

## Intrexon Corp

### COMPANY AND PIPELINE OVERVIEW REPORT

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

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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i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.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	11
Number of Inactive Drugs	1
Number of Patents as Owner	18
Number of Patents as Third Party	1
Number of Deals	18
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,Sarco endoplasmic calcium ATPase 2 modulator,Adiponectin receptor agonist,Beta defensin stimulator,Beta-galactosidase modulator,Bradykinin B2 receptor antagonist,CFTR stimulator,Casein modulator,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 kinase A modulator,Protein kinase C modulator,Protein phosphatase 1 inhibitor,RANTES ligand,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 2012, Intrexon entered into a definitive agreement to acquire an approximately 48% interest in Aqua Bounty Technologies by purchasing 48,631,444 shares for \$6 million in cash. Following the close of the transaction, Intrexon would be required to commence a tender offer for any and all of the other outstanding shares of Aqua Bounty. In January 2013, Intrexon chose not to extend the tender offer to acquire outstanding shares in Aqua Bounty.

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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 Cytellect. 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

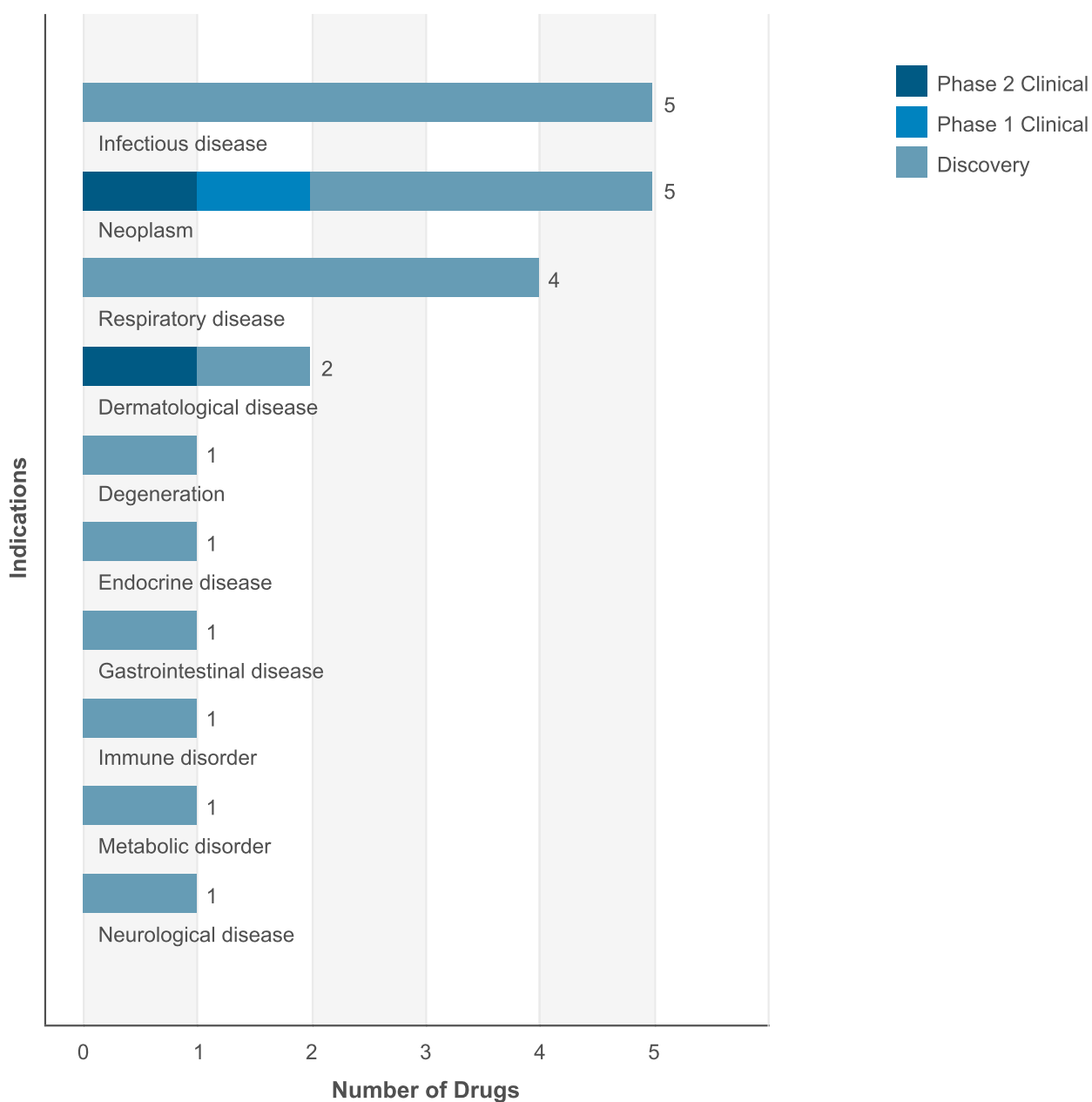
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## PRODUCT PORTFOLIO SUMMARY

### DRUGS

#### Drugs by Indication

Active Drugs by Indication Chart



Drugs by Indication Table

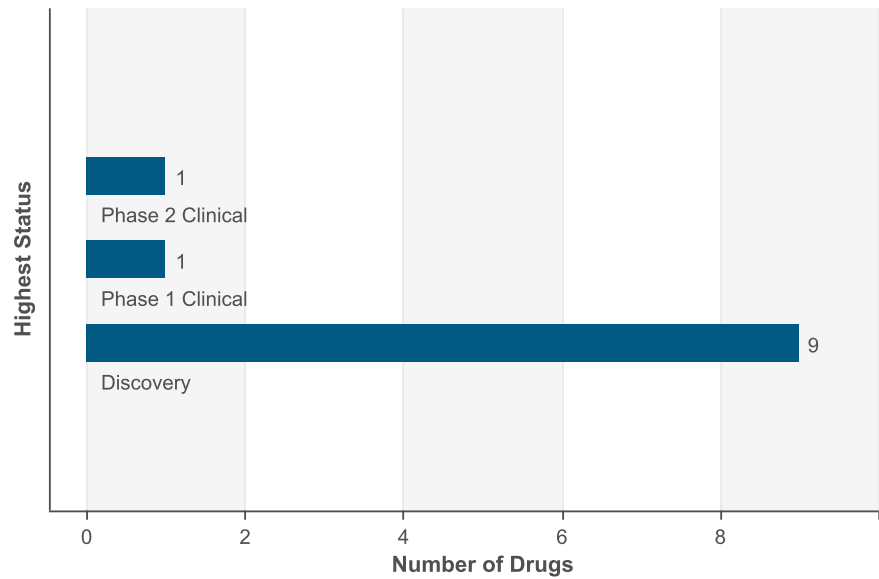
Indication	Active	Inactive	Total
Neoplasm	5	0	5

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Infectious disease	5	0	5
Respiratory disease	4	0	4
Neurological disease	1	1	2
Dermatological disease	2	0	2
Degeneration	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 2 Clinical	1
Phase 1 Clinical	1
Discovery	9
No Development Reported	1

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## DEALS

Deal Type	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Technology - Other Proprietary	9	0	0	0	9
Drug - Funding	2	0	0	0	2
Drug - Early Research/Development	2	0	0	0	2
Drug - Development/Commercialization License	1	0	0	0	1
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
Cardiovascular disease	7	0	7
Endocrine disease	1	0	1
Gastrointestinal disease	1	0	1
Genitourinary disease	1	0	1
Hematological disease	1	0	1

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Degeneration	1	0	1
Immune disorder	5	0	5
Musculoskeletal disease	2	0	2
Neoplasm	12	0	12
Genetic disorder	3	0	3
Metabolic disorder	3	0	3
Neurological disease	3	0	3
Respiratory disease	3	0	3
Infectious disease	4	0	4
Toxicity and intoxication	1	0	1
Unidentified indication	3	0	3
Inflammatory disease	4	0	4
Dermatological disease	4	0	4
Surgical procedure	1	0	1

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

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## PRODUCT PORTFOLIO DRUGS

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

### Ad-RTS-IL-12

<b>Drug Name</b>	Ad-RTS-IL-12
<b>Key Synonyms</b>	
<b>Originator Company</b>	ZIOPHARM Oncology Inc
<b>Active Companies</b>	ZIOPHARM Oncology Inc, Intrexon Corp
<b>Inactive Companies</b>	
<b>Highest Status</b>	Phase 2 Clinical
<b>Active Indications</b>	Melanoma, Metastatic breast cancer
<b>Target-based Actions</b>	IL-12 agonist
<b>Other Actions</b>	Anticancer, Immunostimulant, Adenovirus based gene therapy
<b>Technologies</b>	Intratumoral formulation, Oral formulation, Virus recombinant, Biological therapeutic
<b>Last Change Date</b>	16-Jan-2013

### DC-RTS-IL-12

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

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### rHuA1AT (sc Enhanze, A1AT deficiency), Intrexon

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

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

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

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### polyclonal antibodies (MRSA), Intrexon

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

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

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

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### antibody drug conjugates (cancer), Intrexon

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

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

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

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### fully human mAbs (Alzheimers disease), Intrexon

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

### fully human monoclonal antibodies (H5N1 influenza), Intrexon

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

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## interferon-alpha plasmid transgene therapy (melanoma), ZIOPHARM/Intrexon

<b>Drug Name</b>	interferon-alpha plasmid transgene therapy (melanoma), ZIOPHARM/Intrexon
<b>Key Synonyms</b>	
<b>Originator Company</b>	ZIOPHARM Oncology Inc
<b>Active Companies</b>	Intrexon Corp, ZIOPHARM Oncology Inc
<b>Inactive Companies</b>	
<b>Highest Status</b>	Discovery
<b>Active Indications</b>	Melanoma
<b>Target-based Actions</b>	IFNA gene modulator
<b>Other Actions</b>	Immunostimulant, Anticancer, Plasmid based gene therapy
<b>Technologies</b>	DNA technology, Intramuscular formulation
<b>Last Change Date</b>	08-Nov-2012

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