF was measured via echocardiogram after the six minute walk test when patient's LVAD was turned OFF

LVEF Range*	
Normal	50% to 70%
Mild dysfunction	40% to 49%
Moderate dysfunction	30% to 39%
Severe dysfunction	Less than 30%

*LVEF Range according to American College of Cardiology: Heart Failure An ACC Clinical Toolkit

intrexon

Exemplar: Advancing Swine for Regenerative Medicine and Research

- Focus on regenerative medicine continues with Exemplar and the Mayo Clinic launching a joint venture, Cytotheryx, to develop high-quality source of human liver cells to advance medical research and address an estimated $250 million annual market opportunity

- Exemplar Genetics is developing porcine research models, which more accurately replicate human pathology as compared to traditional research models

EXEMPLAR GENETICS

intrexon

Intrexon Labs Hungary: Robust Microbial Production of Therapeutic Compounds

Cannabinoids for Medical Use

- Intrexon's proprietary yeast strains enable a transformative process for robust production of cannabinoids with consistent yield and purity
- Platform is designed to enable production of multiple target cannabinoids

Active Pharmaceutical Ingredients (APIs)

- Microbial production of APIs avoids resource intensive isolation from plant and animal sources offering potential for better consistency and purity of final product
- Intrexon's proprietary pathway engineering has enabled development of microbial strains producing APIs, including the opioid intermediate thebaine

intrexon

Diverse Delivery Modalities for Innovative Therapeutics

Autologous Gene Therapies for Rare Skin Disorders

FCX-007: An autologous dermal fibroblast genetically modified to express functional Type VII collagen (COL7) that is missing or deficient in patients with **Recessive Dystrophic Epidermolysis Bullosa (RDEB)** is currently in a Phase 1/2 clinical trial

FCX-013: An autologous fibroblast genetically modified using lentivirus and encoded for matrix metalloproteinase 1 (MMP-1), a protein responsible for breaking down collagen to treat **moderate to severe localized scleroderma** is currently enrolling Phase 1 portion of a Phase 1/2 clinical trial

Cell Manufacturing
Photo courtesy of Fibrocell Science

Gene Replacement Therapies for Rare Neurological Diseases

UltraVector-optimized adeno-associated virus (AAV)-Frataxin for treatment of Friedreich's Ataxia

Exosome-based Delivery of Bioactive Molecules

Human exosomes developed for delivering diverse payloads to treat a broad array of diseases. Lead programs are focused on delivering bioactive RNAs to treat leukemias.

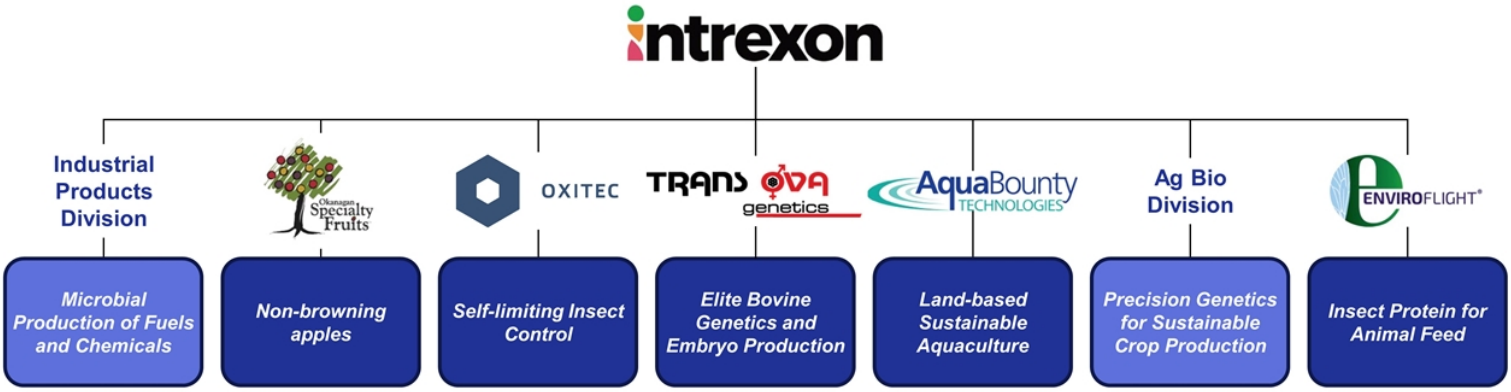
Intrexon is collaborating with Fibrocell Science, Inc. (NASDAQ: FCSC) on FCX-007 and FCX-013; AAV-Frataxin is licensed to PTC Therapeutics, Inc. (NASDAQ: PTCT)

Upcoming Milestones

	Anticipated Timing
• First patient dosing in Phase 1 clinical trial for PRGN-3005 UltraCAR-T™	2Q 2019
• First patient dosing in Phase 1 clinical trial for PRGN-3006 UltraCAR-T™	2Q 2019
• Completion of patient enrollment for Phase Ib/IIa for AG019	2019
• IND submission for ActoBiotics AG017	2Q 2019
• Completion of first cohort enrollment in a Phase 1 trial of INXN-4001	2Q 2019
• Initiation of Phase 3 trial for FCX-007	2Q 2019
• Completion of adult patient enrollment in Phase 1 for FCX-013	3Q 2019

Intrexon Bioengineering

- Addressing global challenges across food, agriculture, environmental, and industrial fields by advancing biologically engineered solutions to improve sustainability and efficiency
- Portfolio of companies are leaders in their respective industries
- Led by LTG (Ret.) Thomas Bostick, PhD, PE, Chief Operating Officer of Intrexon and President of Intrexon Bioengineering



AquaBounty Technologies, Inc. (NASDAQ: AQB) is an investment of Intrexon and Intrexon's collaborator in aquaculture; EnviroFlight, LLC is a joint venture between Intrexon and Darling Ingredients Inc. (NYSE: DAR)

intrexon

Intrexon Corporate Highlights

- We are realigning to focus on Healthcare by forming Intrexon Health and Intrexon Bioengineering while streamlining management
- We believe the company will end the year with approximately the same net cash and short-term investment position that it held on April 3, 2019, achieving this through a combination of partnering, asset sales and operating cost reductions
- Numerous processes and conversations underway relative to asset sales and partnering
- We prepare for an IPO of Precigen, pending data and/or transaction

Intrexon Bioengineering Overview

May 2019

intrexon

Forward Looking Statements

Safe Harbor Statement

Some of the statements made in this presentation are forward-looking statements that involve a number of risks and uncertainties and are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based upon Intrexon's current expectations and projections about future events and generally relate to Intrexon's plans, objectives and expectations for the development of Intrexon's business, discussion of anticipated clinical trials and future collaborations. Although management believes that the plans and objectives reflected in or suggested by these forward-looking statements are reasonable, all forward-looking statements involve risks and uncertainties and actual future results may be materially different from the plans, objectives and expectations expressed in this presentation. These risks and uncertainties include, but are not limited to, (i) Intrexon's strategy and overall approach to its business model and its ability to exercise more control and ownership over the development process and commercialization path; (ii) Intrexon's ability to successfully enter new markets or develop additional products, whether with its collaborators or independently; (iii) Intrexon's ability to successfully enter into optimal strategic relationships with its subsidiaries and operating companies that it may form in the future; (iv) actual or anticipated variations in Intrexon's operating results; (v) actual or anticipated fluctuations in Intrexon's competitors' or its collaborators' operating results or changes in their respective growth rates; (vi) Intrexon's cash position; (vii) market conditions in Intrexon's industry; (viii) the volatility of Intrexon's stock price; (ix) Intrexon's ability, and the ability of its collaborators, to protect Intrexon's intellectual property and other proprietary rights and technologies; (x) Intrexon's ability, and the ability of its collaborators, to adapt to changes in laws or regulations and policies; (xi) the outcomes of pending and future litigation; (xii) the rate and degree of market acceptance of any products developed by Intrexon, its subsidiaries, collaborations or joint ventures; (xiii) Intrexon's ability to retain and recruit key personnel; (xiv) Intrexon's expectations related to the use of proceeds from its public offerings and other financing efforts; and (xv) Intrexon's estimates regarding expenses, future revenue, capital requirements and needs for additional financing. For a discussion of other risks and uncertainties, and other important factors, any of which could cause Intrexon's actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in Intrexon's Annual Report on Form 10-K and subsequent reports filed with the Securities and Exchange Commission. All information in this presentation is as of the date of the release, and Intrexon undertakes no duty to update this information unless required by law.

Overview

Accomplished scientists & engineers (most valued asset)	Diverse areas of expertise (investments across categories)	World-first milestones (category defining solutions)	Addressing real world challenges (solving unmet needs)	Robust, diverse pipeline in various stages of development (hedge against timing)

intrexon

Intrexon Bioengineering Leadership

Lt. Gen (Ret.) Thomas P. Bostick, PhD, PE, NAE

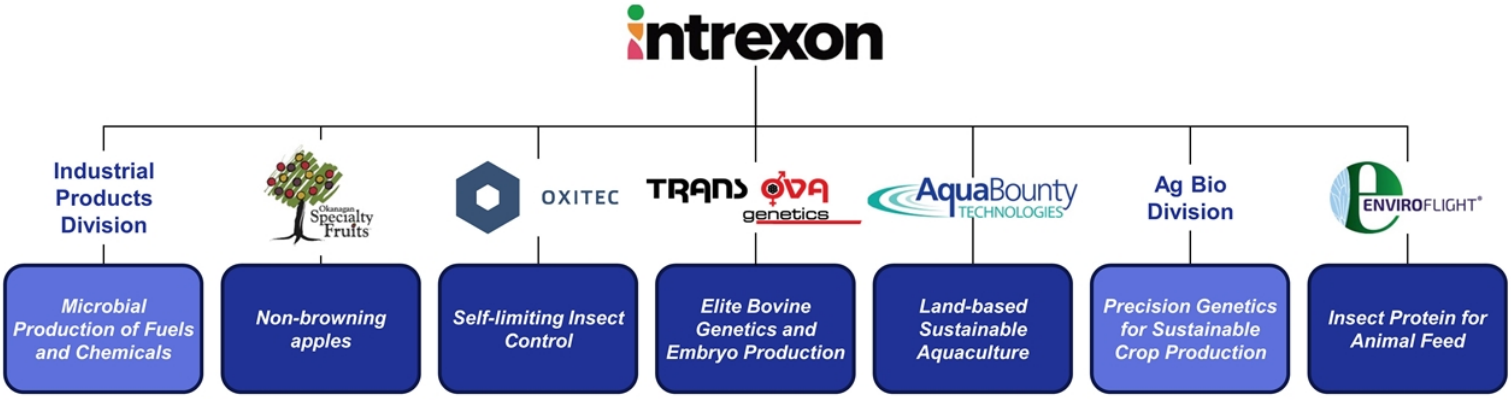
Chief Operating Officer
President, Intrexon Bioengineering

Extensive experience in environmental sustainability, significant leadership skills and an established track record in engineering solutions for the nation's toughest challenges

- 53rd U.S. Army Chief of Engineers and the Commanding General of the U.S. Army Corps of Engineers (USACE) serving as the senior military officer overseeing and supervising most of the nation's civil works infrastructure and military construction, hundreds of environmental protection projects, as well as managing 34,000 civilian employees and military personnel in over 110 countries around the world
- Thirty eight years with the U.S. Army serving in a variety of command and staff assignments both in the U.S. and abroad
- Special assistant to the Secretary of Veterans Affairs during his time as a White House Fellow
- Bachelor's of Science degree from the U.S. Military Academy at West Point
- Master's degrees in Civil Engineering and Mechanical Engineering from Stanford University
- Doctorate in Systems Engineering from George Washington University

Intrexon Bioengineering

- Addressing global challenges across food, agriculture, environmental, and industrial fields by advancing biologically engineered solutions to improve sustainability and efficiency
- Portfolio of companies are leaders in their respective industries



AquaBounty Technologies, Inc. (NASDAQ: AQB) is an investment of Intrexon and Intrexon's collaborator in aquaculture; EnviroFlight, LLC is a joint venture between Intrexon and Darling Ingredients Inc. (NYSE: DAR)

intrexon

Deep Biological Expertise Drives Solution Development

We are addressing global challenges with precise control of biological systems

Harnessing the power of living cells: At its core, Intrexon is a gene expression and regulation company focused on precise control of a wide collection of cells and organisms

Synthetic biology rests on biology: Intrexon's deep knowledge of biology combined with our bioinformatics and computational biology tools enables the discovery, generation, and validation of innovative products

Unique toolbox two decades in the making: Intrexon's precision engineering capabilities allow for controllable, multi-genic payload capacity of our gene programs

intrexon

Highlights: Addressing Real World Needs Across Categories

MICROBES

Industrial Chemicals/Fuels

Need:
Efficient production of fuels and chemicals

Solution:
Methane Bioconversion Platform to generate high value fuels & chemicals from natural gas

PLANTS

Plant Agriculture

Need:
Eliminate waste in food production for growers and consumers

Solution:
Non-browning Arctic® apples

Need:
More efficient plant propagation

Solution:
Botticelli™ high-throughput plant regeneration platform (e.g. tomato, cannabis)

ANIMALS

Food/Feed

Need:
Sustainable fish farming

Solution:
Land-based aquaculture with AquAdvantage® salmon

Need:
Demand for high quality nutritional feed for animals

Solution:
Black soldier fly larvae

Insect Control

Need:
Vector control for disease-carrying mosquitoes

Solution:
Friendly™ Aedes, self-limiting mosquitoes

Need:
Crop protection from insect pests

Solution:
Self-limiting insect control platform for crop pests

Animal Agriculture

Need:
Improved quality and production of beef & dairy cattle to meet demand for animal protein

Solution:
Elite bovine genetics and reproductive technologies

Representative list of programs to demonstrate the company's overall strategy; not a complete list

History of World-First Milestones

- 1st FDA approved engineered food animal (fish)
- 1st engineered apple approved in U.S. and Canada
- 1st bioengineered insect with commercial applications
- 1st natural gas bioconversion with engineered methanotroph
- Additional first-in-class engineering of biology applications ongoing

Portfolio Snapshot

Industrial Products – Methane Bioconversion Platform (MBP)

Differentiated Approach

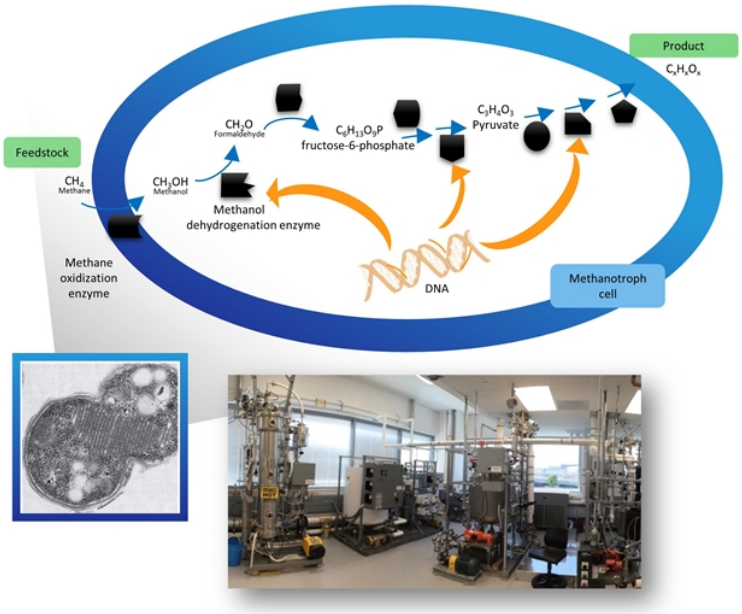
Proprietary DNA platform enables engineering of methanotrophs to produce targeted high-value fuels and chemical products through bioconversion of natural gas

MBP holds the potential to transform the gas-to-liquids industry by generating valuable fuels and chemicals at a fraction of the costs of more traditional methods

Biologically based process enables significantly less opex than LNG and less capex than Fischer-Tropsch

Notable Achievements

- Building of a proprietary genetic toolbox for methanotroph engineering
- Producing 2,3 BDO from natural gas



intrexon

Okanagan Specialty Fruits – Reducing Food Waste with Non-browning Apples

Differentiated Approach

Non-browning Arctic® apples reduce food waste and provide benefits from growers to consumers

Apples utilize RNAi technology to knock down enzyme polyphenol oxidase which causes browning

Notable Achievements

- Okanagan Specialty Fruits' (OSF) picked more than 2,100 bins of Arctic® apples in the 2018 harvest
- Select retailers are now selling fresh Arctic® sliced apples and ApBitz™ dehydrated apple snacks (also available on Amazon.com)

Oxitec – Self-limiting Insects for Vector and Crop Pest Control

Differentiated Approach

Targeted species-specific method to suppress wild populations of disease-carrying mosquitoes and crop-destroying insect pests

2nd generation self-limiting, male-selecting strains with better economics than prior strains, without need for large-scale production facilities

Notable Achievements

- Two collaborative Agreements with the Bill & Melinda Gates Foundation to develop Friendly™ *Anopheles* targeting *Anopheles* mosquito strains that spread malaria
- Two collaborative agreements to develop self-limiting strains against significant crop pests – fall armyworm and soybean looper

OXITEC

intrexon

Trans Ova – Elite Bovine Genetics Technology

Differentiated Approach

Trans Ova Genetics is the preeminent leader of bovine genetics in North America focused on continuing to expand and improve herd genetics in support of embryo sales

Notable Achievements

- More than 575 heifers added in the last year, with two Jersey heifers ranking #2 and #9 in the world*
- The herd also includes 15 of the world's 37 top Holstein bulls based on an industry accepted dairy production index

* Based on the most current Council of Dairy Cattle Breeding genomic testing results

TRANS OVA genetics

intrexon

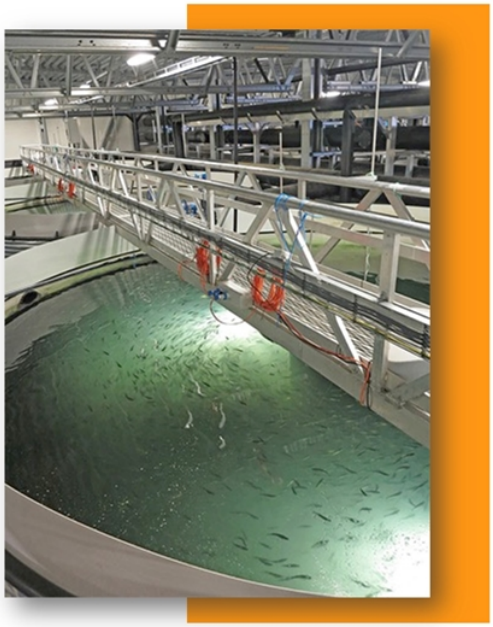
AquaBounty – Sustainable Aquaculture

Differentiated Approach

AquAdvantage® approach enables salmon to grow to market weight in half the time with one-quarter less feed in land based systems bringing productivity and environmental benefits to the aquaculture industry

Notable Achievements

- AquAdvantage® Salmon (AAS) currently distributed throughout Canada
- US FDA import alert lifted in March 2019
- Prince Edward Island 250 metric ton production facility on track for Q2 2019 completion



AquaBounty Technologies, Inc. (NASDAQ: AQB) is an investment of Intrexon and Intrexon's collaborator in aquaculture

Ag Biotech – Precision Genetics for Sustainable Crop Production

Differentiated Approaches

Proprietary Botticelli™ non-GMO tissue culture technology designed to enable rapid production of clean plants with product consistency and reduced phytosanitary risk

On-Off Florian™ gene switch technology for selective regulation of specific genes to enable “on demand” traits in plants

Notable Achievements

- Strategic licensing agreements to advance our Botticelli™ platform for production of proprietary cannabis cultivars:
  - With Next Green Wave for the California market
  - With Surterra Wellness for the Florida market

intrexon

EnviroFlight – Black Soldier Fly (BSF) Larvae for Animal Feed

Differentiated Approach

EnviroFlight's BSF larvae holds considerable promise as an environmentally-friendly toxin-free, sustainable source of high-value nutrients for animal feed (pets, exotic animals, poultry, fish)

Notable Achievements

- Received approval by Association of American Feed Control Officials (AAFCO) to include use in poultry diets
- Opened largest BSF larvae facility in the US in November 2018
- Facility has ability to produce 900 metric tons of product a year and is designed to scale up to 3,200 metric tons
- Commercial production underway, orders for products from new facility already accounting for ~1/3 of anticipated annual output

EnviroFlight, LLC is a joint venture between Intrexon and Darling Ingredients Inc. (NYSE: DAR)

Intrexon Bioengineering Summary

- Accomplished non-health biotech team, operating in diverse organisms
- Achievements range from early discovery to regulatory approval to market acceptance of novel, bioengineered products
- Mature assets that are on the market or coming to market represent significant historic firsts
- Strong partners in place