

# **Intrexon Corp**

## **COMPANY AND PIPELINE OVERVIEW REPORT**

Coverage of the company and a summary of the drug pipeline portfolio.

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## **THOMSON REUTERS**

3 Times Square New York, New York 10036 United States

Tel: +1 646 223 4000

thomsonreuters.com



## ABOUT COMPANY AND PIPELINE OVERVIEW REPORT

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#### **GLOSSARY**

## **Number of Drugs in Active Development**

Number of drugs associated with the company or subsidiary that are currently in active development, i.e. the development status for the drug(s) is one of the following: Discovery, Clinical, Phase I, Phase II, Phase III, Pre-registration, Registered, Launched, or Suspended.

## **Number of Inactive Drugs**

Number of drugs associated with the company or subsidiary that are currently classified as inactive, i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.

#### **Number of Patents as Owner**

Number of patents associated with the company where the company is listed as owner; i.e. the relationship type (or way the patent refers to the company) is: Patent Assignee/Owner, Patent owner (not assignee), Licensee for development and marketing, Licensee – marketing only (Distributor), Patent assignee of family member, Inferred assignee.

## **Number of Patents as Third Party**

Number of patents associated with the company where the company is listed as third party; i.e. the relationship type (or way the patent refers to the company) is: Patent assignee (not owner), Ex-Licensee for development and marketing, Ex-Licensee marketing only (Distributor), Customer of technology, Ex-Customer of technology, Patent opponent or infringer, Affiliate organization of inventor, Owner of underlying technology.

#### Patents summary table

This table represents a summary of the core patent coverage for this company covering Therapeutic EP, US and WO patents since 1990 only.

#### **Number of Deals**

A count of deals where the company or one of its subsidiaries is the primary company.

#### **Key Indications**

Displays top ten key indications for the company and its subsidiaries based on frequency (indications occurring with high and identical frequency are always included, and this may result in more than ten Key Indications being listed). Includes both indications associated with patents where the company is patent owner and indications associated with drugs in active development. A drug is classified as 'active' if it features on a row (or rows) in the current development status table where the status is one of the following: Discovery, Clinical, Phase I, Phase II, Phase III, Pre-registration, Registered, Launched, or Suspended.

#### **Key Target-based Actions**

Displays top ten key target-based actions for the company and its subsidiaries based on frequency (actions occurring with high and identical frequency are always included, and this may result in more than ten Key Target-based Actions being listed). Includes both target-based actions associated with patents where the company patent owner and target-based actions associated with drugs in active development. A drug is classified as 'active' if it features on a row (or rows) in the current development status table where the status is one of the following: Discovery, Clinical, Phase I, Phase II, Phase III, Pre-registration, Registered, Launched, or Suspended. A target-based action is one that is associated with a target.

#### **Key Technologies**

Displays top ten key technologies for the company and its subsidiaries based on frequency (technologies occurring with high and identical frequency are always included, and this may result in more than ten Key Technologies being listed). Includes both key technologies associated with patents where the company relationship is patent owner and key technologies associated with drugs in active development. A drug is classified as 'active' if it features on a row (or rows) in the current development status table where the status is one of the following: Discovery, Clinical, Phase I, Phase II, Phase III, Pre-registration, Registered, Launched, or Suspended.

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# **Intrexon Corp**

#### **COMPANY OVERVIEW**

Company Name	Intrexon Corp
Parent Company Name	Intrexon Corp
Website	http://www.dna.com
Country	US
Number of Drugs in Active Development	10
Number of Inactive Drugs	1
Number of Patents as Owner	18
Number of Patents as Third Party	1
Number of Deals	19
Key Indications	Influenza virus infection, Cancer, Melanoma, Alzheimers disease, Autoimmune disease, Diabetes mellitus, Infectious disease, MRSA infection, Respiratory disease, Solid tumor
Key Target-based Actions	IL-12 agonist,Alpha 1 antitrypsin stimulator,DDC gene stimulator,Ecdysone receptor modulator,ATP2A2 gene stimulator,Adiponectin receptor agonist,Beta defensin stimulator,Bradykinin B2 receptor antagonist,CFTR stimulator,Cyclooxygenase stimulator,Erythropoietin ligand,GSK3 gene modulator,Glucagon-like peptide 1 agonist,Glucagon-like peptide 2 agonist,Glycogen synthase kinase-3 modulator,IL agonist,IL-10 agonist,Interferon agonist,Interferon alpha ligand,Interferon beta ligand,Interferon gamma ligand modulator,Kallikrein inhibitor,Leptin agonist,MEK protein kinase modulator,Myelin basic protein stimulator,Plasma protease C1 inhibitor inhibitor,Plasminogen activator inhibitor 1 modulator,Protein phosphatase 1 inhibitor,RANTES ligand,Sarco endoplasmic calcium ATPase 2 modulator,Sarco endoplasmic calcium ATPase stimulator,TNF alpha ligand,TNF gene modulator,mTOR inhibitor,mTOR
Key Technologies	Biological therapeutic, Monoclonal antibody human, Parenteral formulation unspecified, Nanoparticle formulation, Protein recombinant, Peptide, Gene transfer system viral, Cell therapy, Antibody conjugated, Antibody polyclonal, Intratumoral formulation, Oral formulation, Subcutaneous formulation

## **COMPANY PROFILE**

## **SUMMARY**

Intrexon Corp (formerly Genomatix) is a privately-held life science company which researches and develops DNA control systems for the delivery, targeting, activation, regulation and location of biotherapeutics. The company changed its corporate name to Intrexon in August 2005.

#### **COMPANY LOCATION**

The company has its headquarters in Blacksburg, VA, with additional R&D operations in Valley Forge, PA.

In October 2011, Intrexon launched a cell engineering unit in San Diego, CA.

In February 2011, Intrexon launched its Agricultural Biotechnology Division in Research Triangle Park, North Carolina.

In April 2010, Intrexon relocated its Protein Production Division from San Francisco, CA to Foster City, CA.

### **ACQUISITIONS AND SPIN-OFFS**

In October 2011, Intrexon acquired Immunologix, a company focused on the production of fully human monoclonal antibodies.

In October 2011, Intrexon announced the acquisition of GT Life Sciences, and the purchase of assets comprising the LEAP cell-processing platform from Cyntellect. Terms of the transactions were not disclosed.



In April 2011, the company acquired Neugenesis.

In February 2011, Intrexon acquired Agarigen a company which developed a mushroom-based expression platform for rapid, high-yield production of recombinant proteins.

In September 2009, Intrexon acquired certain assets and operations from Clinical Data's subsidiary Avalon Pharmaceutical, including a bioassay facility in Germantown, MD, for \$1.5 million in cash.

In December 2006, RheoGene and Intrexon agreed to merge. The combined company, Intrexon Corp, would be based in Blacksburg, VA, and the UPMC would have an ownership stake in the new company.

#### **FINANCIAL**

In May 2011, Intrexon raised \$100 million from a series E preferred financing round.

In May 2008, Intrexon raised \$25 million from a series C-2 financing. In June 2009, the company raised an additional \$10 million from the series C-2 financing round.

In May 2007, Intrexon raised \$25 million from a series C financing round.

#### **SUBSIDIARY COMPANIES**

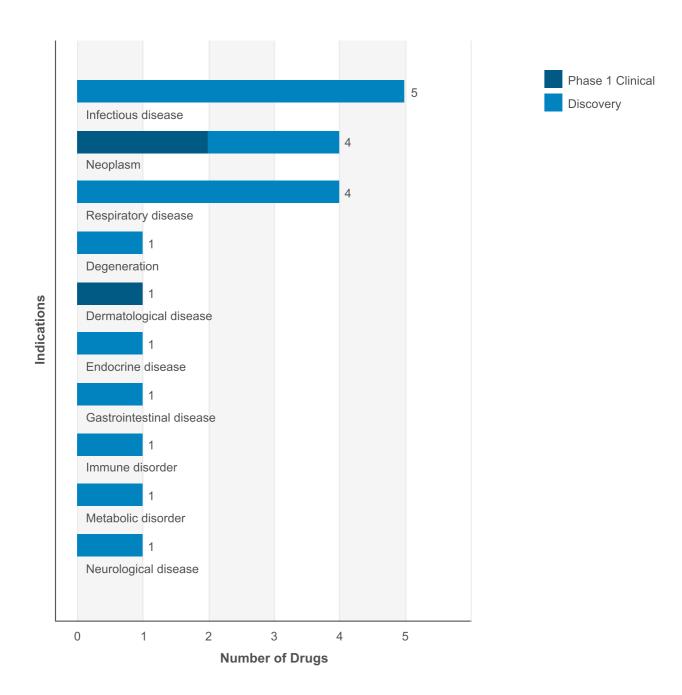
Names
RheoGene Inc
Neugenesis Corp
Immunologix
Agarigen Inc



# PRODUCT PORTFOLIO SUMMARY DRUGS

## Drugs by Indication

Active Drugs by Indication Chart



## Drugs by Indication Table

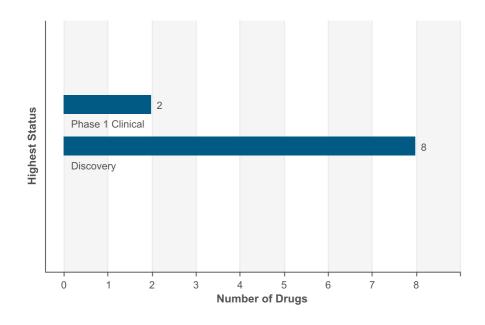
Indication	Active	Inactive	Total
Infectious disease	5	0	5



Neoplasm	4	0	4
Respiratory disease	4	0	4
Neurological disease	1	1	2
Degeneration	1	0	1
Dermatological disease	1	0	1
Immune disorder	1	0	1
Gastrointestinal disease	1	0	1
Endocrine disease	1	0	1
Metabolic disorder	1	0	1

# **Drugs by Highest Status**

Active Drugs by Highest Status Chart



# Drugs by Highest Status Table

Development Status	Number of Drugs
Phase 1 Clinical	2
Discovery	8
No Development Reported	1



#### **DEALS**

Deal Type	Prin	cipal	Pai	tner	Total
	Active	Inactive	Active	Inactive	
Technology - Other Proprietary	11	0	0	0	11
Drug - Funding	2	0	0	0	2
Drug - Early Research/Development	2	0	0	0	2
Drug - Commercialization License	1	0	0	0	1
Drug - Development Services	1	0	0	0	1
Technology - Delivery/Formulation	0	0	2	0	2

#### **CLINICAL TRIALS**

## Trials by Condition Studied

Condition Studied	Ongoing	All
Neoplasm	0	1

## Trials by Phase

Phase	Ongoing	All
Phase 1	0	1

#### **Phase Definitions**

## Phase 3 Clinical

Includes Phase 3, Phase 3b, Phase 3a, Phase 2/3 (where enrolment count is 300 or over)

#### Phase 2 Clinical

Includes Phase 2, Phase 2a, Phase 2b, Phase 1/2 (where enrolment count is 100 or over), Phase 2/3 (where enrolment count is under 300 or not specified)

## Phase 1 Clinical

Includes Phase 1, Phase 1a, Phase 1, Phase 1/2 (where enrolment count is under 100 or not specified), Phase 0

#### **PATENTS** \*

Indication	As Owner	As Third Party	Total
Immune disorder	4	0	4
Neoplasm	9	1	10
Genetic disorder	2	0	2
Metabolic disorder	3	0	3
Neurological disease	2	0	2
Degeneration	1	0	1



Cardiovascular disease	5	1	6
Endocrine disease	1	0	1
Genitourinary disease	0	1	1
Dermatological disease	3	1	4
Surgical procedure	1	0	1
Gastrointestinal disease	1	0	1
Hematological disease	1	0	1
Musculoskeletal disease	1	1	2
Respiratory disease	2	1	3
Infectious disease	2	1	3
Unidentified indication	3	0	3
Inflammatory disease	3	1	4

<sup>\*</sup> This table represents a summary of the core patent coverage for this company covering Therapeutic EP, US and WO patents since 1990 only.



## **PRODUCT PORTFOLIO DRUGS**

PLEASE NOTE: Highest status refers to highest development of that drug for one of the active companies

## DC-RTS-IL-12

Drug Name	DC-RTS-IL-12
Key Synonyms	
Originator Company	Intrexon Corp
Active Companies	ZIOPHARM Oncology Inc, Intrexon Corp
Inactive Companies	
Highest Status	Phase 1 Clinical
Active Indications	Solid tumor
Target-based Actions	IL-12 agonist
Other Actions	Anticancer, Immunostimulant, Genetically engineered autologous cell therapy
Technologies	Intratumoral formulation, Cell therapy, Oral formulation, Biological therapeutic
Last Change Date	10-May-2012

## Ad-RTS-IL-12

Drug Name	Ad-RTS-IL-12
Key Synonyms	
Originator Company	ZIOPHARM Oncology Inc
Active Companies	ZIOPHARM Oncology Inc, Intrexon Corp
Inactive Companies	
Highest Status	Phase 1 Clinical
Active Indications	Melanoma
Target-based Actions	IL-12 agonist
Other Actions	Anticancer, Immunostimulant, Adenovirus based gene therapy
Technologies	Intratumoral formulation, Oral formulation, Virus recombinant, Biological therapeutic
Last Change Date	10-May-2012

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# rHuA1AT (sc Enhanze, A1AT deficiency), Intrexon

Drug Name	rHuA1AT (sc Enhanze, A1AT deficiency), Intrexon
Key Synonyms	
Originator Company	Intrexon Corp
Active Companies	Intrexon Corp
Inactive Companies	
Highest Status	Discovery
Active Indications	Diabetes mellitus, Respiratory disease
Target-based Actions	Alpha 1 antitrypsin stimulator
Other Actions	Hypoglycemic agent
Technologies	Subcutaneous formulation, Biological therapeutic, Protein recombinant
Last Change Date	28-Mar-2012

## H5N1 influenza vaccine (virus-like particle), Intrexon

Drug Name	H5N1 influenza vaccine (virus-like particle), Intrexon
Key Synonyms	
Originator Company	Neugenesis Corp
Active Companies	Intrexon Corp
Inactive Companies	Neugenesis Corp
Highest Status	Discovery
Active Indications	Influenza virus infection
Target-based Actions	
Other Actions	Vaccine
Technologies	Nanoparticle formulation, Protein recombinant
Last Change Date	16-Aug-2011



# polyclonal antibodies (MRSA), Intrexon

Drug Name	polyclonal antibodies (MRSA), Intrexon
Key Synonyms	
Originator Company	Neugenesis Corp
Active Companies	Intrexon Corp
Inactive Companies	Neugenesis Corp
Highest Status	Discovery
Active Indications	MRSA infection
Target-based Actions	
Other Actions	Antibacterial
Technologies	Antibody polyclonal, Peptide
Last Change Date	16-Aug-2011

## trivalent seasonal influenza vaccine (virus-like particle), Intrexon

Drug Name	trivalent seasonal influenza vaccine (virus-like particle), Intrexon
Key Synonyms	
Originator Company	Neugenesis Corp
Active Companies	Intrexon Corp
Inactive Companies	Neugenesis Corp
Highest Status	Discovery
Active Indications	Influenza virus infection
Target-based Actions	
Other Actions	Vaccine
Technologies	Nanoparticle formulation
Last Change Date	16-Aug-2011

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# antibody drug conjugates (cancer), Intrexon

Drug Name antibody drug conjugates (cancer), Intrexon  Key Synonyms  Originator Company Intrexon Corp  Active Companies Intrexon Corp  Inactive Companies  Highest Status Discovery  Active Indications Cancer  Target-based Actions  Other Actions Anticancer  Technologies Antibody conjugated, Biological therapeutic  Last Change Date 28-Mar-2012		
Originator Company  Intrexon Corp  Inactive Companies  Highest Status  Discovery  Active Indications  Cancer  Target-based Actions  Other Actions  Anticancer  Technologies  Intrexon Corp  Intrexon Corp	Drug Name	antibody drug conjugates (cancer), Intrexon
Active Companies Intrexon Corp Inactive Companies Highest Status Discovery Active Indications Cancer  Target-based Actions Other Actions Anticancer Technologies Antibody conjugated, Biological therapeutic	Key Synonyms	
Inactive Companies  Highest Status  Discovery  Active Indications  Cancer  Target-based Actions  Other Actions  Anticancer  Technologies  Antibody conjugated, Biological therapeutic	Originator Company	Intrexon Corp
Highest Status  Discovery  Active Indications  Cancer  Target-based Actions  Other Actions  Anticancer  Technologies  Antibody conjugated, Biological therapeutic	Active Companies	Intrexon Corp
Active Indications  Cancer  Target-based Actions  Other Actions  Anticancer  Technologies  Antibody conjugated, Biological therapeutic	Inactive Companies	
Target-based Actions  Other Actions  Anticancer  Technologies  Antibody conjugated, Biological therapeutic	Highest Status	Discovery
Other Actions Anticancer  Technologies Antibody conjugated, Biological therapeutic	Active Indications	Cancer
Technologies Antibody conjugated, Biological therapeutic	Target-based Actions	
	Other Actions	Anticancer
Last Change Date 28-Mar-2012	Technologies	Antibody conjugated, Biological therapeutic
	Last Change Date	28-Mar-2012

## fully human monoclonal antibodies (cancer/infection/autoimmune disease), Intrexon

Drug Name	fully human monoclonal antibodies (cancer/infection/autoimmune disease), Intrexon
Key Synonyms	
Originator Company	Immunologix
Active Companies	Intrexon Corp
Inactive Companies	Immunologix
Highest Status	Discovery
Active Indications	Autoimmune disease, Cancer, Infectious disease
Target-based Actions	
Other Actions	Antimicrobial, Anticancer monoclonal antibody, Immunomodulator
Technologies	Monoclonal antibody human, Biological therapeutic, Parenteral formulation unspecified
Last Change Date	15-Jun-2012



# fully human mAbs (Alzheimers disease), Intrexon

Drug Name	fully human mAbs (Alzheimers disease), Intrexon
Key Synonyms	
Originator Company	Immunologix
Active Companies	Intrexon Corp
Inactive Companies	Immunologix
Highest Status	Discovery
Active Indications	Alzheimers disease
Target-based Actions	
Other Actions	Neuroprotectant
Technologies	Monoclonal antibody human, Biological therapeutic, Parenteral formulation unspecified
Last Change Date	12-Jun-2012

# fully human monoclonal antibodies (H5N1 influenza), Intrexon

Drug Name	fully human monoclonal antibodies (H5N1 influenza), Intrexon
Key Synonyms	
Originator Company	Immunologix
Active Companies	Intrexon Corp
Inactive Companies	Immunologix
Highest Status	Discovery
Active Indications	Influenza virus infection
Target-based Actions	
Other Actions	Unspecified drug target, Antiviral
Technologies	Monoclonal antibody human, Biological therapeutic, Parenteral formulation unspecified
Last Change Date	13-Jun-2012



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