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Minerva Neurosciences Inc

CORTELLIS COMPANY DETAILED PIPELINE REPORT

A comprehensive coverage of the the company's drug pipeline portfolio including detailed product records.

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ABOUT CORTELLIS COMPANY DETAILED PIPELINE REPORT

Thomson Reuters provides the knowledge, tools, and expertise to help support drug discovery and development activities, IP portfolio optimization, identification of licensing and partnering opportunities, delivery of successful regulatory submissions, and the ability to keep current with the rapidly-changing pharmaceutical and chemical markets, supporting informed, early decisions.

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i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.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

COMPANY OVERVIEW

Company Name	Minerva Neurosciences Inc
Parent Company Name	Minerva Neurosciences Inc
Website	http://minervaneurosciences.com/
Country	US
Number of Drugs in Active Development	4
Number of Inactive Drugs	0
Number of Patents as Owner	2
Number of Patents as Third Party	0
Number of Deals	3
Key Indications	Depression,Schizophrenia,Insomnia,Parkinsons disease,Alzheimers disease,Anxiety disorder,Attention deficit-disruptive behaviour disorder,Bipolar disorder,Central nervous system disease,Cognitive disorder,Delusion,Drug dependence,HIV associated dementia,Hallucination,Hyperactivity,Hypomania,Lewy body dementia,Sleep
Key Target-based Actions	Orexin 2 receptor antagonist,5-HT 2a receptor antagonist,Opioid receptor sigma antagonist 2,5-HT receptor antagonist
Key Technologies	Small molecule therapeutic,Systemic formulation unspecified

COMPANY PROFILE

SUMMARY

Minerva Neurosciences, formed by the merger of Cyrenaic and SONKEI pharmaceuticals, in November 2013, is focused on the development and commercialization of drugs for the treatment of CNS diseases.

FINANCIAL

In June 2014, Minerva announced its initial public offering of 5,454,545 shares of its common stock priced at $6.00 per share and at that time, the underwriters were granted a 30-day option to purchase up to 818,181 additional shares of common stock at the same price. The offering was expected to close on July 07, 2014. In July 2014, the shares began trading on the NASDAQ global market under the symbol "NERV".

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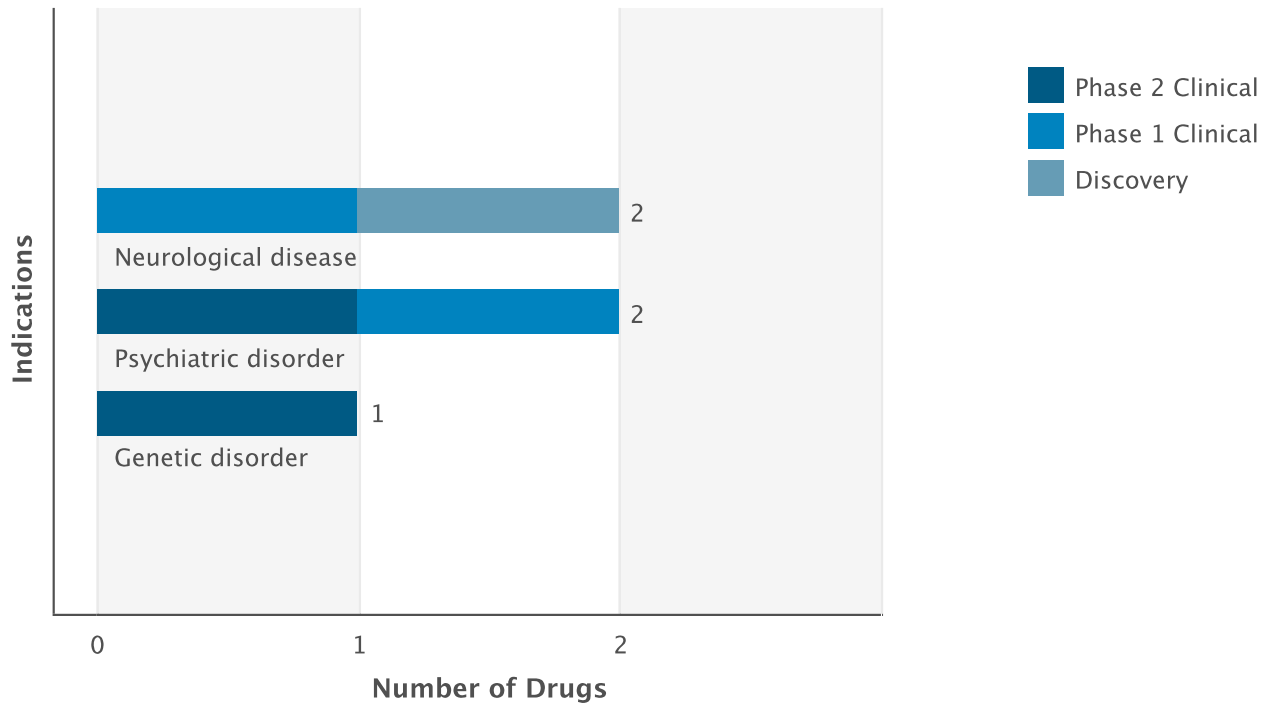
PRODUCT PORTFOLIO SUMMARY

DRUGS

Drugs by Indication

Active Drugs by Indication Chart



Drugs by Indication Table

Indication	Active	Inactive	Total
Psychiatric disorder	2	0	2
Neurological disease	2	0	2
Genetic disorder	1	0	1

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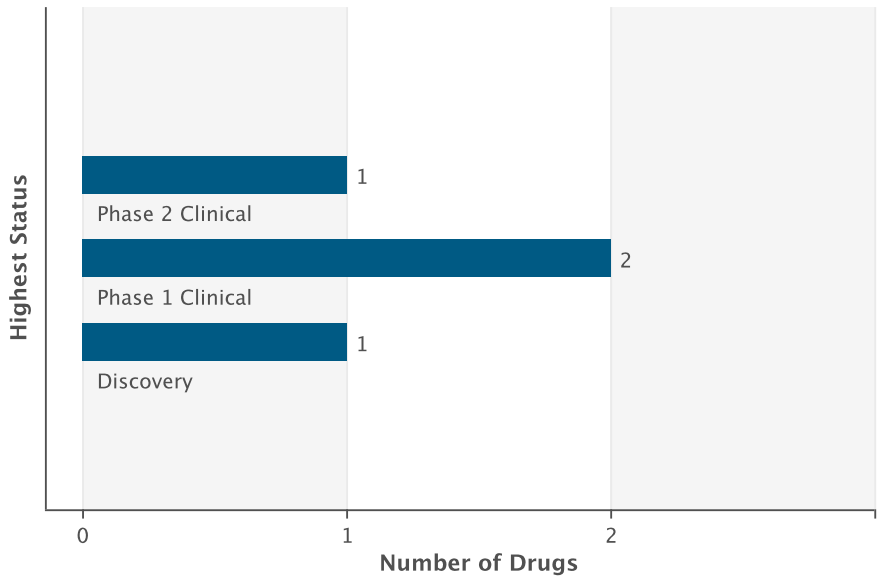
Drugs by Highest Status

Active Drugs by Highest Status Chart



Drugs by Highest Status Table

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

DEALS

Deal Type	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Drug - Development/Commercialization License	1	0	2	0	3

CLINICAL TRIALS

Trials by Condition Studied

Condition Studied	Ongoing	All
Genetic disorder	0	1
Psychiatric disorder	0	1

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Trials by Phase

Phase	Ongoing	All
Phase 2	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
Degeneration	1	0	1
Psychiatric disorder	3	0	3
Genetic disorder	2	0	2
Neurological disease	3	0	3
Toxicity and intoxication	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 DRUG PIPELINE DETAIL

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

MIN-101

MIN-101 SNAPSHOT

Drug Name	MIN-101
Key Synonyms	
Originator Company	Mitsubishi Chemical Holdings Corp
Active Companies	Minerva Neurosciences Inc
Inactive Companies	Mitsubishi Chemical Holdings Corp
Highest Status	Phase 2 Clinical
Active Indications	Schizophrenia
Target-based Actions	Opioid receptor sigma antagonist 2;5-HT 2a receptor antagonist
Other Actions	Antipsychotic
Technologies	Oral formulation;Small molecule therapeutic
Last Change Date	17-Apr-2014

MIN-101 DEVELOPMENT PROFILE

SUMMARY

Minerva Neurosciences (following the merger of Cyrenaic (which licensed the drug from Mitsubishi) and SONKEI pharmaceuticals), is developing MIN-101 (CYR-101; MT-210), a dual 5-HT2A /sigma 2 antagonist, for the potential oral treatment of schizophrenia. A phase II trial began in March 2008; in November 2010, data were reported from the phase IIa trial. In July 2013, CYR-101 was still listed as in phase II development on the Mitsubishi Tanabe Pharma pipeline. In April 2014, phase IIa trial was completed and phase IIb trial was planned to be initiated in the second half of 2014. By June 2008, Cyrenaic was seeking to outlicense the drug following proof-of-concept in phase II trials.

MIN-101 DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

Company	Indication	Country	Development Status	Date
Minerva Neurosciences Inc	Schizophrenia	France	Phase 2 Clinical	30-Nov-2013
Mitsubishi Chemical Holdings Corp	Schizophrenia	Japan	Discontinued	30-Jun-2008

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MIN-101 DRUG NAMES

Names	Type
CYR-101	Research Code
MT-210	Research Code
dual 5-HT2A/sigma 2 antagonist (oral, schizophrenia), Minerva Neurosciences	
MIN-101	Research Code

MIN-101 CLINICAL TRIALS

Trials by Phase and Condition Studied

Phase 4 Clinical		Phase 3 Clinical		Phase 2 Clinical		Phase 1 Clinical		Phase Unspecified		Total	
On-going	All	On-going	All	On-going	All	On-going	All	On-going	All	On-going	All
Schizophrenia											
0	0	0	0	0	1	0	0	0	0	0	1

Total Trials by Phase and Status

Phase 4 Clinical		Phase 3 Clinical		Phase 2 Clinical		Phase 1 Clinical		Phase Unspecified		Total	
On-going	All	On-going	All	On-going	All	On-going	All	On-going	All	On-going	All
Total by Phase and Status											
0	0	0	0	0	1	0	0	0	0	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

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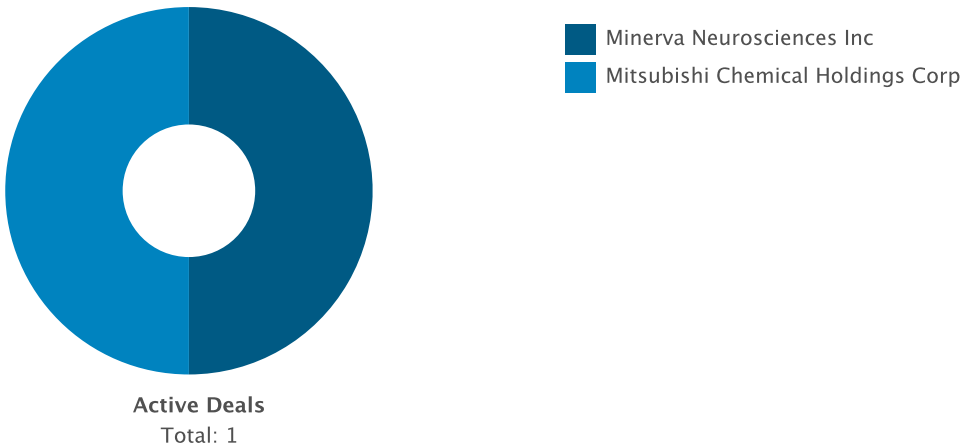
MIN-101 DEALS AND PATENTS

DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

Company Name	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Mitsubishi Chemical Holdings Corp	1	0	0	0	1
Minerva Neurosciences Inc	0	0	1	0	1

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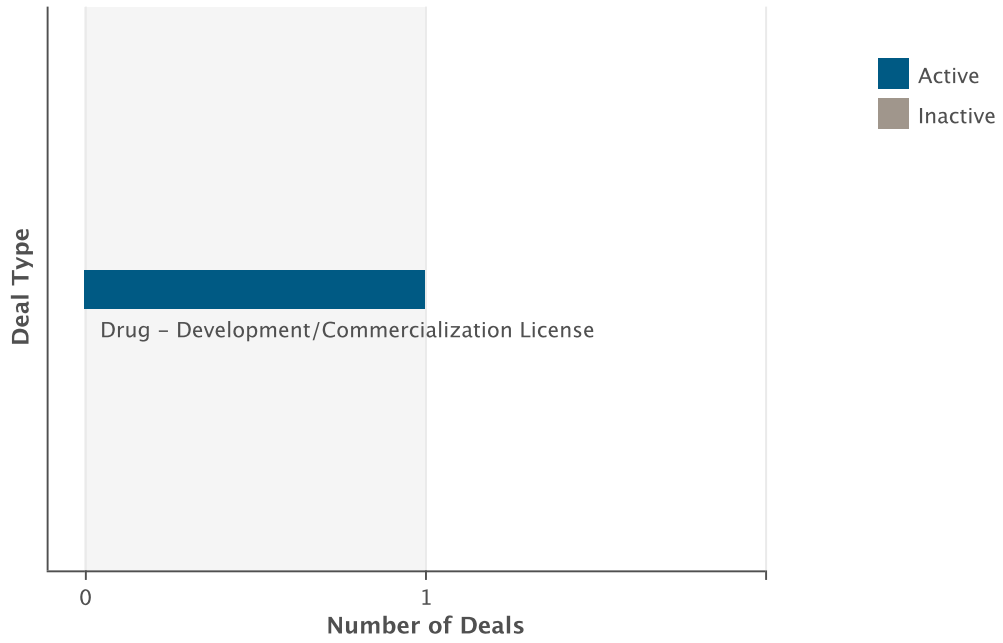
Deals by Type Chart



Deals by Type Table

Deal Type	Active	Inactive	Total
Drug - Development/Commercialization License	1	0	1

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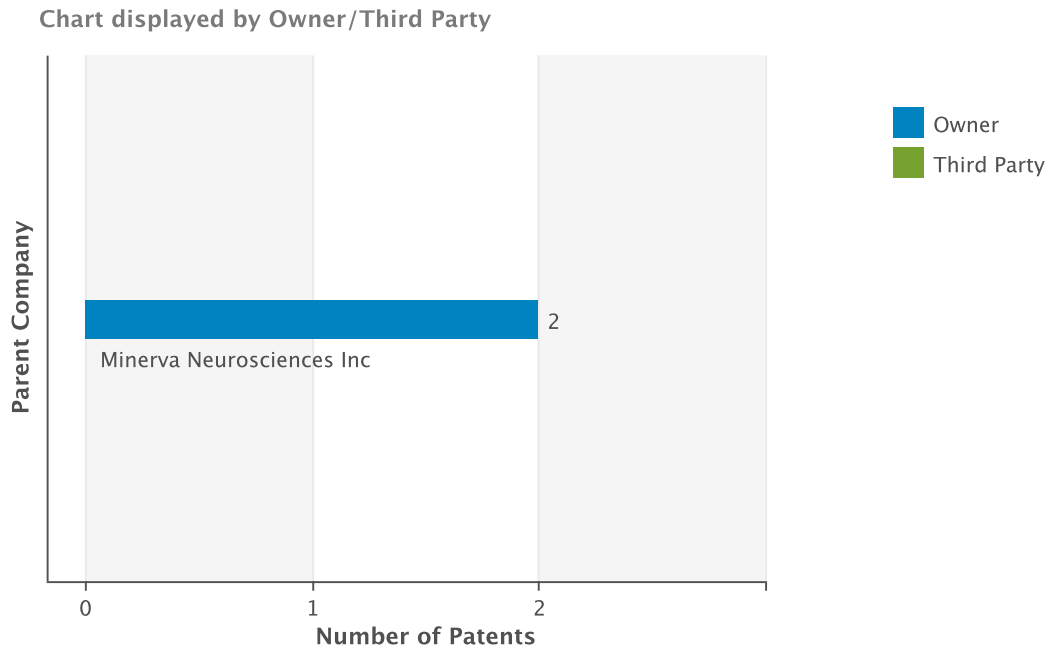
PATENTS

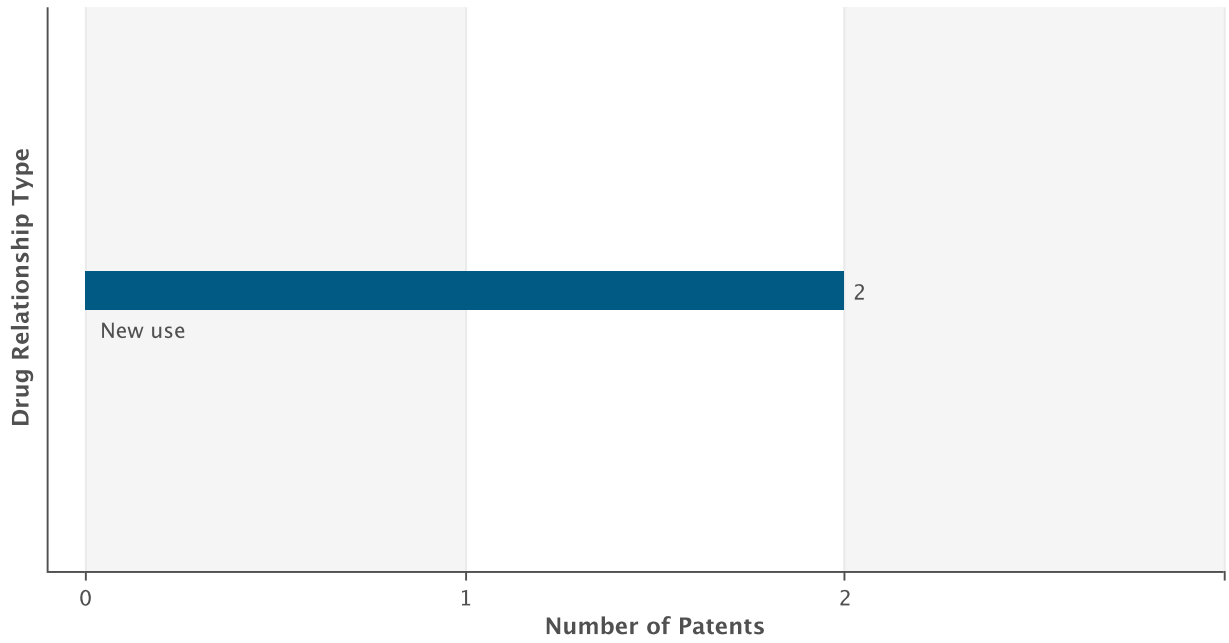
Patents by Parent Company Chart



Patents by Parent Company Table

Company Name	As Owner	As Third Party	Total
Minerva Neurosciences Inc	2	0	2

Patents by Drug Relationship Type Chart



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Patents by Drug Relationship Type Table

Drug Relationship	Total
New use	2

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MIN-117

MIN-117 SNAPSHOT

Drug Name	MIN-117
Key Synonyms	
Originator Company	Mitsubishi Pharma Corp
Active Companies	Minerva Neurosciences Inc
Inactive Companies	Mitsubishi Tanabe Pharma Corp;Sonkei Pharmaceuticals Inc;Mitsubishi Pharma Corp
Highest Status	Phase 1 Clinical
Active Indications	Depression
Target-based Actions	5-HT 1a receptor antagonist
Other Actions	5-HT uptake inhibitor;Antidepressant
Technologies	Systemic formulation unspecified;Small molecule therapeutic
Last Change Date	17-Apr-2014

MIN-117 DEVELOPMENT PROFILE

SUMMARY

Minerva Neurosciences (following the merger of US licensee Sonkei Pharmaceuticals and Cyrenaic) under license from Mitsubishi Tanabe Pharma is developing MIN-117, a 5-HT reuptake inhibitor and a 5-HT1a receptor antagonist, for the potential treatment of depression. In April 2014, phase I trials were completed. At that time, a phase IIb trial was planned to be initiated in the second half of 2014.

In February 2007, the agent was listed as being in phase I trials, presumably in Japan ; however, no development in Japan has been reported since.

Mitsubishi Tanabe Pharma was developing the drug as Wf-516

MIN-117 DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

Company	Indication	Country	Development Status	Date
Minerva Neurosciences Inc	Depression	US	Phase 1 Clinical	30-Nov-2013
Mitsubishi Tanabe Pharma Corp	Depression	Europe	Discontinued	30-Nov-2013
Sonkei Pharmaceuticals Inc	Depression	US	Discontinued	30-Nov-2013
Mitsubishi Tanabe Pharma Corp	Depression	Japan	No Development Reported	02-Oct-2009

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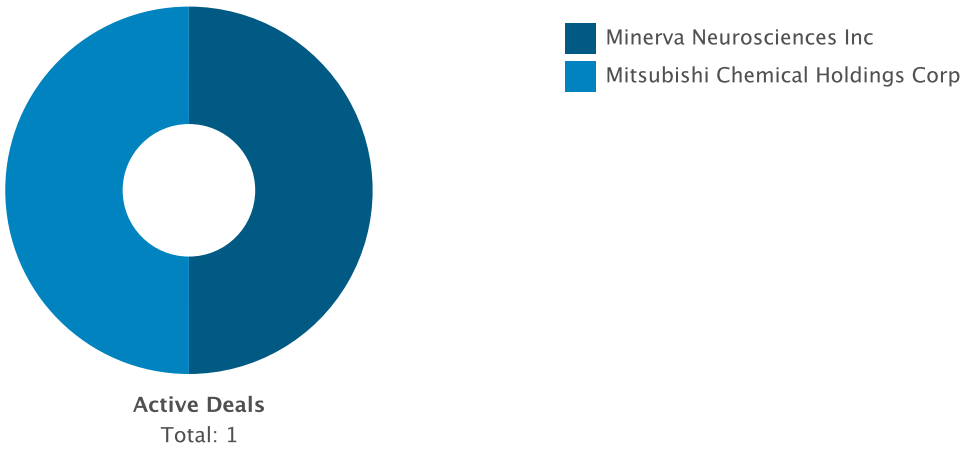
MIN-117 DRUG NAMES

Names	Type
5-HT reuptake inhibitor, Mitsubishi Pharma	
5-HT1a receptor antagonist, Mitsubishi Pharma	
serotonin reuptake inhibitor/5-HT1a receptor antagonist (depression), Mitsubishi Tanabe/Sonkei	
MIN-117	Research Code
Wf-516	Research Code
5-HT reuptake inhibitor, Mitsubishi Tanabe Pharma	
5-HT reuptake inhibitor, Mitsubishi Tanabe Pharma/Minerva Neurosciences	

MIN-117 DEALS AND PATENTS

DEALS

Deals by Parent Company Chart



Active Deals
Total: 1

Deals by Parent Company Table

Company Name	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Minerva Neurosciences Inc	0	0	1	0	1
Mitsubishi Chemical Holdings Corp	1	0	0	0	1

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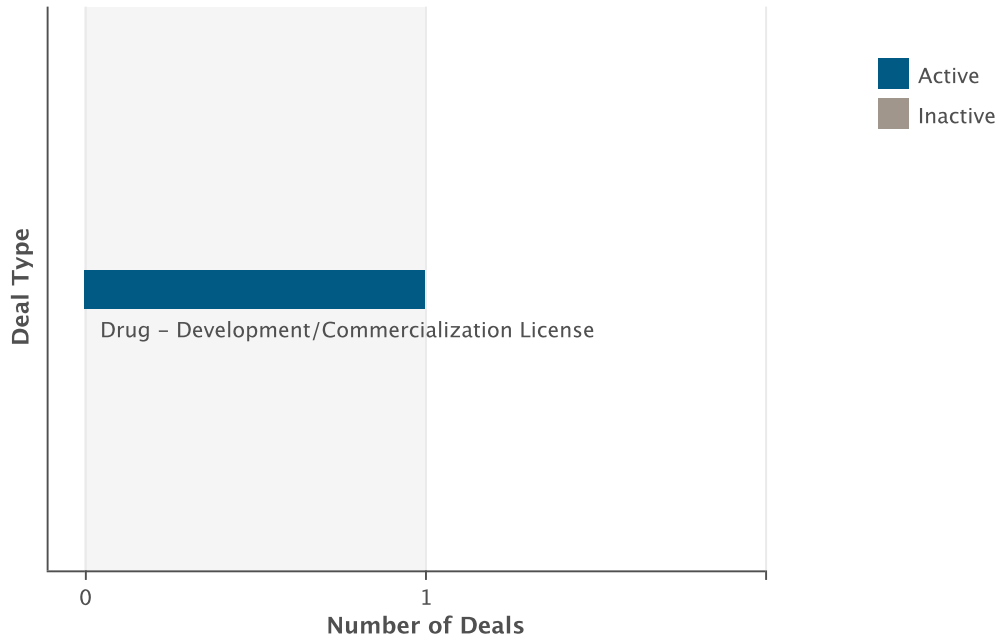
Deals by Type Chart



Deals by Type Table

Deal Type	Active	Inactive	Total
Drug - Development/Commercialization License	1	0	1

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MIN-202

MIN-202 SNAPSHOT

Drug Name	MIN-202
Key Synonyms	
Originator Company	Minerva Neurosciences Inc
Active Companies	Minerva Neurosciences Inc;Janssen Pharmaceutica NV
Inactive Companies	
Highest Status	Phase 1 Clinical
Active Indications	Insomnia
Target-based Actions	Orexin 2 receptor antagonist
Other Actions	
Technologies	Systemic formulation unspecified;Small molecule therapeutic
Last Change Date	18-Apr-2014

MIN-202 DEVELOPMENT PROFILE

SUMMARY

Minerva Neurosciences and Janssen Pharmaceutica is developing MIN-202, a selective orexin-2 receptor antagonist, for the potential treatment of insomnia. A phase Ia trial was completed in 2013 and phase Ib trial was initiated in the second half of 2013. In April 2014, the companies planned to initiate repeat dosing studies in healthy subjects.

MIN-202 DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

Company	Indication	Country	Development Status	Date
Janssen Pharmaceutica NV	Insomnia	US	Phase 1 Clinical	31-Dec-2013
Minerva Neurosciences Inc	Insomnia	US	Phase 1 Clinical	31-Dec-2013

MIN-202 DRUG NAMES

Names	Type
orexin-2 receptor antagonist (insomnia), Minerva Neurosciences	
MIN-202	Research Code

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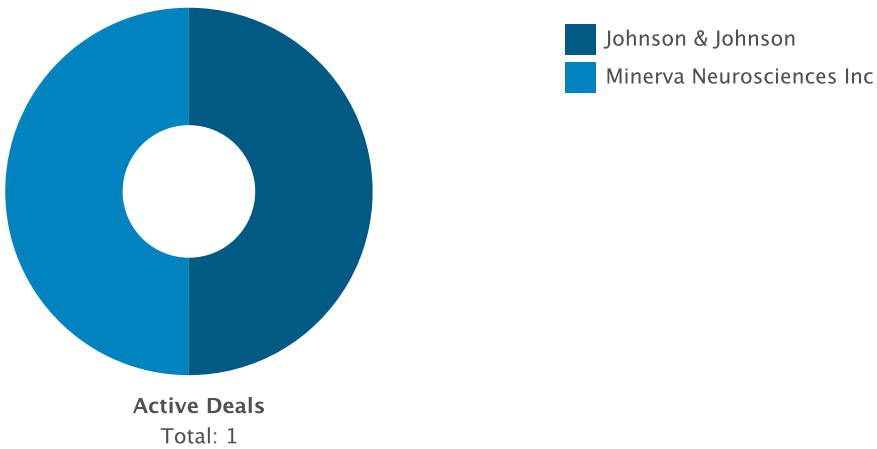
MIN-202 DEALS AND PATENTS

DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

Company Name	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Minerva Neurosciences Inc	1	0	0	0	1
Johnson & Johnson	0	0	1	0	1

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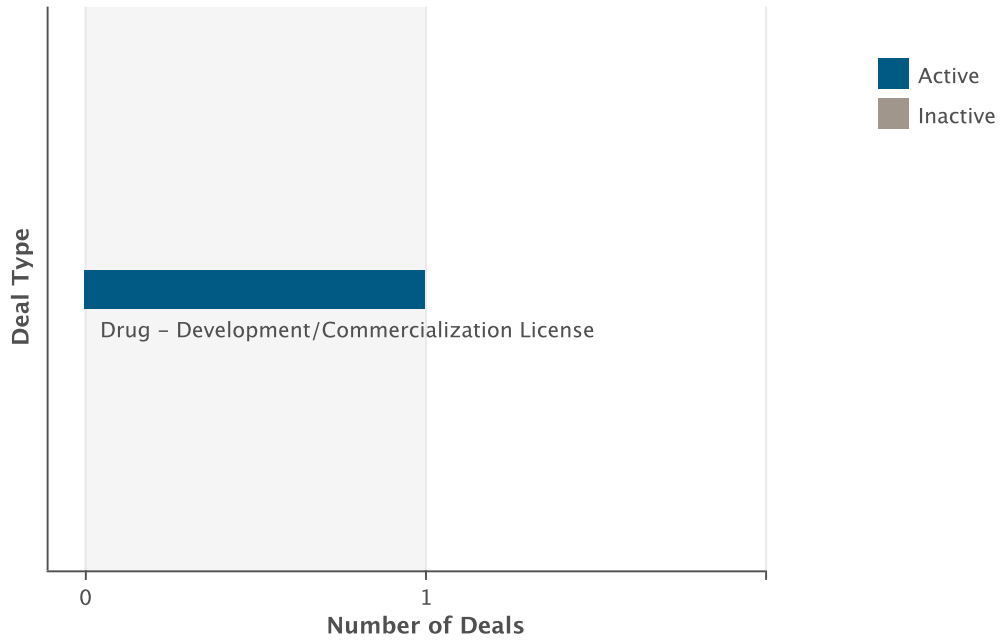
Deals by Type Chart



Deals by Type Table

Deal Type	Active	Inactive	Total
Drug - Development/Commercialization License	1	0	1

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MIN-301

MIN-301 SNAPSHOT

Drug Name	MIN-301
Key Synonyms	
Originator Company	ProteoSys AG
Active Companies	Minerva Neurosciences Inc
Inactive Companies	Mind-NRG;ProteoSys AG
Highest Status	Discovery
Active Indications	Parkinsons disease
Target-based Actions	Neuregulin ligand;Erbb4 tyrosine kinase receptor stimulator
Other Actions	Antiparkinsonian;Nootropic agent;Neuroprotectant
Technologies	Injectable formulation;Biological therapeutic;Parenteral formulation unspecified;Peptide
Last Change Date	18-Apr-2014

MIN-301 DEVELOPMENT PROFILE

SUMMARY

Minerva Neurosciences following acqusition of Mind-NRG (previously under license from ProteoSys), is investigating MIN-301, a recombinant neuregulin 1beta1 peptide as Erbb4 tyrosine kinase receptor activator, for the potential injectable treatment of Parkinsons disease. In April 2014, the drug was listed as being in preclinical development and at that time, a phase I trial was planned to be initiated in the first half of 2015.

Mind-NRG was investigating NRG-101, an injectable neuregulin peptide for the potential iv or sc treatment of Alzheimer's disease and schizophrenia ,. In October 2010, the company planned to conduct in vitro and in vivo studies to further explore the mechanism of action and activity of the compound. In July 2012, development of the drug was ongoing. However, no further development had been reported since July 2012.

MIN-301 DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

Company	Indication	Country	Development Status	Date
Minerva Neurosciences Inc	Parkinsons disease	US	Discovery	28-Feb-2014
ProteoSys AG	Alzheimers disease	Germany	Discontinued	27-Oct-2010
ProteoSys AG	Parkinsons disease	Germany	Discontinued	27-Oct-2010
ProteoSys AG	Schizophrenia	Germany	Discontinued	27-Oct-2010
Mind-NRG	Alzheimers disease	Switzerland	No Development Reported	28-Feb-2014

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Company	Indication	Country	Development Status	Date
Mind-NRG	Schizophrenia	Switzerland	No Development Reported	28-Feb-2014

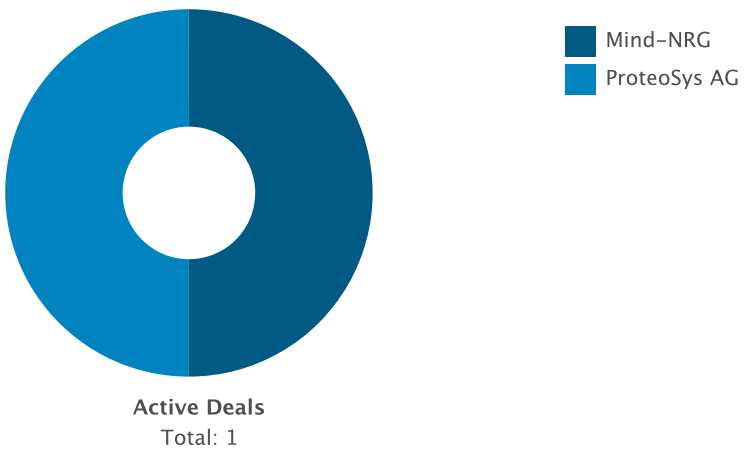
MIN-301 DRUG NAMES

Names	Type
NRG-101	Research Code
MIN-301	Research Code
neuregulin ligand (Parkinsons/Alzheimers/schizophrenia), Mind-NRG	

MIN-301 DEALS AND PATENTS

DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

Company Name	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
ProteoSys AG	1	0	0	0	1
Mind-NRG	0	0	1	0	1

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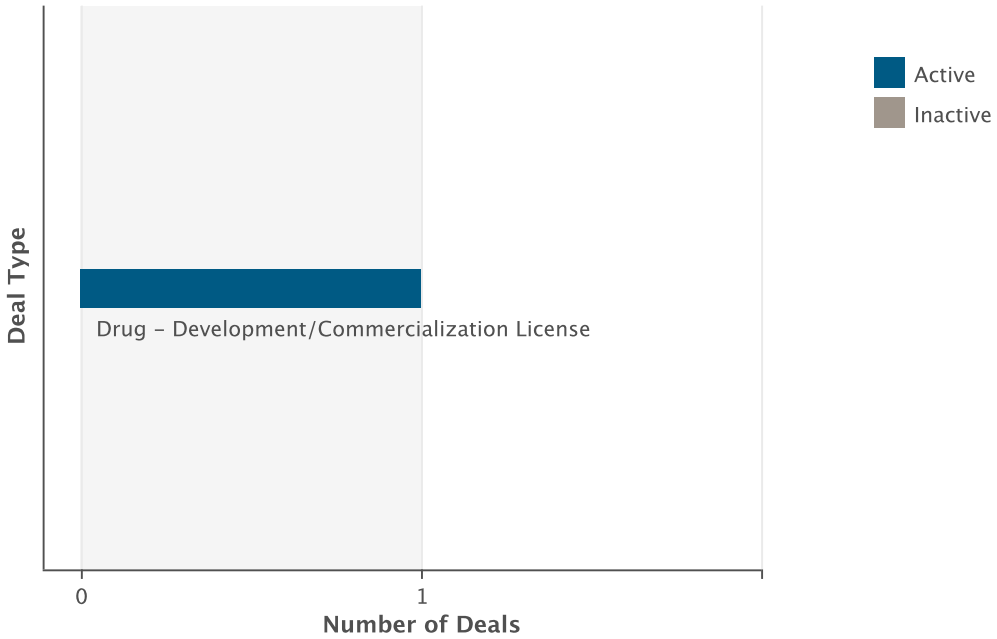
Deals by Type Chart



Deals by Type Table

Deal Type	Active	Inactive	Total
Drug - Development/Commercialization License	1	0	1

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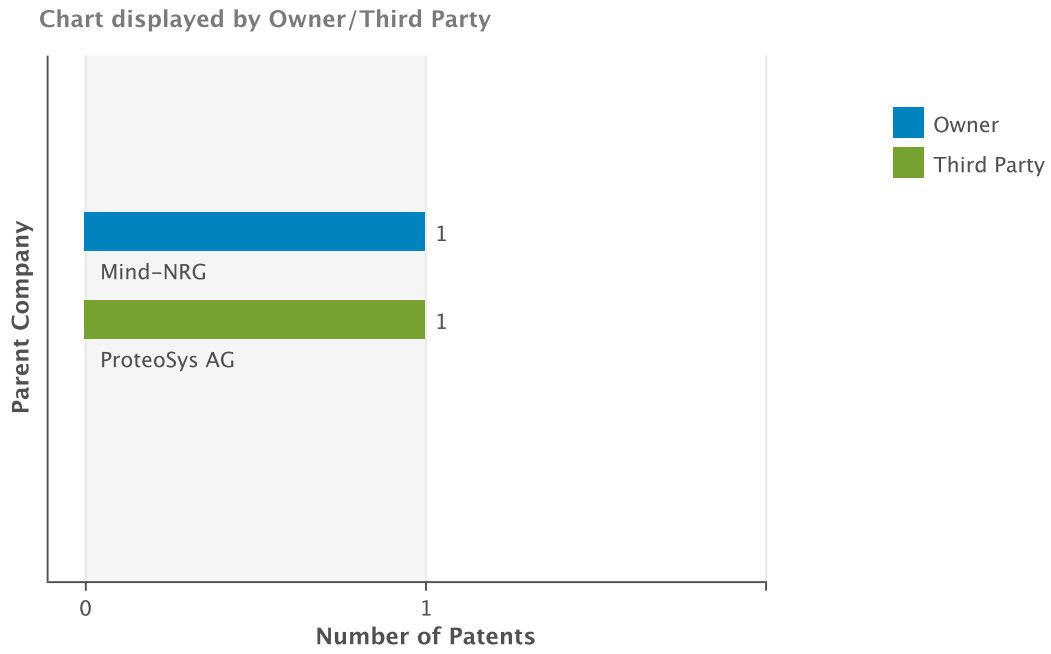
PATENTS

Patents by Parent Company Chart



Patents by Parent Company Table

Company Name	As Owner	As Third Party	Total
Mind-NRG	1	0	1
ProteoSys AG	0	1	1

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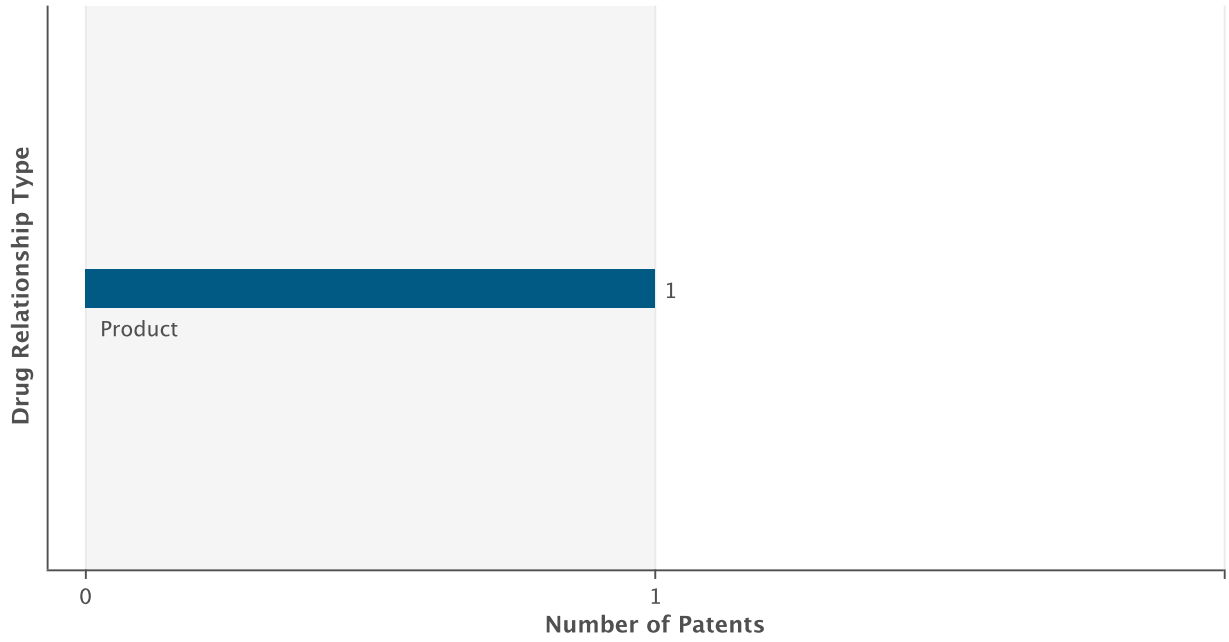
Patents by Drug Relationship Type Chart



Patents by Drug Relationship Type Table

Drug Relationship	Total
Product	1

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