

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i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.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

## COMPANY OVERVIEW

Company Name	Esperion Therapeutics Inc
Parent Company Name	Esperion Therapeutics Inc
Website	<a href="http://www.esperion.com/">http://www.esperion.com/</a>
Country	US
Number of Drugs in Active Development	3
Number of Inactive Drugs	10
Number of Patents as Owner	25
Number of Patents as Third Party	3
Number of Deals	4
Key Indications	Non-insulin dependent diabetes,Cardiovascular disease,Hypercholesterolemia,Metabolic disorder,Obesity,Lipid metabolism disorder,Alzheimers disease,Breast tumor,Colon tumor,Diabetic nephropathy,Diabetic retinopathy,Prostate tumor
Key Target-based Actions	AMP activated protein kinase stimulator,ATP citrate lyase inhibitor,Unspecified enzyme stimulator,Apolipoprotein A1 agonist,Apolipoprotein A1 modulator,Apolipoprotein agonist
Key Technologies	Small molecule therapeutic,Oral formulation,Biological therapeutic,Peptide,Enzyme,Intravenous formulation,Liposome formulation injectable,Formulation preservation,Injectable formulation,Protein recombinant

## COMPANY PROFILE

### SUMMARY

Esperion Therapeutics is an Ann Arbor-based company that focuses on the discovery and development of HDL, cardiovascular and metabolic disease therapeutics. The company was formed in July 1998, and was acquired by Pfizer in March 2004. However in May 2008, Pfizer spun out Esperion to private investor.

### COMPANY LOCATION

In July 2001, the company was planning to open a satellite facility in Kalamazoo, MI for its chemistry group for the discovery of novel therapeutic compounds for the treatment of cardiovascular and metabolic diseases. Under the terms of the leasing arrangement, Esperion would occupy laboratory space in McCracken Hall at Western Michigan University (WMU). Esperion would then relocate, upon completion, to a state-of-the-art R&D laboratory that would be constructed on the engineering campus of WMU at the Business Technology and Research Park.

### ACQUISITIONS AND SPIN-OFFS

In December 2003, Pfizer Inc entered into an agreement to acquire Esperion in a \$1.3 billion cash-for-shares transaction. Esperion was to operate as a division of the Pfizer Global R&D organization, and was to remain in Ann Arbor, MI. In February 2004, Pfizer completed its cash tender offer for over 93% of Esperion's common stock. Pfizer hoped to complete the merger a week later. By March 2004, the acquisition had been completed. In May 2008, Pfizer sold Esperion, which retained an anti-dyslipidemia drug, to private investors. Pfizer was to retain selected programs and related assets and maintaining a financial interest.

In October 2000, the company acquired Talaria Therapeutics, a biotechnology firm that researched and developed LUV technologies. This would provide Esperion with additional intellectual property for the development of its LUV product candidate, as well as phase I data from over 30 patients.

### LICENSING AGREEMENTS

In June 2010, TransGenRx agreed to generate protein-based therapeutics for use in Esperion Therapeutics' research efforts to develop HDL therapeutics for the treatment of cardio-metabolic diseases.

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In June 2010, Esperion Therapeutics entered a collaboration with the Cleveland Clinic Foundation to research HDL mimetics and other protein-based therapeutics for the treatment of cardiovascular disease.

In January 2004, Esperion and Nippon Chemiphar entered into a license agreement to develop new small molecule therapies for lipid disorders based on PPAR delta agonists. Esperion gained access to Nippon Chemiphar's PPAR delta agonists. Nippon Chemiphar retained commercialization rights in Asia for any new product candidates, while Esperion had commercialization rights in the US, Europe and other markets outside Asia.

In January 2001, the University of Michigan received a \$1.74 million research grant for a three year collaborative program to be conducted by the University and Esperion to evaluate the role of paraoxonase (an HDL-associated enzyme) in a series of preclinical studies. The initial research efforts would focus on examining whether paraoxonase could combat the complications of sepsis by reducing oxidative damage to tissue and organs.

## EARLY R&D

In January 2004, Esperion was granted a patent covering sulfoxide and bis-sulfoxide compounds and compositions for cholesterol management and related uses.

## FINANCIAL

By September 2013, the company had approximately 15.4 million shares of common stock outstanding.

In June 2013, the company priced an initial public offering of 5,000,000 common stock shares at \$14.00, each and began trading on the NASDAQ Global market, under the symbol 'ESPR'. At that time, the underwriters were granted a 30-day option to buy up to an additional 750,000 shares of common stock to cover over-allotments, if any; in July 2013, the IPO was closed and the company raised net proceeds of \$72.8 million.

In April 2013, the company raised \$33 million from a preferred stock financing round.

In May 2008, Esperion raised \$22.75 million in a series A financing round.

In November 2003, Esperion was added to the NASDAQ Biotechnology Index.

In July 2003, Esperion filed a registration statement with the SEC relating to a potential public offering of 4 million shares of Esperion common stock. In addition, the underwriters would have an option to purchase up to an additional 0.6 million shares from Esperion and selling stockholders to cover any overallotments. Later that month, Esperion priced the offering at \$16 per share. The offering was expected to close on August 6, 2003.

In April 2002, Esperion adopted a shareholder rights plan.

In August 2001, Alta Partners revealed that it was the lead investor in Esperion's completed private placement, totaling approximately \$24 million. In this transaction, Esperion sold approximately 3.2 million shares of newly issued common stock to both new and existing stockholders. Alta invested \$8 million in the placement.

In July 2001, Esperion entered into definitive purchase agreements to sell approximately 3.2 million shares of newly issued common stock to new and existing shareholders for net proceeds of \$22.5 million, subject to customary closing conditions.

In February 2000, Esperion filed a registration statement with the SEC for the initial public offering of its common stock. This was priced and completed in August 2000, when an IPO of 6 million shares at \$9.00 per share were offered. In September 2000, the underwriters' over allotment was exercised and 900,000 shares of common stock were sold at \$9.00 per share. Total proceeds to Esperion from the offering are approximately \$57.8 million.

In January 2000, Esperion completed a finance deal worth \$22 million.

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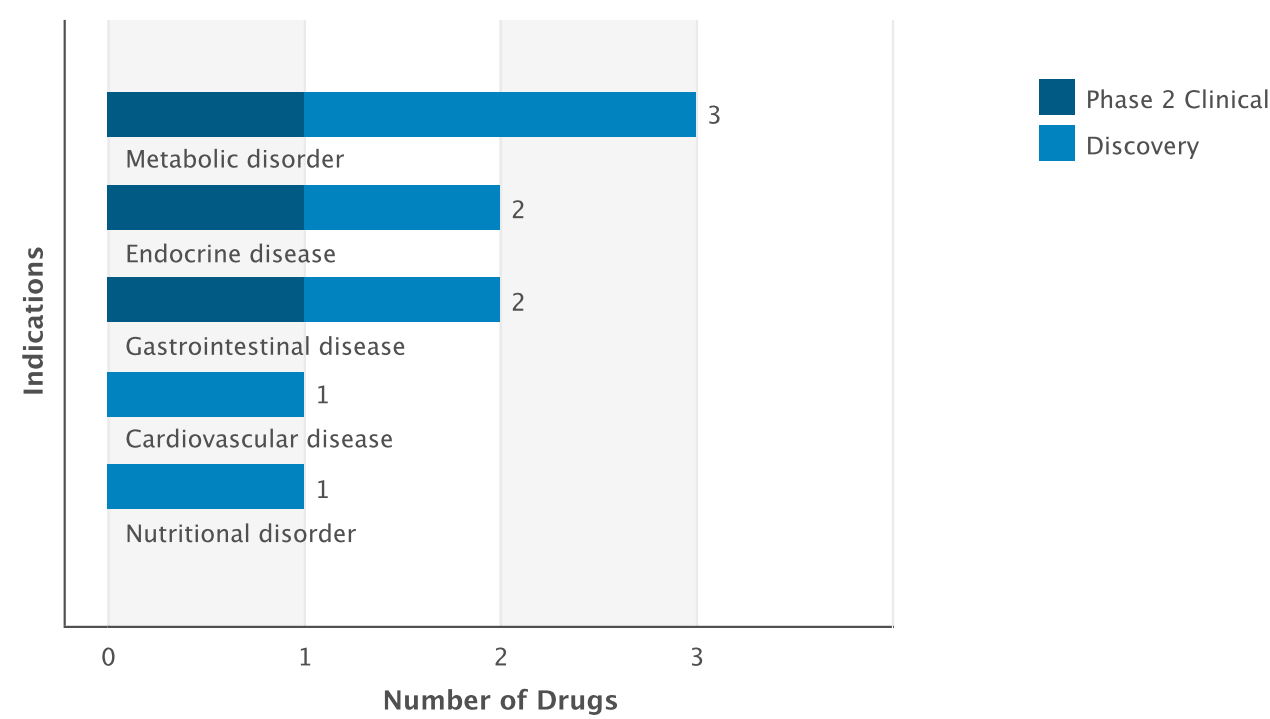


# PRODUCT PORTFOLIO SUMMARY

## DRUGS

### Drugs by Indication

Active Drugs by Indication Chart



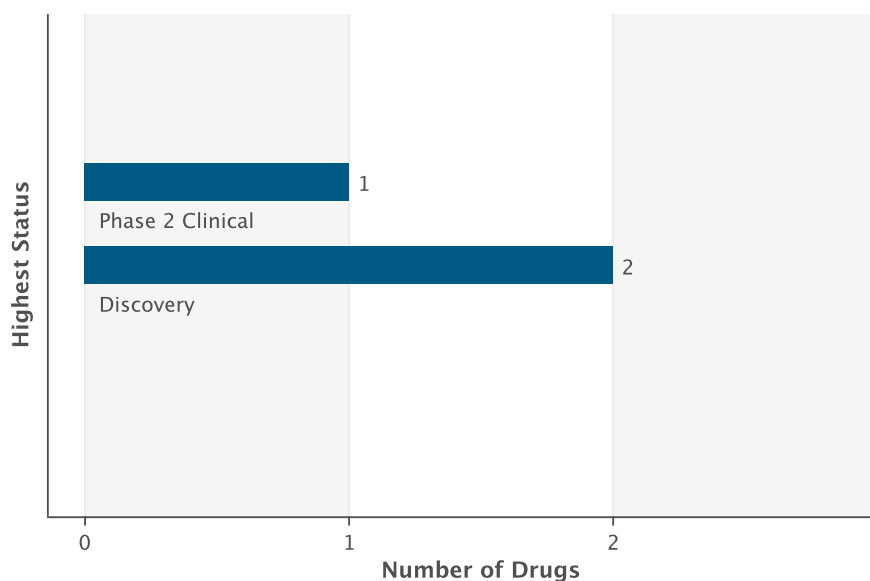
Drugs by Indication Table

Indication	Active	Inactive	Total
Metabolic disorder	3	8	11
Cardiovascular disease	1	8	9
Endocrine disease	2	1	3
Gastrointestinal disease	2	1	3
Nutritional disorder	1	1	2
Infectious disease	0	1	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
Discovery	2
Discontinued	1
No Development Reported	6

## DEALS

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

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## CLINICAL TRIALS

### Trials by Condition Studied

Condition Studied	Ongoing	All
Metabolic disorder	1	14
Cardiovascular disease	0	9
Gastrointestinal disease	0	1
Endocrine disease	0	1

### Trials by Phase

Phase	Ongoing	All
Phase 2	1	9
Phase 1	0	8

### 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	28	1	29
Endocrine disease	5	0	5
Gastrointestinal disease	13	0	13
Genitourinary disease	13	0	13
Hematological disease	12	0	12
Degeneration	14	0	14
Andrology	13	0	13
Immune disorder	1	0	1
Musculoskeletal disease	1	0	1
Neoplasm	13	0	13

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Ocular disease	1	0	1
Metabolic disorder	22	1	23
Neurological disease	16	0	16
Nutritional disorder	11	0	11
Infectious disease	14	0	14
Injury	1	0	1
Inflammatory disease	12	0	12
Gynecology and obstetrics	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

### bempedoic acid

#### bempedoic acid SNAPSHOT

<b>Drug Name</b>	bempedoic acid
<b>Key Synonyms</b>	bempedoic acid
<b>Originator Company</b>	Esperion Therapeutics Inc
<b>Active Companies</b>	Esperion Therapeutics Inc
<b>Inactive Companies</b>	
<b>Highest Status</b>	Phase 2 Clinical
<b>Active Indications</b>	Non-insulin dependent diabetes;Hypercholesterolemia
<b>Target-based Actions</b>	AMP activated protein kinase stimulator;ATP citrate lyase inhibitor
<b>Other Actions</b>	Lipid metabolism modulator;Hypoglycemic agent;Cholesterol synthesis inhibitor
<b>Technologies</b>	Oral formulation;Small molecule therapeutic
<b>Last Change Date</b>	03-Feb-2014

#### bempedoic acid DEVELOPMENT PROFILE

##### SUMMARY

Esperion Therapeutics (a spin-off from Pfizer), in collaboration with Cleveland Clinic Foundation, is developing bempedoic acid (ETC-1002, ESP-55016), a small molecule fatty acid and cholesterol synthesis dual inhibitor, AMP kinase activator and ATP citrate lyase inhibitor, as once-daily oral formulation, for the potential treatment of dyslipidemia including hypercholesterolemia and type 2 diabetes,. In January 2011, a phase II trial was initiated in patients with hypercholesterolemia ; in March 2012, data were reported. In May 2012, another phase II trial began an in October 2012, the trial was completed ; in January 2013, data were reported ; in May 2013, full data of the trial were presented at Arteriosclerosis, Thrombosis, and Vascular Biology (ATVB) 2013 Scientific Sessions. In June 2013, data from a phase IIa trial in hypercholesterolemia were reported. In September 2013, topline data from another phase IIa trial were reported. In June 2013, a phase IIb trial in hypercholesterolemia patients was planned by the end of 2013.

Esperion, before being acquired by Pfizer in March 2004 was investigating a series of small-molecule lipid regulating agents including ESP-A and ETC-1001. However, no further development of the series has been reported since the acquisition.

#### bempedoic acid DEVELOPMENT STATUS

##### CURRENT DEVELOPMENT STATUS

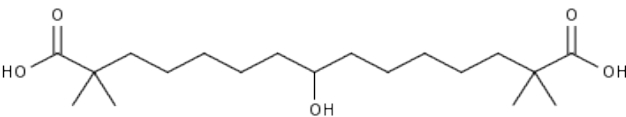
Company	Indication	Country	Development Status	Date
Esperion Therapeutics Inc	Hypercholesterolemia	US	Phase 2 Clinical	06-Jan-2011

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Company	Indication	Country	Development Status	Date
Esperion Therapeutics Inc	Non-insulin dependent diabetes	US	Phase 2 Clinical	29-May-2012

## bempedoic acid CHEMICAL STRUCTURES

CAS Registry Number:	Confidence Level:
738606-46-7	2
	
Name	Type
bempedoic acid	PINN
ESP-55016	Research Code
ETC-1002	

## bempedoic acid DRUG NAMES

Names	Type
bempedoic acid	PINN
ETC-1002	
small-molecule fatty acid and cholesterol synthesis dual inhibitor (oral, dyslipidemia), Esperion Therapeutics	
small-molecule fatty acid and cholesterol synthesis dual inhibitor (dyslipidemia), Esperion Therapeutics	
ESP-55016	Research Code

## bempedoic acid 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

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Hypercholesterolemia											
0	0	0	0	1	4	0	0	0	0	1	4
Lipid metabolism disorder											
0	0	0	0	0	1	0	1	0	0	0	2
Non-insulin dependent diabetes											
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	1	5	0	3	0	0	1	8

### 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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## ESP-41091

### ESP-41091 SNAPSHOT

Drug Name	ESP-41091
Key Synonyms	
Originator Company	Esperion Therapeutics Inc
Active Companies	Esperion Therapeutics Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Non-insulin dependent diabetes;Obesity
Target-based Actions	
Other Actions	Hypoglycemic agent
Technologies	Oral formulation;Small molecule therapeutic
Last Change Date	01-Oct-2013

### ESP-41091 DEVELOPMENT PROFILE

#### SUMMARY

Esperion Therapeutics is investigating ESP-41091, a small molecule for the potential oral treatment of type 2 diabetes and obesity. In September 2013, the program was listed as being under preclinical development.

### ESP-41091 DEVELOPMENT STATUS

#### CURRENT DEVELOPMENT STATUS

Company	Indication	Country	Development Status	Date
Esperion Therapeutics Inc	Non-insulin dependent diabetes	US	Discovery	27-Sep-2013
Esperion Therapeutics Inc	Obesity	US	Discovery	27-Sep-2013

### ESP-41091 DRUG NAMES

Names	Type
ESP-41091	Research Code

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## 4-WF

### 4-WF SNAPSHOT

Drug Name	4-WF
Key Synonyms	
Originator Company	Cleveland Clinic Foundation
Active Companies	Esperion Therapeutics Inc
Inactive Companies	Cleveland Clinic Foundation
Highest Status	Discovery
Active Indications	Metabolic disorder;Cardiovascular disease
Target-based Actions	
Other Actions	HDL cholesterol modulator;Cardiovascular agent
Technologies	Peptidomimetic;Small molecule therapeutic;Parenteral formulation unspecified
Last Change Date	01-Oct-2013

### 4-WF DEVELOPMENT PROFILE

#### SUMMARY

Esperion Therapeutics, under license from Cleveland Clinic, is investigating 4-WF, a lead from synthetic HDL mimetics and other protein-based therapies, produced by TransgenRx, for the potential treatment of cardio-metabolic disease including regress atherosclerosis,. In September 2011, the program was listed as being in preclinical development. In September 2013, this was still the case.

Cleveland Clinic in collaboration with Esperion, was previously investigating 4-WF for the potential treatment of cardio-metabolic disease including regress atherosclerosis. However, in June 2011, Esperion acquired the exclusive worldwide rights from the Cleveland Clinic Foundation.

### 4-WF DEVELOPMENT STATUS

#### CURRENT DEVELOPMENT STATUS

Company	Indication	Country	Development Status	Date
Esperion Therapeutics Inc	Cardiovascular disease	US	Discovery	14-Jun-2010
Esperion Therapeutics Inc	Metabolic disorder	US	Discovery	14-Jun-2010
Cleveland Clinic Foundation	Cardiovascular disease	US	Discontinued	30-Jun-2011
Cleveland Clinic Foundation	Metabolic disorder	US	Discontinued	30-Jun-2011

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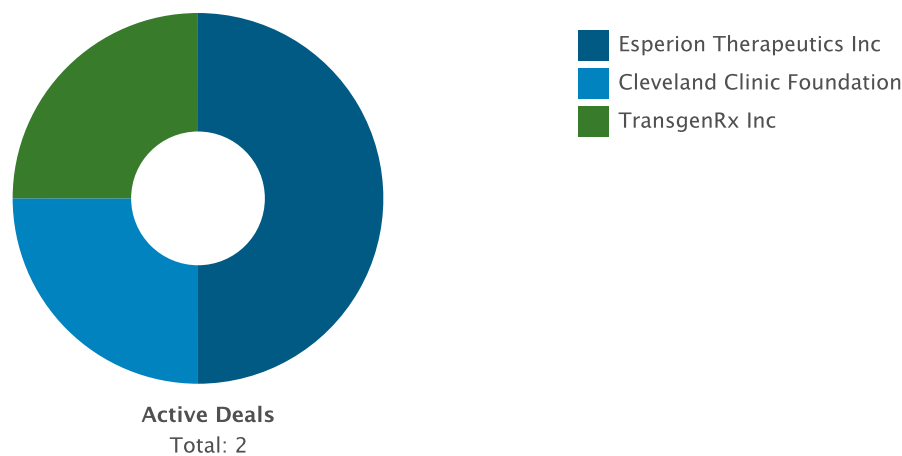
4-WF DRUG NAMES

Names	Type
4-WF	Research Code
synthetic HDL therapy, Esperion	
HDL-based therapeutics (cardio-metabolic disease), Esperion/Cleveland Clinic	

4-WF DEALS AND PATENTS

DEALS

Deals by Parent Company Chart



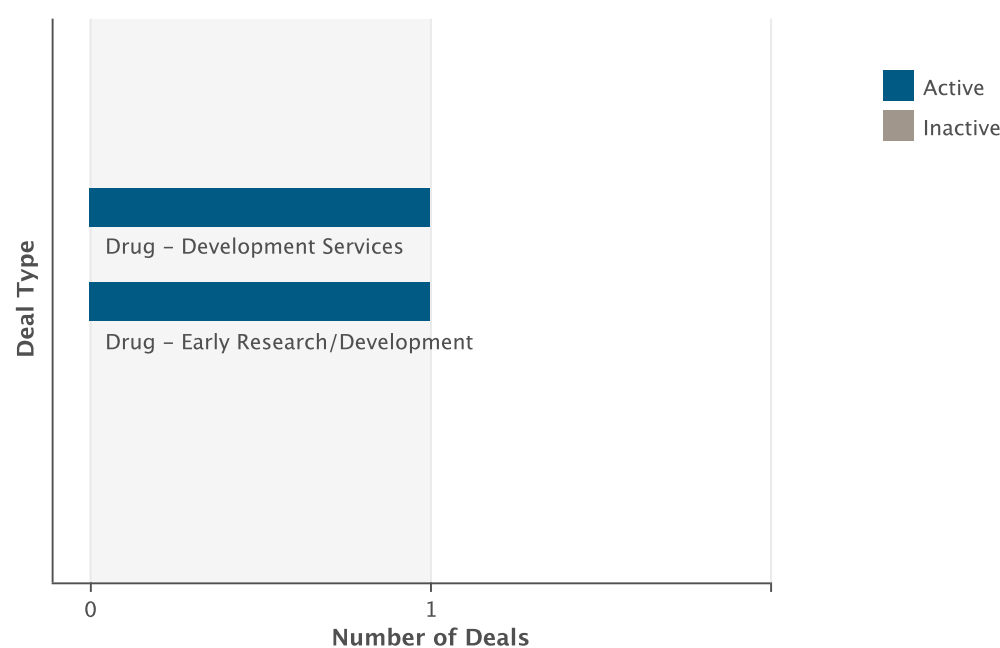
Deals by Parent Company Table

Company Name	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Esperion Therapeutics Inc	0	0	2	0	2
TransgenRx Inc	1	0	0	0	1
Cleveland Clinic Foundation	1	0	0	0	1

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Deals by Type Chart

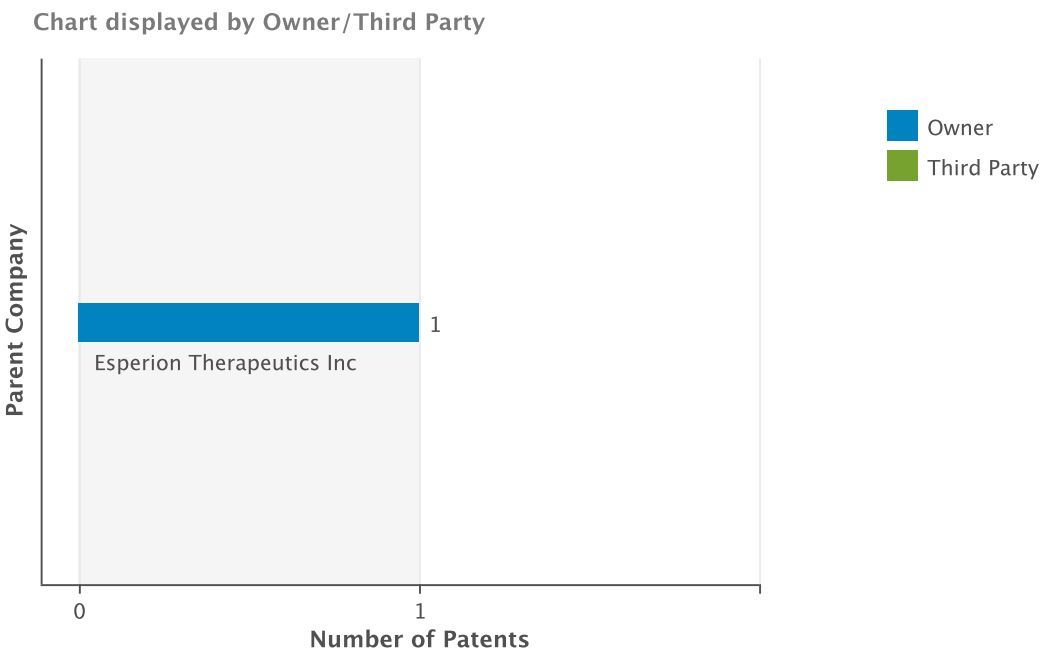


Deals by Type Table

Deal Type	Active	Inactive	Total
Drug - Development Services	1	0	1
Drug - Early Research/Development	1	0	1

PATENTS

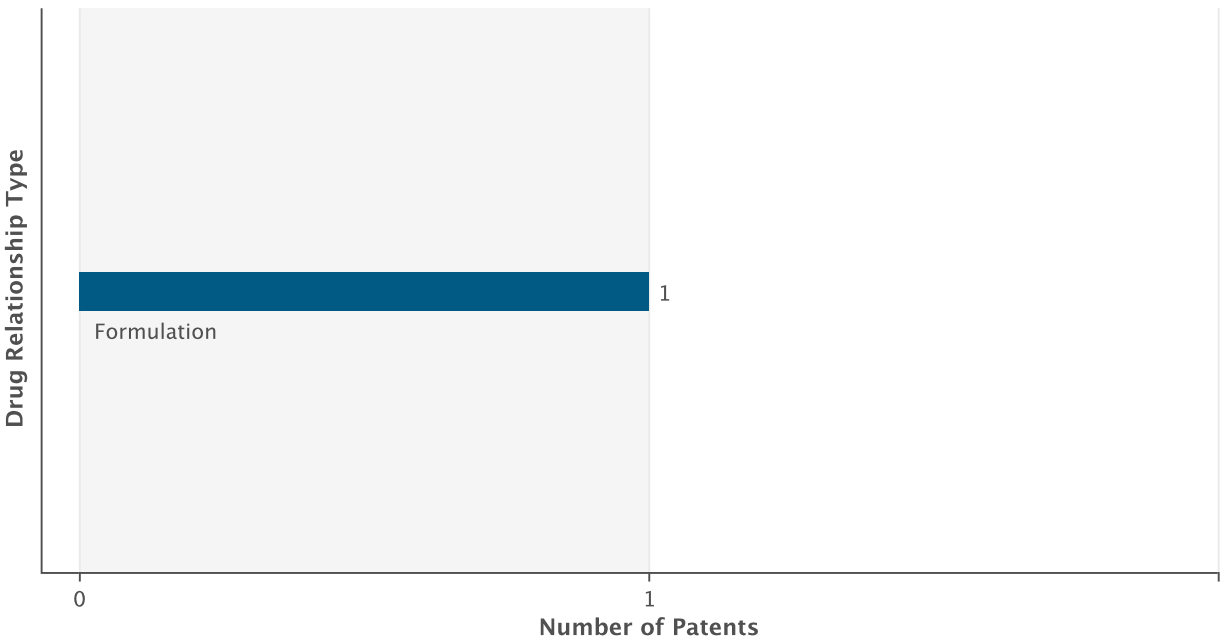
Patents by Parent Company Chart



Patents by Parent Company Table

Company Name	As Owner	As Third Party	Total
Esperion Therapeutics Inc	1	0	1

Patents by Drug Relationship Type Chart



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Patents by Drug Relationship Type Table

Drug Relationship	Total
Formulation	1

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