

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i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.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

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**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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### Pfenex Inc

#### **COMPANY OVERVIEW**

| Company Name                             | Pfenex Inc   |
|--|--|
| Parent Company Name                      | Pfenex Inc   |
| Website                                  | http://www.pfenex.com/   |
| Country                                  | US   |
| Number of Drugs in Active<br>Development | 17   |
| Number of Inactive Drugs                 | 3  |
| Number of Patents as Owner               | 5  |
| Number of Patents as Third Party         | 0  |
| Number of Deals                          | 17   |
| Key Indications                          | Inflammatory disease, Neutropenia, Bacillus anthracis infection, Cancer, Growth hormone deficiency, Multiple sclerosis, Plasmodium falciparum infection, Age related macular degeneration, Metastatic breast cancer, Non-Hodgkin lymphoma, Plasmodium infection, Rheumatoid arthritis, Unidentified indication |
| Key Target-based Actions                 | Interferon beta ligand,GCSF receptor agonist,GCSF ligand,GP IIb IIIa antagonist,Growth hormone ligand,Interferon alpha 2 ligand modulator,Interferon receptor modulator,TNF alpha ligand inhibitor,TNF antagonist,VEGF-A ligand inhibitor  |
| Key Technologies                         | Biological therapeutic,Protein recombinant,Biosimilar product,Parenteral formulation unspecified,Injectable formulation,Antibody fragment,PEGylated formulation,Subcutaneous formulation,Antigen,Infusion,Intravenous formulation,Monoclonal antibody humanized  |

#### **COMPANY PROFILE**

#### **SUMMARY**

Pfenex Inc, headquartered in San Diego, CA is a leading biotechnology company focused on recombinant protein expression for a broad range of applications including therapeutic proteins, vaccines, research, reagents and biosimilars.

#### **ACQUISITIONS AND SPINOFFS**

In April 2013, Pfenex, established an unnamed joint venture with Strides Acrolab subsidiary, Agila Biotech, to develop biosimilar products at Agila's Malaysian manufacturing facility. In July 2014, Strides disclosed that R&D programs for the biosimilar products were on track but further delays were expected in the manufacturing facility setup in Malaysia.

### **FINANCIAL**

In April 2015, the company priced its follow-on public offering of 6 million shares of its common stock at \$15.50 per share. Of the 6 million shares being offered, 2,610,000 were being offered by Pfenex and the remaining 3,390,000 shares were being offered by existing stockholders. Pfenex would not receive any proceeds from the shares sold by existing stockholders. The underwriters were granted a 30-day option to buy up to an additional 0.75 million shares of common stock from certain existing stockholders.

In September 2014, the shares began trading on the Russell Microcap and the Russell Global Indices.

In June 2014, Pfenex planned an IPO of common stock; in July 2014, the company priced its IPO of 8,333,333 common stock shares at a price of \$6.00 per share to the public and at that time, the underwriters were granted a 30-day option to purchase up to 1,250,000 additional common stock shares at the same price. The shares had begun trading under the symbol "PFNX" on the NYSE MKT; later that month, the offering was closed.



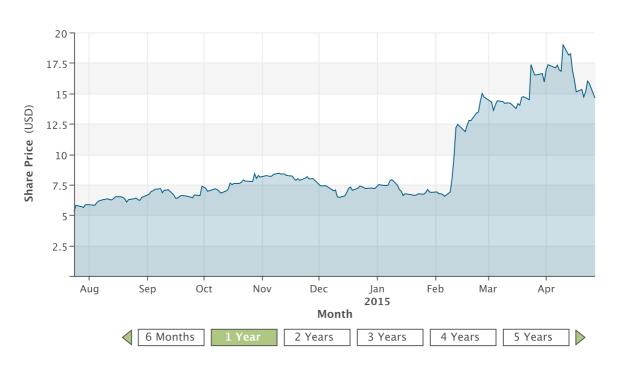
## **COMPANY FINANCIALS**

## **SHARE INFORMATION**

| Close Price (USD)                       | 14.61                |
|---|----------------------|
| Change (USD)                            | -1.19 (-7.53%)       |
| Previous Close Price (USD)              | 15.80                |
| Volume                                  | 411,554              |
| 52-Week High (USD)                      | 19.95                |
| 52-Week Low (USD)                       | 5.28                 |
| Date                                    | 27-Apr-2015          |
| Exchange                                | NYSE AMEX(COMPOSITE) |
| Current Number of Shares<br>Outstanding | 20,376,974           |
| Current Market<br>Capitalization        | 324,256,401          |
| EPS (Date Reported)                     | -0.47723             |

#### STOCK PERFORMANCE

### **Stock Performance**



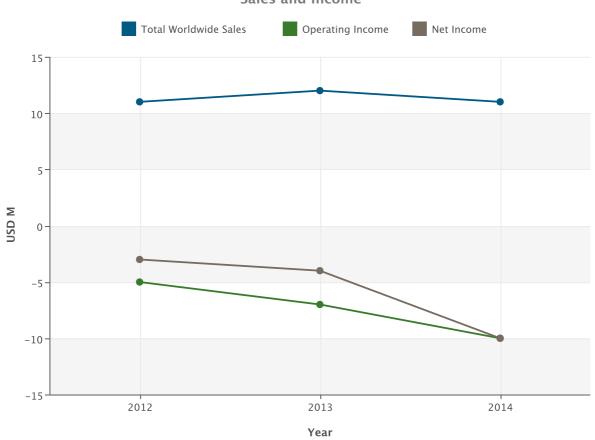
## **MAJOR SHAREHOLDERS**



| Shareholder                       | Туре                    | Country          | Shares<br>held | % of shares held | Change in holding | % changes<br>in shares<br>held | Date        |
|-----------------------------------|-------------------------|------------------|----------------|------------------|-------------------|--------------------------------|-------------|
| Dow Chemical Co                   | Corporati<br>on         | United<br>States | 5,053,661      | 24.62            | 0                 | 0                              | 17-Apr-2015 |
| Signet Healthcare Partners L.L.C. | Private<br>Equity       | United<br>States | 4,319,084      | 21.05            | 0                 | 0                              | 17-Apr-2015 |
| Liang (Bertrand C)                | Individua<br>I Investor | United<br>States | 561,980        | 2.74             | -5,000            | -0.01                          | 17-Apr-2015 |
| Lucy (Patrick K)                  | Individua<br>I Investor | United<br>States | 116,290        | 0.57             | -1,500            | -0.01                          | 02-Apr-2015 |
| Wagner Paul A                     | Individua<br>I Investor | United<br>States | 700            | 0                | 0                 | 0                              | 17-Apr-2015 |

### **FINANCIAL PERFORMANCE**

## Sales and Income



|               | 2012   | 2013   | 2014   |  |
|---------------|--------|--------|--------|--|
| Sales (USD M) | 11.294 | 11.914 | 10.644 |  |



|                          | 2012   | 2013   | 2014   |  |
|--------------------------|--------|--------|--------|--|
| Operating Income (USD M) | -4.627 | -6.697 | -9.717 |  |
| Net Income (USD M)       | -2.593 | -4.062 | -9.794 |  |

## **Quarterly earnings update**

| Period  | Sales (USD M) | Operating Income (USD M) | Net Income (USD M) |
|---------|---------------|--------------------------|--------------------|
| 2014 Q4 | 2.019         | -3.556                   | -3.574             |
| 2014 Q3 | 2.801         | -2.476                   | -2.495             |
| 2014 Q2 | 3.266         | -2.162                   | -2.63              |
| 2014 Q1 | 2.558         | -1.523                   | -1.977             |
| 2013 Q3 | 1.989         | -2.799                   | -2.12              |
| 2013 Q2 | 2.309         | -1.945                   | -1.596             |
| 2013 Q1 | 3.385         | -1.207                   | -1.134             |

## **BALANCE SHEET**

## Assets (USD M)

|  | 2012   | 2013   | 2014   |  |
|--|--------|--------|--------|--|
| Cash & Short Term<br>Investments       | 9.966  | 5.204  | 45.722 |  |
| Inventories - Total                    | 0.754  | 0.026  | 0.023  |  |
| Current Assets - Total                 | 15.579 | 12.854 | 52.765 |  |
| Property, Plant And<br>Equipment - Net | 2.681  | 2.329  | 2.31   |  |
| Other Assets - Total                   | 13.078 | 12.506 | 11.993 |  |
| Total Assets                           | 32.932 | 31.813 | 71.023 |  |



## Liabilities (USD M)

|   | 2012   | 2013   | 2014   |  |
|---|--------|--------|--------|--|
| Accounts Payable  | 2.012  | 1.804  | 2.042  |  |
| Short Term Debt &<br>Current Portion Of Long<br>Term Debt | 0      | 0      | 3.862  |  |
| <b>Current Liabilities - Total</b>                        | 5.541  | 6.01   | 7.776  |  |
| Long Term Debt  | 1.14   | 3.59   | 0.097  |  |
| Deferred Taxes  | 3.602  | 3.481  | 3.281  |  |
| Other Liabilities   | 0.009  | 0.003  | -0.005 |  |
| Total Liabilities   | 10.292 | 13.084 | 11.149 |  |

## Stockholders Equity (USD M)

|  | 2012   | 2013   | 2014   |  |
|--|--------|--------|--------|--|
| Minority Interest                        | 0      | 0      | 0      |  |
| Preferred Stock                          | 42.5   | 113.18 | 0      |  |
| Common Stock                             | 0.002  | 0.002  | 0.021  |  |
| Treasury Stock                           | 0      | 0      | 0      |  |
| Total Liabilities & Shareholders' Equity | 32.932 | 31.813 | 71.023 |  |

### **FORECASTS**

## **EPS Forecast**

| Year ending | Current Forecast | 1 month ago | 3 months ago |
|-------------|------------------|-------------|--------------|
| 31-Dec-2015 | -1.19            | -1.23       | -0.99        |
| 31-Dec-2016 | -1.45            | -1.45       | -0.99        |
| 31-Dec-2017 | -1.5             | -1.5        | -1           |

## **Other Forecasts**

| Year ending | DPS | CPS   | Pretax | Sales |
|-------------|-----|-------|--------|-------|
| 31-Dec-2015 | 0   | -1.1  | -23.9  | 8.65  |
| 31-Dec-2016 | 0   | -1.83 | -36.78 | 8.17  |
| 31-Dec-2017 | 0   | -1.64 | -42.03 | 9.25  |



### **SUBSIDIARY COMPANIES**

#### **Names**

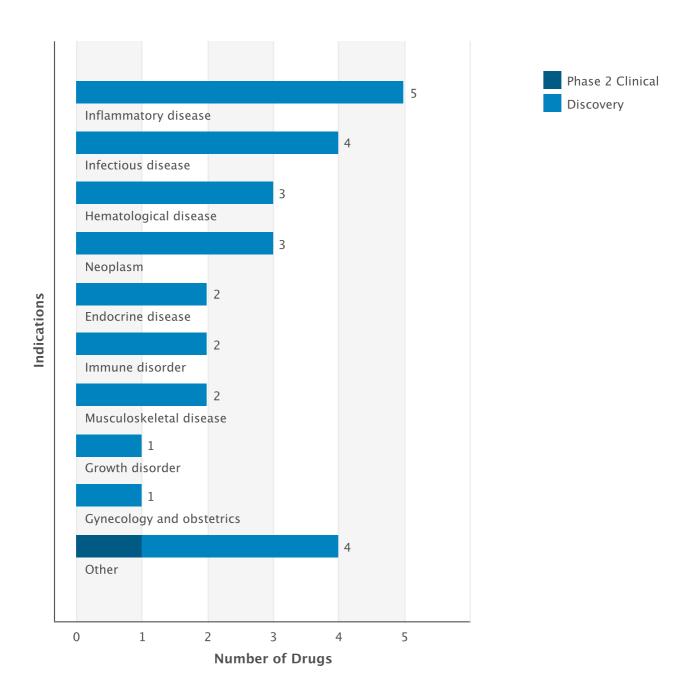
Pfenex/Stelis Joint Venture

#### PRODUCT PORTFOLIO SUMMARY

### **DRUGS**

### Drugs by Indication

Active Drugs by Indication Chart





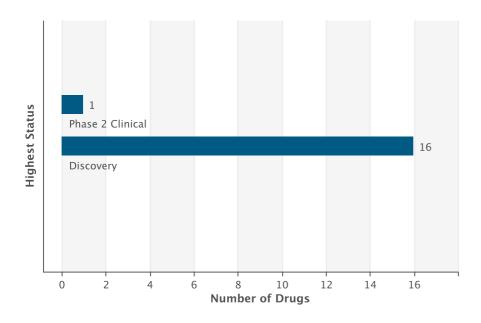
# Drugs by Indication Table

| Indication                | Active | Inactive | Total |
|---------------------------|--------|----------|-------|
| Inflammatory disease      | 5      | 0        | 5     |
| Infectious disease        | 4      | 1        | 5     |
| Hematological disease     | 3      | 1        | 4     |
| Neoplasm                  | 3      | 1        | 4     |
| Musculoskeletal disease   | 2      | 0        | 2     |
| Immune disorder           | 2      | 0        | 2     |
| Endocrine disease         | 2      | 0        | 2     |
| Gynecology and obstetrics | 1      | 0        | 1     |
| Neurological disease      | 1      | 0        | 1     |
| Ocular disease            | 1      | 0        | 1     |
| Growth disorder           | 1      | 0        | 1     |
| Metabolic disorder        | 1      | 0        | 1     |
| Unidentified indication   | 1      | 0        | 1     |
| Cardiovascular disease    | 0      | 1        | 1     |
| Respiratory disease       | 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               | 16              |
| No Development Reported | 3               |

### **DEALS**

| Deal Type                                    | Prin   | cipal    | Par    | tner     | Total |
|--|--------|----------|--------|----------|-------|
|  | Active | Inactive | Active | Inactive |       |
| Technology - Other Proprietary               | 7      | 0        | 0      | 0        | 7     |
| Drug - Funding                               | 4      | 0        | 1      | 0        | 5     |
| Drug - Development/Commercialization License | 1      | 0        | 0      | 0        | 1     |
| Drug - Manufacturing/Supply                  | 0      | 0        | 3      | 0        | 3     |

## **CLINICAL TRIALS**

Trials by Condition Studied

| Condition Studied | Ongoing | All |
|-------------------|---------|-----|
|                   |         |     |



## Trials by Condition Studied

| Condition Studied | Ongoing | All |
|-------------------|---------|-----|
| Ocular disease    | 1       | 2   |

## Trials by Phase

| Phase   | Ongoing | All |
|---------|---------|-----|
| Phase 1 | 2       | 3   |

### **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   | 2        | 0              | 2     |
| Endocrine disease        | 6        | 0              | 6     |
| Gastrointestinal disease | 4        | 0              | 4     |
| Growth disorder          | 2        | 0              | 2     |
| Hematological disease    | 2        | 0              | 2     |
| Immune disorder          | 5        | 0              | 5     |
| Musculoskeletal disease  | 1        | 0              | 1     |
| Neoplasm                 | 8        | 0              | 8     |
| Genetic disorder         | 1        | 0              | 1     |
| Metabolic disorder       | 3        | 0              | 3     |
| Neurological disease     | 4        | 0              | 4     |
| Respiratory disease      | 3        | 0              | 3     |
| Infectious disease       | 13       | 0              | 13    |
| Unidentified indication  | 2        | 0              | 2     |
| Inflammatory disease     | 4        | 0              | 4     |



| Gynecology and obstetrics | 1 | 0 | 1 |
|---------------------------|---|---|---|
| Dermatological disease    | 2 | 0 | 2 |

<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.

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### **PRODUCT PORTFOLIO DRUGS**

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

## PF-582

| Drug Name            | PF-582  |
|----------------------|---|
| Key Synonyms         | ranibizumab   |
| Originator Company   | Pfenex Inc  |
| Active Companies     | Hospira Inc, Pfenex Inc   |
| Inactive Companies   |   |
| Highest Status       | Phase 2 Clinical  |
| Active Indications   | Age related macular degeneration  |
| Target-based Actions | VEGF-A ligand inhibitor   |
| Other Actions        | Angiogenesis inhibitor, Ocular antineovascularisation agent   |
| Technologies         | Monoclonal antibody humanized, Antibody fragment, Injectable formulation, Ophthalmic formulation, Biological therapeutic, Parenteral formulation unspecified, Protein recombinant, Biosimilar product |
| Last Change Date     | 17-Mar-2015   |

## Px-563L

| Drug Name            | Px-563L  |
|----------------------|--|
| Key Synonyms         |  |
| Originator Company   | Pfenex Inc   |
| Active Companies     | Pfenex Inc, US Health and Human Services Department  |
| Inactive Companies   |  |
| Highest Status       | Discovery  |
| Active Indications   | Bacillus anthracis infection   |
| Target-based Actions |  |
| Other Actions        | Antibacterial, Recombinant bacterial vector vaccine  |
| Technologies         | Injectable formulation, Quick release formulation, Antigen, Biological therapeutic, Parenteral formulation unspecified |
| Last Change Date     | 17-Mar-2015  |



## Px-533

| Drug Name            | Px-533  |
|----------------------|---|
| Key Synonyms         |   |
| Originator Company   | Pfenex Inc  |
| Active Companies     | National Institutes of Health, Science Applications International Corp, Pfenex Inc          |
| Inactive Companies   |   |
| Highest Status       | Discovery   |
| Active Indications   | Plasmodium falciparum infection   |
| Target-based Actions |   |
| Other Actions        | Antiparasitic, Protein subunit vaccine  |
| Technologies         | Injectable formulation, Biological therapeutic, Parenteral formulation unspecified, Peptide |
| Last Change Date     | 17-Mar-2015   |

# interferon beta-1b biosimilar, Pfenex

| Drug Name            | interferon beta-1b biosimilar, Pfenex   |
|----------------------|---|
| Key Synonyms         | interferon beta-1b  |
| Originator Company   | Pfenex Inc  |
| Active Companies     | Pfenex Inc  |
| Inactive Companies   | Pfenex/Stelis Joint Venture   |
| Highest Status       | Discovery   |
| Active Indications   | Multiple sclerosis  |
| Target-based Actions | Interferon beta ligand, Interferon receptor modulator                                     |
| Other Actions        | Immunomodulator   |
| Technologies         | Subcutaneous formulation, Biological therapeutic, Protein recombinant, Biosimilar product |
| Last Change Date     | 18-Mar-2015   |



## GCSF biosimilar, Pfenex/Sun

| Drug Name            | GCSF biosimilar, Pfenex/Sun  |
|----------------------|--|
| Key Synonyms         |  |
| Originator Company   | Pfenex Inc   |
| Active Companies     | Pfenex Inc, Sun Pharmaceutical Industries Ltd  |
| Inactive Companies   | Ranbaxy Laboratories Ltd   |
| Highest Status       | Discovery  |
| Active Indications   | Neutropenia  |
| Target-based Actions | GCSF receptor agonist, GCSF ligand   |
| Other Actions        | Hematopoietic stimulant, Neutrophil stimulator   |
| Technologies         | Subcutaneous formulation, Intravenous formulation, Infusion, Biological therapeutic, Protein recombinant, Biosimilar product |
| Last Change Date     | 26-Mar-2015  |

## somatropin biosimilar, Pfenex/Sun

| Drug Name            | somatropin biosimilar, Pfenex/Sun   |
|----------------------|---|
| Key Synonyms         | somatropin  |
| Originator Company   | Pfenex Inc  |
| Active Companies     | Pfenex Inc, Sun Pharmaceutical Industries Ltd   |
| Inactive Companies   | Ranbaxy Laboratories Ltd  |
| Highest Status       | Discovery   |
| Active Indications   | Growth hormone deficiency   |
| Target-based Actions | Growth hormone ligand   |
| Other Actions        |   |
| Technologies         | Biological therapeutic, Parenteral formulation unspecified, Protein recombinant, Biosimilar product |
| Last Change Date     | 26-Mar-2015   |

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## pegfilgrastim biosimilar, Pfenex

| Drug Name            | pegfilgrastim biosimilar, Pfenex   |
|----------------------|--|
| Key Synonyms         | pegfilgrastim  |
| Originator Company   | Pfenex Inc   |
| Active Companies     | Pfenex Inc   |
| Inactive Companies   | Pfenex/Stelis Joint Venture  |
| Highest Status       | Discovery  |
| Active Indications   | Neutropenia  |
| Target-based Actions | GCSF receptor agonist  |
| Other Actions        | Hematopoietic stimulant, Neutrophil stimulator   |
| Technologies         | PEGylated formulation, Subcutaneous formulation, Biological therapeutic, Protein recombinant, Biosimilar product |
| Last Change Date     | 17-Mar-2015  |

## undisclosed mAb biosimilar (non-Hodgkin's lymphoma/rheumatoid arthritis), Pfenex/Stelis

| Drug Name            | undisclosed mAb biosimilar (non-Hodgkin's lymphoma/rheumatoid arthritis), Pfenex/Stelis   |
|----------------------|---|
| Key Synonyms         |   |
| Originator Company   | Inbiopro Solutions Pvt Ltd  |
| Active Companies     | Pfenex/Stelis Joint Venture   |
| Inactive Companies   | Inbiopro Solutions Pvt Ltd, Stelis Biopharma Pvt Ltd  |
| Highest Status       | Discovery   |
| Active Indications   | Rheumatoid arthritis, Non-Hodgkin lymphoma  |
| Target-based Actions | B-lymphocyte antigen CD20 inhibitor   |
| Other Actions        | Anticancer monoclonal antibody, Anti-inflammatory   |
| Technologies         | Chimeric monoclonal antibody, Biological therapeutic, Parenteral formulation unspecified, Protein recombinant, Biosimilar product |
| Last Change Date     | 20-Sep-2014   |

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## undisclosed mAb biosimilar (cancer), Pfenex/Stelis

| Drug Name            | undisclosed mAb biosimilar (cancer), Pfenex/Stelis   |
|----------------------|--|
| Key Synonyms         |  |
| Originator Company   | Inbiopro Solutions Pvt Ltd   |
| Active Companies     | Pfenex/Stelis Joint Venture  |
| Inactive Companies   | Inbiopro Solutions Pvt Ltd, Stelis Biopharma Pvt Ltd   |
| Highest Status       | Discovery  |
| Active Indications   | Cancer   |
| Target-based Actions | Erbb2 tyrosine kinase receptor inhibitor   |
| Other Actions        | Anticancer monoclonal antibody, Anticancer protein kinase inhibitor  |
| Technologies         | Monoclonal antibody humanized, Biological therapeutic, Parenteral formulation unspecified, Protein recombinant, Biosimilar product |
| Last Change Date     | 20-Sep-2014  |

## undisclosed humanized VmAb biosimilar (metastatic breast cancer), Pfenex/Stelis

| Drug Name            | undisclosed humanized VmAb biosimilar (metastatic breast cancer), Pfenex/Stelis  |
|----------------------|--|
| Key Synonyms         |  |
| Originator Company   | Inbiopro Solutions Pvt Ltd   |
| Active Companies     | Pfenex/Stelis Joint Venture  |
| Inactive Companies   | Inbiopro Solutions Pvt Ltd, Stelis Biopharma Pvt Ltd   |
| Highest Status       | Discovery  |
| Active Indications   | Metastatic breast cancer   |
| Target-based Actions | Erbb2 tyrosine kinase receptor inhibitor   |
| Other Actions        | Anticancer monoclonal antibody   |
| Technologies         | Monoclonal antibody humanized, Biological therapeutic, Parenteral formulation unspecified, Protein recombinant, Biosimilar product |
| Last Change Date     | 20-Sep-2014  |

## undisclosed mAb biosimilar (inflammatory diseases), Pfenex/Stelis

| Drug Name            | undisclosed mAb biosimilar (inflammatory diseases), Pfenex/Stelis  |
|----------------------|--|
| Key Synonyms         |  |
| Originator Company   | Inbiopro Solutions Pvt Ltd   |
| Active Companies     | Pfenex/Stelis Joint Venture  |
| Inactive Companies   | Inbiopro Solutions Pvt Ltd, Stelis Biopharma Pvt Ltd   |
| Highest Status       | Discovery  |
| Active Indications   | Inflammatory disease   |
| Target-based Actions | TNF antagonist   |
| Other Actions        | Anti-inflammatory  |
| Technologies         | Monoclonal antibody human, Biological therapeutic, Parenteral formulation unspecified, Protein recombinant, Biosimilar product |
| Last Change Date     | 20-Sep-2014  |

## undisclosed chimeric mAb biosimilar (inflammatory diseases), Pfenex/Stelis

| Drug Name            | undisclosed chimeric mAb biosimilar (inflammatory diseases), Pfenex/Stelis  |
|----------------------|---|
| Key Synonyms         |   |
| Originator Company   | Inbiopro Solutions Pvt Ltd  |
| Active Companies     | Pfenex/Stelis Joint Venture   |
| Inactive Companies   | Inbiopro Solutions Pvt Ltd, Stelis Biopharma Pvt Ltd  |
| Highest Status       | Discovery   |
| Active Indications   | Inflammatory disease  |
| Target-based Actions | TNF alpha ligand inhibitor  |
| Other Actions        | Anti-inflammatory   |
| Technologies         | Chimeric monoclonal antibody, Biological therapeutic, Parenteral formulation unspecified, Protein recombinant, Biosimilar product |
| Last Change Date     | 20-Sep-2014   |



## **PRIMALVAC**

| Drug Name            | PRIMALVAC                                       |
|----------------------|---|
| Key Synonyms         |   |
| Originator Company   | European Vaccine Initiative                     |
| Active Companies     | INSERM, European Vaccine Initiative, Pfenex Inc |
| Inactive Companies   |   |
| Highest Status       | Discovery                                       |
| Active Indications   | Plasmodium infection                            |
| Target-based Actions |   |
| Other Actions        | Prophylactic vaccine, Protein subunit vaccine   |
| Technologies         | Biological therapeutic, Protein recombinant     |
| Last Change Date     | 20-Feb-2015                                     |

## PF-688

| Drug Name            | PF-688   |
|----------------------|--|
| Key Synonyms         | certolizumab pegol   |
| Originator Company   | Pfenex Inc   |
| Active Companies     | Pfenex Inc   |
| Inactive Companies   |  |
| Highest Status       | Discovery  |
| Active Indications   | Inflammatory disease   |
| Target-based Actions | TNF alpha ligand inhibitor, TNF antagonist   |
| Other Actions        | Anti-inflammatory, TNF binding agent   |
| Technologies         | Monoclonal antibody humanized, Antibody fragment, PEGylated formulation, Injectable formulation, Biological therapeutic, Parenteral formulation unspecified, Protein recombinant, Biosimilar product |
| Last Change Date     | 04-Dec-2013  |



## IFN alpha 2b biosimilar, Pfenex

| Drug Name            | IFN alpha 2b biosimilar, Pfenex                                 |
|----------------------|---|
| Key Synonyms         | interferon alfa-2b  |
| Originator Company   | Pfenex Inc  |
| Active Companies     | Pfenex Inc  |
| Inactive Companies   |   |
| Highest Status       | Discovery   |
| Active Indications   | Inflammatory disease  |
| Target-based Actions | Interferon alpha 2 ligand modulator                             |
| Other Actions        | Anti-inflammatory   |
| Technologies         | Biological therapeutic, Protein recombinant, Biosimilar product |
| Last Change Date     | 24-Jul-2014   |

## rPA vaccine (solid-dose injectable/ Glide SDI, anthrax), Pfenex / Glide

| Drug Name            | rPA vaccine (solid-dose injectable/ Glide SDI, anthrax), Pfenex / Glide   |
|----------------------|---|
| Key Synonyms         |   |
| Originator Company   | Pfenex Inc  |
| Active Companies     | Pfenex Inc, Glide Pharmaceutical Technologies Ltd   |
| Inactive Companies   |   |
| Highest Status       | Discovery   |
| Active Indications   | Bacillus anthracis infection  |
| Target-based Actions |   |
| Other Actions        | Antibacterial, Recombinant bacterial vector vaccine   |
| Technologies         | Injectable controlled release formulation, Antigen, Biological therapeutic, Parenteral formulation unspecified, Formulation solid |
| Last Change Date     | 10-Mar-2015   |

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## peginterferon beta 1b, Pfenex

| Drug Name            | peginterferon beta 1b, Pfenex  |
|----------------------|--|
| Key Synonyms         |  |
| Originator Company   | Pfenex/Stelis Joint Venture  |
| Active Companies     | Pfenex Inc   |
| Inactive Companies   | Pfenex/Stelis Joint Venture  |
| Highest Status       | Discovery  |
| Active Indications   | Unidentified indication  |
| Target-based Actions | Interferon beta ligand   |
| Other Actions        |  |
| Technologies         | PEGylated formulation, Biological therapeutic, Parenteral formulation unspecified, Protein recombinant |
| Last Change Date     | 18-Mar-2015  |



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