

## **SAGE Therapeutics Inc**

## **COMPANY AND PIPELINE OVERVIEW REPORT**

A comprehensive coverage of the company and a summary of the drug pipeline portfolio.

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i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.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



**PLEASE NOTE:** the financials section where present in the report includes: Share Information, Stock Performance chart (including the consensus recommendation), and Major Shareholders. Financial Performance presents graphical and tabular data on Worldwide Sales, Operating Income and Net Income over time, together with a Quarterly earnings update. Balance Sheet lists Assets, Liabilities and Stockholders Equity, and Forecasts includes: EPS Forecast and Other Forecasts. The data reported in all sections (except share information and major stock holders) are correct as of the publication date of the report (and not the download date). For share information and major stock holders the data is correct for the date shown with these sections



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## **SAGE Therapeutics Inc**

#### **COMPANY OVERVIEW**

| Company Name                             | SAGE Therapeutics Inc  |
|--|--|
| Parent Company Name                      | SAGE Therapeutics Inc  |
| Website                                  | http://www.sagerx.com/   |
| Country                                  | US   |
| Number of Drugs in Active<br>Development | 8  |
| Number of Inactive Drugs                 | 2  |
| Number of Patents as Owner               | 15   |
| Number of Patents as Third Party         | 0  |
| Number of Deals                          | 4  |
| Key Indications                          | Status epilepticus, Central nervous system disease, Psychiatric disorder, Epilepsy, Anesthesia, Rett syndrome, Essential tremor, Neurological disease, Postnatal depression, Mood disorder   |
| Key Target-based Actions                 | GABA A receptor modulator,NMDA receptor modulator,GABA A receptor alpha-1 subunit modulator,GABA A receptor alpha-4 subunit modulator,GABA A receptor beta-2 subunit inhibitor,GABA A receptor beta-3 subunit inhibitor,GABA A receptor gamma-2 subunit inhibitor,GABA A receptor agonist,GABA A receptor alpha-1 subunit stimulator,GABA A receptor beta-2 subunit modulator,GABA A receptor beta-2 subunit stimulator,GABA A receptor beta-3 subunit modulator,GABA A receptor gamma-2 subunit modulator,GABA A receptor gamma-2 subunit stimulator,GABA B receptor agonist,GABA receptor antagonist,GABA receptor modulator,NMDA receptor agonist |
| Key Technologies                         | Small molecule therapeutic,Intravenous formulation,Oral formulation,Steroid,Infusion,Analytical method,Pharmaceutical carrier  |

#### **COMPANY PROFILE**

#### **SUMMARY**

SAGE Therapeutics is a pharmaceutical company, focused on developing medicines for central nervous system disorders.

## **FINANCIAL**

In December 2014, the company was added to the NASDAQ Biotechnology Index (NBI) which would become effective upon market open on December 22, 2014.

In July 2014, the company announced the pricing of its initial public offering of 5 million shares of common stock at a price of \$18 per share. The underwriters were also granted a 30-day option to buy up to an additional 0.75 shares at the same offering price to cover over-allotments, if any. The company's shares were expected to begin trading on the NASDAQ Global market on July 18, 2014, under the ticker symbol 'SAGE'. Later that month, the underwriters exercised their full option to purchase additional shares of the IPO. At that time, the company raised a capital of \$103.5 million from a total of 5.75 million shares sold and the offering was closed.

In March 2014, the company raised \$38 million from an oversubscribed series C financing.

In October 2013, the company raised \$20 million from a series B financing.

In October 2011, SAGE secured \$35 million in series A financing. By September 2013, the company raised \$37.8 million totally from the completion of series A financing.



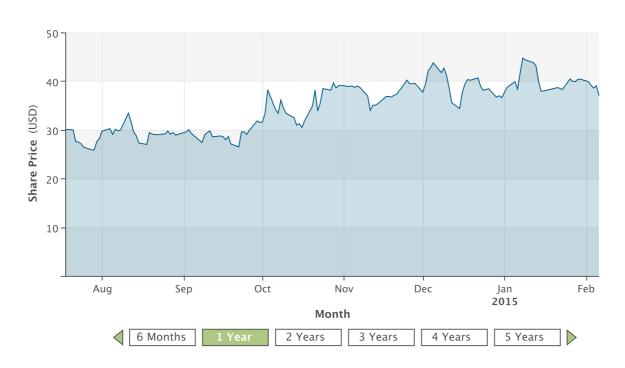
## **COMPANY FINANCIALS**

## **SHARE INFORMATION**

| Close Price (USD)                       | 36.99             |
|---|-------------------|
| Change (USD)                            | -2.06 (-5.28%)    |
| Previous Close Price (USD)              | 39.05             |
| Volume                                  | 292,206           |
| 52-Week High (USD)                      | 47.76             |
| 52-Week Low (USD)                       | 24.25             |
| Date                                    | 06-Feb-2015       |
| Exchange                                | NASDAQ(COMPOSITE) |
| Current Number of Shares<br>Outstanding | 25,792,623        |
| Current Market<br>Capitalization        | 954,069,125       |
| EPS (Date Reported)                     | -0.71509          |

## STOCK PERFORMANCE

## **Stock Performance**



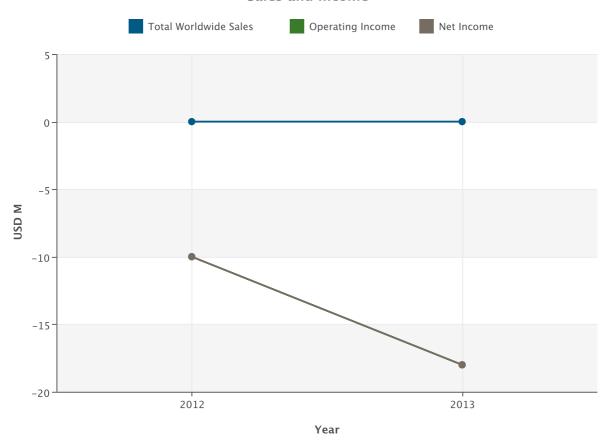
## **MAJOR SHAREHOLDERS**



| Shareholder                            | Туре  | Country          | Shares<br>held | % of shares held | Change in holding | % changes<br>in shares<br>held | Date        |
|--|---|------------------|----------------|------------------|-------------------|--------------------------------|-------------|
| iShares NASDAQ<br>Biotechnology ETF    | Mutual<br>Fund                              | United<br>States | 307,627        | 1.19             | 6,000             | 0.02                           | 31-Jan-2015 |
| iShares Russell 2000<br>Growth ETF     | Mutual<br>Fund                              | United<br>States | 38,672         | 0.15             | 1,012             | 0.03                           | 31-Jan-2015 |
| iShares Micro-Cap ETF                  | Mutual<br>Fund                              | United<br>States | 14,597         | 0.06             | -292              | -0.02                          | 31-Jan-2015 |
| iShares Russell 2000<br>Value ETF      | Mutual<br>Fund                              | United<br>States | 5,122          | 0.02             | 52                | 0.01                           | 31-Jan-2015 |
| iShares Russell 3000<br>ETF            | Mutual<br>Fund                              | United<br>States | 1,635          | 0.01             | 38                | 0.02                           | 31-Jan-2015 |
| DB Platinum Advisors                   | Investme<br>nt<br>Advisor                   | Luxembo<br>urg   | 1,255          | 0                | 0                 | 0                              | 31-Jan-2015 |
| Fidelity MSCI Health<br>Care Index ETF | Mutual<br>Fund                              | United<br>States | 1,008          | 0                | 206               | 0.26                           | 31-Jan-2015 |
| Guggenheim<br>Investments              | Investme<br>nt<br>Advisor/<br>Hedge<br>Fund | United<br>States | 665            | 0                | 0                 | 0                              | 31-Jan-2015 |
| Nuveen Asset<br>Management, LLC        | Investme<br>nt<br>Advisor/<br>Hedge<br>Fund | United<br>States | 462            | 0                | 0                 | 0                              | 31-Jan-2015 |
| iShares Russell 3000<br>Growth ETF     | Mutual<br>Fund                              | United<br>States | 252            | 0                | -80               | -0.24                          | 31-Jan-2015 |
| iShares Russell 3000<br>Value ETF      | Mutual<br>Fund                              | United<br>States | 47             | 0                | 0                 | 0                              | 31-Jan-2015 |
| ProShares Hedge<br>Replication ETF     | Mutual<br>Fund                              | United<br>States | 6              | 0                | 0                 | 0                              | 31-Jan-2015 |



## Sales and Income



|                          | 2013    | 2012   |  |  |
|--------------------------|---------|--------|--|--|
| Sales (USD M)            | 0       | 0      |  |  |
| Operating Income (USD M) | -18.279 | -9.631 |  |  |
| Net Income (USD M)       | -18.288 | -9.636 |  |  |

## **Quarterly earnings update**

| Period  | Sales (USD M) | Operating Income (USD M) | Net Income (USD M) |
|---------|---------------|--------------------------|--------------------|
| 2014 Q3 | 0             | -9.47                    | -9.859             |
| 2014 Q2 | 0             | -6.188                   | -7.769             |
| 2014 Q1 | 0             | -5.79                    | -6.116             |
| 2013 Q3 | 0             | -4.519                   | -4.519             |
| 2013 Q2 | 0             | -4.655                   | -4.655             |
| 2013 Q1 | 0             | -3.389                   | -3.389             |



## **BALANCE SHEET**

## Assets (USD M)

|  | 2012  | 2013  |  |  |
|--|-------|-------|--|--|
| Cash & Short Term<br>Investments       | 2.802 | 8.066 |  |  |
| Inventories - Total                    | 0     | 0     |  |  |
| Current Assets - Total                 | 2.826 | 8.407 |  |  |
| Property, Plant And<br>Equipment - Net | 0.13  | 0.086 |  |  |
| Other Assets - Total                   | 0     | 0     |  |  |
| Total Assets                           | 2.995 | 8.532 |  |  |

## Liabilities (USD M)

|   | 2012  | 2013  |  |  |
|---|-------|-------|--|--|
| Accounts Payable  | 1.314 | 1.988 |  |  |
| Short Term Debt &<br>Current Portion Of Long<br>Term Debt | 0     | 0     |  |  |
| Current Liabilities - Total                               | 1.419 | 2.315 |  |  |
| Long Term Debt  | 0     | 0     |  |  |
| Other Liabilities   | 0     | 0.044 |  |  |
| Total Liabilities   | 1.419 | 2.359 |  |  |

## Stockholders Equity (USD M)

|  | 2012  | 2013   |  |
|--|-------|--------|--|
| Minority Interest                        | 0     | 0      |  |
| Preferred Stock                          | 14.97 | 37.709 |  |
| Common Stock                             | 0     | 0      |  |
| Treasury Stock                           | 0     |        |  |
| Total Liabilities & Shareholders' Equity | 2.995 | 8.532  |  |

## **FORECASTS**

## **EPS Forecast**

| Year ending | Current Forecast | 1 month ago | 3 months ago |
|-------------|------------------|-------------|--------------|
| 31-Dec-2015 | -2.23            | -1.91       | -2.05        |
| 31-Dec-2016 | -2.74            | -2.52       | -2.74        |
| 31-Dec-2017 | -2.53            | -2.41       | -2.53        |

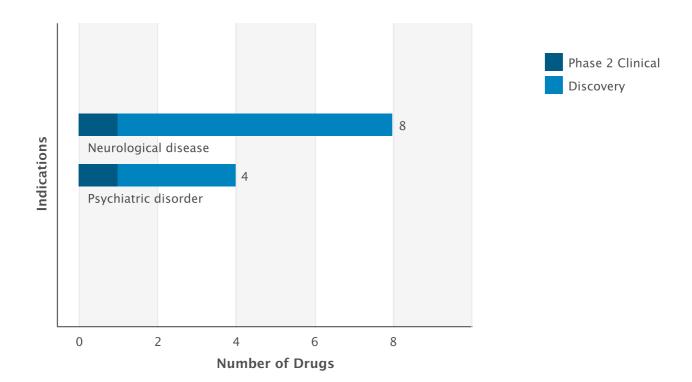
#### **Other Forecasts**

| Year ending | DPS | CPS   | Pretax | Sales |
|-------------|-----|-------|--------|-------|
| 31-Dec-2015 | 0   | -2.22 | -56.45 | 0     |
| 31-Dec-2016 | 0   |       | -72.58 | 0     |
| 31-Dec-2017 |     |       | -71.9  | 15.37 |

# PRODUCT PORTFOLIO SUMMARY DRUGS

## Drugs by Indication

Active Drugs by Indication Chart



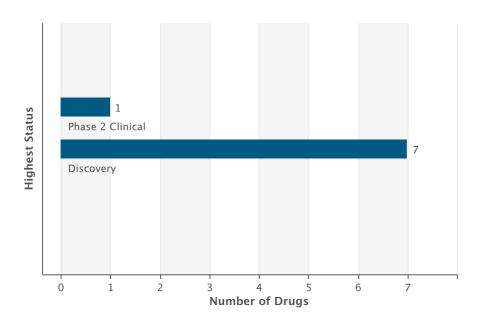


## Drugs by Indication Table

| Indication           | Active | Inactive | Total |
|----------------------|--------|----------|-------|
| Neurological disease | 8      | 2        | 10    |
| Psychiatric disorder | 4      | 0        | 4     |
| Injury               | 0      | 1        | 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               |
| Discovery               | 7               |
| No Development Reported | 2               |

#### **DEALS**

| Deal Type                                    | Prin   | cipal    | Par    | tner     | Total |
|--|--------|----------|--------|----------|-------|
|  | Active | Inactive | Active | Inactive |       |
| Technology - Other Proprietary               | 0      | 0        | 1      | 0        | 1     |
| Drug - Funding                               | 1      | 0        | 0      | 0        | 1     |
| Drug - Early Research/Development            | 0      | 0        | 1      | 0        | 1     |
| Drug - Development/Commercialization License | 0      | 0        | 1      | 0        | 1     |

## **CLINICAL TRIALS**

## Trials by Condition Studied

| Condition Studied    | Ongoing | All |
|----------------------|---------|-----|
| Neurological disease | 2       | 6   |
| Psychiatric disorder | 1       | 1   |

## Trials by Phase

| Phase               | Ongoing | All |
|---------------------|---------|-----|
| Phase 2             | 2       | 4   |
| Phase 1             | 1       | 1   |
| Phase not specified | 0       | 2   |

#### **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 | 6        | 0              | 6     |
| Degeneration           | 1        | 0              | 1     |
| Psychiatric disorder   | 11       | 0              | 11    |
| Genetic disorder       | 7        | 0              | 7     |
| Neurological disease   | 16       | 0              | 16    |



| Injury                         | 7  | 0 | 7  |
|--------------------------------|----|---|----|
| Toxicity and intoxication      | 10 | 0 | 10 |
| Otorhinolaryngological disease | 6  | 0 | 6  |

<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

## **SAGE-547**

| Drug Name            | SAGE-547  |
|----------------------|---|
| Key Synonyms         |   |
| Originator Company   | SAGE Therapeutics Inc   |
| Active Companies     | SAGE Therapeutics Inc   |
| Inactive Companies   |   |
| Highest Status       | Phase 2 Clinical  |
| Active Indications   | Status epilepticus, Postnatal depression, Essential tremor    |
| Target-based Actions | GABA A receptor modulator                                     |
| Other Actions        | Anticonvulsant agent, Neuroprotectant                         |
| Technologies         | Intravenous formulation, Infusion, Small molecule therapeutic |
| Last Change Date     | 13-Jan-2015   |

## allosteric NMDA receptor modulators (CNS disorders), SAGE

| Drug Name            | allosteric NMDA receptor modulators (CNS disorders), SAGE |
|----------------------|---|
| Key Synonyms         |   |
| Originator Company   | SAGE Therapeutics Inc                                     |
| Active Companies     | SAGE Therapeutics Inc                                     |
| Inactive Companies   |   |
| Highest Status       | Discovery   |
| Active Indications   | Psychiatric disorder, Central nervous system disease      |
| Target-based Actions | NMDA receptor modulator                                   |
| Other Actions        | Neuroprotectant   |
| Technologies         | Small molecule therapeutic                                |
| Last Change Date     | 17-Dec-2014   |

## allosteric modulators (Captisol, CNS disorders), Ligand/ SAGE

| Drug Name            | allosteric modulators (Captisol, CNS disorders), Ligand/ SAGE |
|----------------------|---|
| Key Synonyms         |   |
| Originator Company   | Ligand Pharmaceuticals Inc                                    |
| Active Companies     | SAGE Therapeutics Inc, Ligand Pharmaceuticals Inc             |
| Inactive Companies   |   |
| Highest Status       | Discovery   |
| Active Indications   | Central nervous system disease                                |
| Target-based Actions |   |
| Other Actions        | CNS modulator, Unspecified drug target                        |
| Technologies         | Small molecule therapeutic                                    |
| Last Change Date     | 09-Aug-2012   |

## **SAGE-689**

| Drug Name            | SAGE-689  |
|----------------------|---|
| Key Synonyms         |   |
| Originator Company   | SAGE Therapeutics Inc                                     |
| Active Companies     | SAGE Therapeutics Inc                                     |
| Inactive Companies   |   |
| Highest Status       | Discovery   |
| Active Indications   | Status epilepticus, Anesthesia                            |
| Target-based Actions |   |
| Other Actions        | Anesthetic, Unspecified drug target, Anticonvulsant agent |
| Technologies         | Intravenous formulation, Small molecule therapeutic       |
| Last Change Date     | 09-Apr-2014   |

## SAGE-NCE (oral, status epilepticus), SAGE Therapeutics

| Drug Name            | SAGE-NCE (oral, status epilepticus), SAGE Therapeutics |
|----------------------|--|
| Key Synonyms         |  |
| Originator Company   | SAGE Therapeutics Inc                                  |
| Active Companies     | SAGE Therapeutics Inc                                  |
| Inactive Companies   |  |
| Highest Status       | Discovery  |
| Active Indications   | Status epilepticus                                     |
| Target-based Actions | GABA A receptor modulator                              |
| Other Actions        | Neuroprotectant, Anticonvulsant agent                  |
| Technologies         | Oral formulation, Small molecule therapeutic           |
| Last Change Date     | 09-Apr-2014  |
|                      |  |

# GABA A allosteric modulators (neuropsychiatric diseases), SAGE Therapeutics / Washington University in St. Louis

| Drug Name            | GABA A allosteric modulators (neuropsychiatric diseases), SAGE Therapeutics / Washington University in St. Louis |
|----------------------|--|
| Key Synonyms         |  |
| Originator Company   | SAGE Therapeutics Inc  |
| Active Companies     | Washington University in St Louis, SAGE Therapeutics Inc   |
| Inactive Companies   |  |
| Highest Status       | Discovery  |
| Active Indications   | Neurological disease, Psychiatric disorder   |
| Target-based Actions | GABA A receptor modulator  |
| Other Actions        | Neuroprotectant  |
| Technologies         | Small molecule therapeutic   |
| Last Change Date     | 26-Nov-2014  |



## **SAGE-NCE** (iv, status epilepticus), **SAGE** Therapeutics

| Drug Name            | SAGE-NCE (iv, status epilepticus), SAGE Therapeutics |
|----------------------|--|
| Key Synonyms         |  |
| Originator Company   | SAGE Therapeutics Inc                                |
| Active Companies     | SAGE Therapeutics Inc                                |
| Inactive Companies   |  |
| Highest Status       | Discovery  |
| Active Indications   | Status epilepticus                                   |
| Target-based Actions | GABA A receptor modulator                            |
| Other Actions        | Anticonvulsant agent, Neuroprotectant                |
| Technologies         | Intravenous formulation, Small molecule therapeutic  |
| Last Change Date     | 09-Apr-2014  |

## **SAGE-217**

| Drug Name            | SAGE-217  |
|----------------------|---|
| Key Synonyms         |   |
| Originator Company   | SAGE Therapeutics Inc                                 |
| Active Companies     | SAGE Therapeutics Inc                                 |
| Inactive Companies   |   |
| Highest Status       | Discovery   |
| Active Indications   | Rett syndrome, Epilepsy                               |
| Target-based Actions | GABA A receptor modulator                             |
| Other Actions        | Neuroprotectant, Anticonvulsant agent                 |
| Technologies         | Oral formulation, Small molecule therapeutic, Steroid |
| Last Change Date     | 12-Nov-2014   |

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