

Onconova Therapeutics Inc

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i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.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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Onconova Therapeutics Inc

COMPANY OVERVIEW

Company Name	Onconova Therapeutics Inc
Parent Company Name	Onconova Therapeutics Inc
Website	http://www.onconova.com/
Country	US
Number of Drugs in Active Development	17
Number of Inactive Drugs	7
Number of Patents as Owner	14
Number of Patents as Third Party	0
Number of Deals	15
Key Indications	Cancer,Hematological neoplasm,Radiation sickness,Solid tumor,Myelodysplastic syndrome,Toxicity,Acute lymphoblastic leukemia,Acute myelogenous leukemia,Central nervous system disease,Inflammatory disease,Ovary tumor,Pancreas tumor,Squamous cell carcinoma
Key Target-based Actions	Abl tyrosine kinase inhibitor,Cyclin-dependent kinase-1 inhibitor,Cyclin-dependent kinase inhibitor 1 inhibitor,p53 tumor suppressor protein inhibitor,Bax protein inhibitor,Polo-like kinase 1 inhibitor,Tumor protein p73 inhibitor,AKT protein kinase inhibitor,BCL2L1 gene stimulator,Bcr protein inhibitor,Casein kinase II inhibitor,Cyclin D1 inhibitor,Cyclooxygenase 2 inhibitor,Jun N terminal kinase modulator,MAP kinase inhibitor,Phosphoinositide 3-kinase inhibitor,Tubulin beta inhibitor
Key Technologies	Small molecule therapeutic,Oral formulation,Intravenous formulation,Infusion,Capsule formulation,Prodrug,Subcutaneous formulation,Formulation preservation,Solution,Analytical method,Drug screening,Injectable formulation,Liquid

COMPANY PROFILE

SUMMARY

Onconova Therapeutics is a private development-stage biopharmaceutical company founded in 1998, by scientific founder Dr Premkumar Reddy, focused on the development of treatments for cancer and radiation injury.

COMPANY LOCATION

Onconova is located in Newtown, PA and Lawrenceville, NJ.

LICENSING AGREEMENTS

In May 2008, KINAXO Biotechnologies and Onconova Therapeutics agreed to collaborate on the development of novel small molecule therapeutics for cancer treatment and radiation protection.

EARLY R&D

By November 2008, Onconova was investigating a series of immunoconjugate compounds suitable for use with monoclonal antibodies. At that time, the company was seeking to outlicence the program to biopharmaceutical companies.

FINANCIAL

In June 2013, Onconova filed a form S-1 registration statement with the US SEC for the proposed IPO of its common stock.

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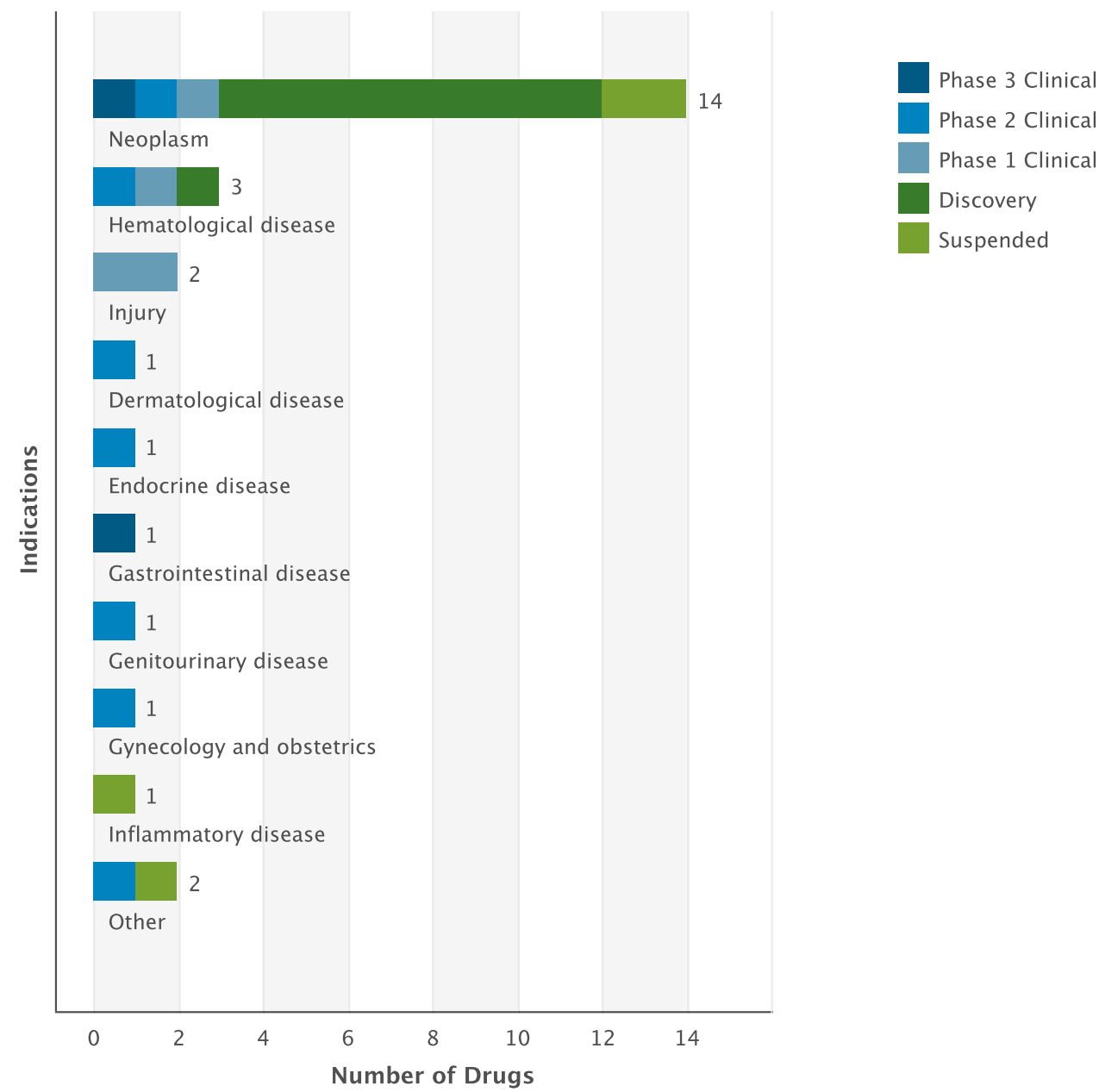


PRODUCT PORTFOLIO SUMMARY

DRUGS

Drugs by Indication

Active Drugs by Indication Chart



Drugs by Indication Table

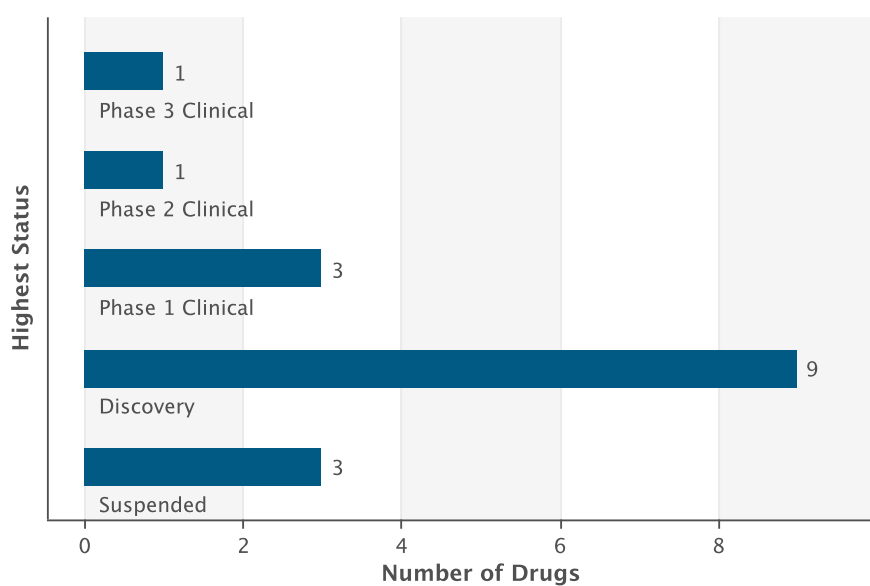
Indication	Active	Inactive	Total
Neoplasm	14	7	21

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Hematological disease	3	0	3
Endocrine disease	1	1	2
Injury	2	0	2
Gynecology and obstetrics	1	1	2
Toxicity and intoxication	1	0	1
Neurological disease	1	0	1
Genitourinary disease	1	0	1
Inflammatory disease	1	0	1
Gastrointestinal disease	1	0	1
Dermatological disease	1	0	1

Drugs by Highest Status

Active Drugs by Highest Status Chart



Drugs by Highest Status Table

Development Status	Number of Drugs
Phase 3 Clinical	1
Phase 2 Clinical	1
Phase 1 Clinical	3
Discovery	9

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Suspended	3
No Development Reported	7

DEALS

Deal Type	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Drug - Discovery/Design	0	0	2	0	2
Drug - Funding	2	0	0	0	2
Drug - CRADA	2	0	0	0	2
Drug - Early Research/Development	1	0	5	0	6
Drug - Development/Commercialization License	1	0	0	0	1
Drug - Commercialization License	1	0	0	0	1
Drug - Development Services	0	0	1	0	1

CLINICAL TRIALS

Trials by Condition Studied

Condition Studied	Ongoing	All
Neoplasm	7	23
Hematological disease	2	4
Gynecology and obstetrics	0	2
Endocrine disease	0	2
Gastrointestinal disease	1	2
Genitourinary disease	0	2
Dermatological disease	1	1
Immune disorder	1	1

Trials by Phase

Phase	Ongoing	All
Phase 3	2	2
Phase 2	2	5
Phase 1	3	17

Phase Definitions

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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	5	0	5
Endocrine disease	1	0	1
Gastrointestinal disease	3	0	3
Hematological disease	4	0	4
Degeneration	1	0	1
Immune disorder	6	0	6
Musculoskeletal disease	5	0	5
Neoplasm	11	0	11
Genetic disorder	1	0	1
Metabolic disorder	3	0	3
Neurological disease	5	0	5
Infectious disease	2	0	2
Injury	3	0	3
Toxicity and intoxication	1	0	1
Inflammatory disease	7	0	7
Gynecology and obstetrics	1	0	1
Dermatological disease	1	0	1
Ulcer	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

rigosertib sodium (iv, MDS/solid tumors), Onconova/SymBio

Drug Name	rigosertib sodium (iv, MDS/solid tumors), Onconova/SymBio
Key Synonyms	rigosertib, Novonex, Estybon, rigosertib sodium
Originator Company	Onconova Therapeutics Inc
Active Companies	Baxter International Inc, SymBio Pharmaceuticals Ltd, Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Phase 3 Clinical
Active Indications	Hematological neoplasm, Myelodysplastic syndrome, Acute myelogenous leukemia, Solid tumor, Pancreas tumor, Acute lymphoblastic leukemia, Ovary tumor
Target-based Actions	Cyclin-dependent kinase-1 inhibitor, Cyclin D1 inhibitor, Phosphoinositide 3-kinase inhibitor, MAP kinase inhibitor, BCL2L11 gene stimulator, Jun N terminal kinase modulator, Polo-like kinase 1 inhibitor, AKT protein kinase inhibitor
Other Actions	Cell cycle inhibitor, Apoptosis stimulator, Anticancer protein kinase inhibitor
Technologies	Intravenous formulation, Infusion, Small molecule therapeutic
Last Change Date	10-May-2013

rigosertib sodium (oral capsule, MDS/squamous cell carcinoma/solid tumors), Onconova/SymBio

Drug Name	rigosertib sodium (oral capsule, MDS/squamous cell carcinoma/solid tumors), Onconova/SymBio
Key Synonyms	Estybon, rigosertib sodium, Novonex, rigosertib
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc, SymBio Pharmaceuticals Ltd
Inactive Companies	
Highest Status	Phase 2 Clinical
Active Indications	Myelodysplastic syndrome, Solid tumor, Squamous cell carcinoma
Target-based Actions	Cyclin-dependent kinase-1 inhibitor, Phosphoinositide 3-kinase inhibitor, MAP kinase inhibitor, BCL2L11 gene stimulator, Jun N terminal kinase modulator, Polo-like kinase 1 inhibitor, AKT protein kinase inhibitor
Other Actions	Anticancer protein kinase inhibitor, Apoptosis stimulator, Cell cycle inhibitor
Technologies	Oral formulation, Capsule formulation, Small molecule therapeutic
Last Change Date	12-Jun-2013

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recilisib sodium (sc, radiation sickness), Onconova

Drug Name	recilisib sodium (sc, radiation sickness), Onconova
Key Synonyms	Ex-RAD, recilisib sodium, recilisib
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Phase 1 Clinical
Active Indications	Radiation sickness
Target-based Actions	p53 tumor suppressor protein inhibitor, Bax protein inhibitor, Abl tyrosine kinase inhibitor, Tumor protein p73 inhibitor, Cyclin-dependent kinase inhibitor 1 inhibitor
Other Actions	Radioprotectant, Apoptosis inhibitor, Anticancer protein kinase inhibitor
Technologies	Subcutaneous formulation, Small molecule therapeutic
Last Change Date	17-Oct-2012

ON-013105

Drug Name	ON-013105
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Phase 1 Clinical
Active Indications	Hematological neoplasm
Target-based Actions	Cyclin D1 inhibitor
Other Actions	Apoptosis stimulator, Cell cycle inhibitor
Technologies	Prodrug, Intravenous formulation, Infusion, Small molecule therapeutic
Last Change Date	02-Aug-2012

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recilisib sodium (oral, radiation sickness), Onconova

Drug Name	recilisib sodium (oral, radiation sickness), Onconova
Key Synonyms	Ex-RAD, recilisib, recilisib sodium
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Phase 1 Clinical
Active Indications	Radiation sickness
Target-based Actions	p53 tumor suppressor protein inhibitor, Bax protein inhibitor, Abl tyrosine kinase inhibitor, Tumor protein p73 inhibitor, Cyclin-dependent kinase inhibitor 1 inhibitor
Other Actions	Anticancer protein kinase inhibitor, Radioprotectant, Apoptosis inhibitor
Technologies	Oral formulation, Small molecule therapeutic
Last Change Date	17-Oct-2012

ON-24160

Drug Name	ON-24160
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc, Pullan Consulting
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	Tubulin beta inhibitor
Other Actions	Anticancer
Technologies	Oral formulation, Small molecule therapeutic
Last Change Date	03-Apr-2013

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ON-044580

Drug Name	ON-044580
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc, Pullan Consulting
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	Abl tyrosine kinase inhibitor, Bcr protein inhibitor, IL-3 antagonist, STAT-5 inhibitor, Jak2 tyrosine kinase inhibitor
Other Actions	Apoptosis stimulator, Anticancer protein kinase inhibitor
Technologies	Small molecule therapeutic
Last Change Date	03-Apr-2013

ON-123300

Drug Name	ON-123300
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Pullan Consulting, Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	NUAK SNF1-like protein kinase 1 inhibitor, Cyclin-dependent kinase-4 inhibitor
Other Actions	Apoptosis stimulator, Anticancer protein kinase inhibitor
Technologies	Small molecule therapeutic
Last Change Date	03-Apr-2013

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ON-1231320

Drug Name	ON-1231320
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	PARP stimulator, Polo-like kinase 2 inhibitor
Other Actions	Anticancer protein kinase inhibitor
Technologies	Small molecule therapeutic
Last Change Date	08-Jun-2012

ALK inhibitors (cancer), Onconova

Drug Name	ALK inhibitors (cancer), Onconova
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	Anaplastic lymphoma kinase receptor inhibitor
Other Actions	Anticancer protein kinase inhibitor
Technologies	Small molecule therapeutic
Last Change Date	26-Sep-2012

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ON-108600

Drug Name	ON-108600
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	Casein kinase II inhibitor, Cyclin-dependent kinase-9 inhibitor
Other Actions	Anticancer protein kinase inhibitor, Apoptosis stimulator, Cell cycle inhibitor
Technologies	Small molecule therapeutic
Last Change Date	01-May-2013

ON-146 series (cancer), Onconova

Drug Name	ON-146 series (cancer), Onconova
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Pullan Consulting, Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Hematological neoplasm
Target-based Actions	Phosphoinositide-3 kinase delta inhibitor, Phosphoinositide-3 kinase alpha inhibitor
Other Actions	Anticancer
Technologies	Small molecule therapeutic
Last Change Date	04-Jun-2013

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ON-108110

Drug Name	ON-108110
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	PIM-3 protein kinase inhibitor, Casein kinase II inhibitor
Other Actions	Apoptosis stimulator, Cell cycle inhibitor, Anticancer protein kinase inhibitor
Technologies	Small molecule therapeutic
Last Change Date	19-Apr-2013

ON-015640

Drug Name	ON-015640
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	Tubulin antagonist
Other Actions	Anticancer
Technologies	Small molecule therapeutic
Last Change Date	22-Apr-2013

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ON-09300

Drug Name	ON-09300
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Suspended
Active Indications	Cancer
Target-based Actions	5-Lipoxygenase inhibitor, Cyclooxygenase 2 inhibitor
Other Actions	Anticancer
Technologies	Small molecule therapeutic
Last Change Date	14-Nov-2008

ON-09250

Drug Name	ON-09250
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Suspended
Active Indications	Central nervous system disease, Inflammatory disease
Target-based Actions	Cyclooxygenase 2 inhibitor
Other Actions	Anti-inflammatory
Technologies	Small molecule therapeutic
Last Change Date	09-Aug-2004

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ON-01500 series, Onconova

Drug Name	ON-01500 series, Onconova
Key Synonyms	
Originator Company	Onconova Therapeutics Inc
Active Companies	Onconova Therapeutics Inc
Inactive Companies	
Highest Status	Suspended
Active Indications	Toxicity, Cancer
Target-based Actions	Cyclin-dependent kinase-1 inhibitor
Other Actions	Cell cycle inhibitor, Angiogenesis inhibitor, Anticancer, Chemoprotectant, Anticancer protein kinase inhibitor
Technologies	Small molecule therapeutic
Last Change Date	02-Jun-2010

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