

Kite Pharma 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

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i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.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

COMPANY OVERVIEW

| Company Name | Kite Pharma Inc |
|--|--|
| Parent Company Name | Kite Pharma Inc |
| Website | http://www.kitepharma.com/ |
| Country | US |
| Number of Drugs in Active Development | 6 |
| Number of Inactive Drugs | 0 |
| Number of Patents as Owner | 10 |
| Number of Patents as Third Party | 0 |
| Number of Deals | 7 |
| Key Indications | Cancer,B-cell lymphoma,Glioblastoma,Hepatocellular carcinoma,Metastasis,Renal cell carcinoma,Melanoma,Breast tumor,Ovary |
| Key Target-based Actions | Alpha-fetoprotein inhibitor,B-lymphocyte antigen CD19 inhibitor,Cancer testis antigen NY-ESO-1 modulator,Arginase modulator,CD27 agonist,CD45RO agonist,CD62L agonist,CD66e agonist,CD80 modulator,CTAG1 gene modulator,Cyclin-dependent kinase-4 stimulator,Epidermal growth factor agonist,FOXO3 gene modulator,MART-1 melanoma antigen stimulator,Melanocyte protein Pmel 17 modulator,Melanoma associated antigen 1 modulator,Melanoma associated antigen stimulator,Mesothelin modulator,Mesothelin stimulator,Mucin 1 stimulator,Myelin basic protein stimulator,Myelin oligodendrocyte glycoprotein stimulator,T-cell surface glycoprotein CD8 stimulator |
| Key Technologies | Biological therapeutic,Antigen,Parenteral formulation unspecified,Systemic formulation unspecified,Cell therapy,Polynucleotide sequence,Tumor antigen,Antibody,Antibody fragment,Antigen presentation system,Autoantigen,Cell culture technique,Immunodetection,Isolation technology,Oligonucleotide,Peptide,T-lymphocyte,Vector expression,Yeast |

COMPANY PROFILE

SUMMARY

Kite Pharma is a biotechnology company focused on the development of immunotherapeutic products to treat cancers.

FINANCIAL

In November 2014, the company planned for a follow-on public offering of shares of its common stock. In December 2014, Kite priced the offering of 3,485,000 common stock shares at a price of US \$54 each. The underwriters were granted a 30-day option to buy up to an additional 522,750 shares of common stock.

In May 2014, Kite Pharma filed a registration statement on form S-1 with the US SEC for a proposed IPO to offer their common stock shares. In June 2014, the company initiated pricing of its initial public offering of 7.5 million shares of its common stock at a price to the public of \$17 per share. The shares began trading on the NASDAQ Global Select market, under the symbol "KITE". At that time, the underwriters were granted a 30-day option to buy up to an additional 1,125,000 shares of common stock; later that month, the underwriters completely exercised their option to purchase the additional shares of the company's common stock. At that time, the total number of 8,625,000 shares was being sold in the offering and was expected to be closed on June 25, 2014.

In April 2014, the company completed a \$50 million mezzanine private financing of convertible notes.

In May 2013, Kite closed a \$20 million private placement of shares and converted \$15 million in outstanding promissory notes into shares as a part of its series A preferred stock.

In March 2011, the company raised \$15 million in from a private placement financing round.

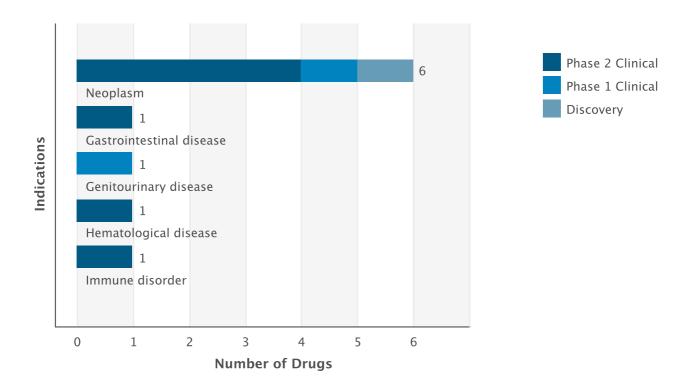


PRODUCT PORTFOLIO SUMMARY

DRUGS

Drugs by Indication

Active Drugs by Indication Chart

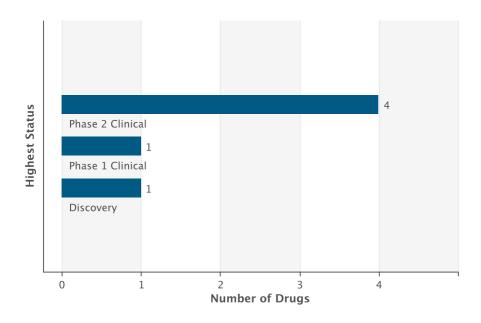


Drugs by Indication Table

| Indication | Active | Inactive | Total |
|--------------------------|--------|----------|-------|
| Neoplasm | 6 | 0 | 6 |
| Hematological disease | 1 | 0 | 1 |
| Genitourinary disease | 1 | 0 | 1 |
| Gastrointestinal disease | 1 | 0 | 1 |
| Immune disorder | 1 | 0 | 1 |

Drugs by Highest Status

Active Drugs by Highest Status Chart



Drugs by Highest Status Table

| Development Status | Number of Drugs |
|--------------------|-----------------|
| Phase 2 Clinical | 4 |
| Phase 1 Clinical | 1 |
| Discovery | 1 |

DEALS

| Deal Type | Principal | | Partner | | Total |
|--|-----------|----------|---------|----------|-------|
| | Active | Inactive | Active | Inactive | |
| Patent - Exclusive Rights | 0 | 0 | 2 | 0 | 2 |
| Drug - Asset Divestment | 0 | 0 | 1 | 0 | 1 |
| Drug - CRADA | 1 | 0 | 0 | 0 | 1 |
| Drug - Development/Commercialization License | 2 | 0 | 0 | 0 | 2 |
| Drug - Development Services | 0 | 0 | 1 | 0 | 1 |



CLINICAL TRIALS

Trials by Condition Studied

| Condition Studied | Ongoing | All |
|-----------------------|---------|-----|
| Hematological disease | 0 | 1 |
| Neoplasm | 0 | 1 |
| Immune disorder | 0 | 1 |

Trials by Phase

| Phase | Ongoing | All |
|---------|---------|-----|
| Phase 1 | 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 1, Phase 1, Phase 1/2 (where enrolment count is under 100 or not specified), Phase 0

PATENTS *

| Indication | As Owner | As Third Party | Total |
|---------------------------|----------|----------------|-------|
| Endocrine disease | 3 | 0 | 3 |
| Gastrointestinal disease | 2 | 0 | 2 |
| Genitourinary disease | 4 | 0 | 4 |
| Andrology | 2 | 0 | 2 |
| Immune disorder | 1 | 0 | 1 |
| Neoplasm | 10 | 0 | 10 |
| Respiratory disease | 4 | 0 | 4 |
| Infectious disease | 4 | 0 | 4 |
| Gynecology and obstetrics | 3 | 0 | 3 |
| Dermatological disease | 7 | 0 | 7 |

^{*} 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 DRUG PIPELINE DETAIL

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

anti-NY-ESO-1 T-cell therapy (cancer), Kite Pharma

anti-NY-ESO-1 T-cell therapy (cancer), Kite Pharma SNAPSHOT

| Drug Name | anti-NY-ESO-1 T-cell therapy (cancer), Kite Pharma |
|----------------------|---|
| Key Synonyms | |
| Originator Company | National Institutes of Health |
| Active Companies | Kite Pharma Inc |
| Inactive Companies | National Institutes of Health |
| Highest Status | Phase 2 Clinical |
| Active Indications | Metastasis |
| Target-based Actions | Cancer testis antigen NY-ESO-1 modulator |
| Other Actions | Genetically engineered autologous cell therapy;Anticancer |
| Technologies | T-lymphocyte;Cell therapy;Systemic formulation unspecified;Biological therapeutic |
| Last Change Date | 01-Jul-2014 |

anti-NY-ESO-1 T-cell therapy (cancer), Kite Pharma DEVELOPMENT PROFILE

SUMMARY

Kite Pharma, under license from the National Institutes of Health, is developing a murine-based engineered autologous T-cell therapy targeting the cancer/testis antigen NY-ESO-1 (based on the NIH's autologous lymphocytes cotransduced with retroviruses encoding anti-NY-ESO-1 T-cell receptors and IL-12), incorporating Kite Pharma's T Cell Receptor (TCR) technology, for the potential treatment of cancers expressing NY-ESO-1,. By May 2014, a phase II trial in metastatic cancer had begun.

anti-NY-ESO-1 T-cell therapy (cancer), Kite Pharma DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|-------------------------------|------------|---------|---------------------------|-------------|
| Kite Pharma Inc | Metastasis | US | Phase 2 Clinical | 06-Jun-2014 |
| National Institutes of Health | Metastasis | US | Discontinued | 06-Jun-2014 |



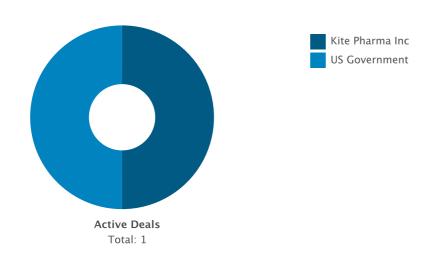
anti-NY-ESO-1 T-cell therapy (cancer), Kite Pharma DRUG NAMES

| Names | Туре |
|---|------|
| murine anti-NY-ESO-1 TCR-based T-cell therapy (cancer), Kite Pharma | |
| anti-NY-ESO-1 T-cell therapy (cancer), Kite Pharma | |

anti-NY-ESO-1 T-cell therapy (cancer), Kite Pharma DEALS AND PATENTS

DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

| Company Name | | cipal Inactive | | tner Inactive | Total |
|-----------------|---|--------------------------|---|------------------|-------|
| Kite Pharma Inc | 0 | 0 | 1 | 0 | 1 |
| US Government | 1 | 0 | 0 | 0 | 1 |



Deals by Type Table

| Deal Type | Active | Inactive | Total |
|---------------------------|--------|----------|-------|
| Patent - Exclusive Rights | 1 | 0 | 1 |

KTE-C19

KTE-C19 SNAPSHOT

| Drug Name | KTE-C19 |
|----------------------|---|
| Key Synonyms | |
| Originator Company | Kite Pharma Inc |
| Active Companies | Kite Pharma Inc |
| Inactive Companies | |
| Highest Status | Phase 2 Clinical |
| Active Indications | Cancer;B-cell lymphoma |
| Target-based Actions | B-lymphocyte antigen CD19 inhibitor |
| Other Actions | Anticancer; Genetically engineered autologous cell therapy; Immunomodulator |
| Technologies | Biological therapeutic;Parenteral formulation unspecified |
| Last Change Date | 27-Nov-2014 |

KTE-C19 DEVELOPMENT PROFILE

SUMMARY

Kite Pharma is developing KTE-C19, a chimeric antigen receptor engineered peripheral blood autologous T-cell therapy (eACT) that targets CD19, for the potential treatment of multiple hematological cancers, including non-Hodgkin's lymphoma and solid tumor types,. In December 2013, phase I/IIa NHL data were presented. In August 2014, a multi-center study for non-Hodgkin's lymphoma was expected to start in the first half of 2015.

KTE-C19 DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

| CONNENT DEVELOR MENT CTATOO | | | | | | | | | |
|-----------------------------|-----------------|---------|---------------------------|-------------|--|--|--|--|--|
| Company | Indication | Country | Development Status | Date | | | | | |
| Kite Pharma Inc | B-cell lymphoma | US | Phase 2 Clinical | 11-Dec-2013 | | | | | |
| Kite Pharma Inc | Cancer | US | Discovery | 30-Apr-2012 | | | | | |

KTE-C19 DRUG NAMES

| Names | Туре |
|---|------|
| CD19 targeted chimeric antigen receptor engineered T cell therapy (cancer), Kite Pharma | |
| KTE-C19 | |
| eACT (cancer), Kite Pharma | |

KTE-C19 CLINICAL TRIALS

Trials by Phase and Condition Studied

| | se 4 nical | | se 3 nical | | se 2 nical | | se 1 nical | | ase ecified | То | tal |
|-------------------------------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|----------------|--------------|-----|
| On- going | All | On- going | All | On- going | All | On- going | All | On- going | All | On- going | All |
| B-cell acute lymphoblastic leukemia | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Non-Hodgkin lymphoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |

Total Trials by Phase and Status

| | se 4 nical | | se 3 nical | | se 2 nical | | se 1 nical | | ase ecified | То | tal |
|---------------------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|----------------|--------------|-----|
| 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 | 0 | 1 | 2 | 0 | 0 | 1 | 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 Clinica

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)

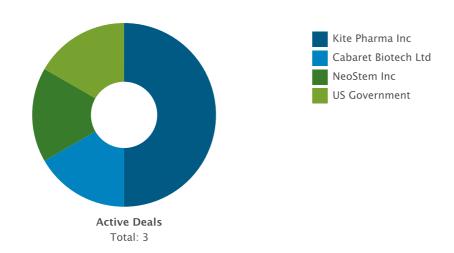
Phase 1 Clinical

Includes Phase 1, Phase 1, Phase 1, Phase 1/2 (where enrolment count is under 100 or not specified), Phase 0

KTE-C19 DEALS AND PATENTS

DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

| Company Name | | cipal Inactive | | tner Inactive | Total |
|---------------------|---|-------------------|---|------------------|-------|
| Kite Pharma Inc | 1 | 0 | 2 | 0 | 3 |
| NeoStem Inc | 1 | 0 | 0 | 0 | 1 |
| Cabaret Biotech Ltd | 1 | 0 | 0 | 0 | 1 |
| US Government | 0 | 0 | 1 | 0 | 1 |





Deals by Type Table

| Deal Type | Active | Inactive | Total |
|-----------------------------|--------|----------|-------|
| Drug - CRADA | 1 | 0 | 1 |
| Patent - Exclusive Rights | 1 | 0 | 1 |
| Drug - Development Services | 1 | 0 | 1 |



alpha-fetoprotein cancer vaccine (hepatocellular carcinoma), Kite

alpha-fetoprotein cancer vaccine (hepatocellular carcinoma), Kite SNAPSHOT

| Drug Name | alpha-fetoprotein cancer vaccine (hepatocellular carcinoma), Kite |
|----------------------|---|
| Key Synonyms | |
| Originator Company | Kite Pharma Inc |
| Active Companies | Kite Pharma Inc;AFP Sino Development Co LLC;Hangzhou Beiluokang Biotechnology Co Ltd;Zhejiang Conba Pharmaceuticals Limited |
| Inactive Companies | |
| Highest Status | Phase 2 Clinical |
| Active Indications | Hepatocellular carcinoma |
| Target-based Actions | Alpha-fetoprotein inhibitor |
| Other Actions | Recombinant viral vector vaccine; Anticancer; Immunostimulant; Therapeutic vaccine |
| Technologies | Systemic formulation unspecified;Antigen;Biological therapeutic |
| Last Change Date | 28-Aug-2014 |

alpha-fetoprotein cancer vaccine (hepatocellular carcinoma), Kite DEVELOPMENT PROFILE

SUMMARY

Kite Pharma is developing a vaccine consisting of alpha-fetoprotein epitopes to stimulate a T-cell response for the potential treatment of hepatocellular carcinoma (HCC) . By September 2010, a phase I/II trial had begun in patients with advanced HCC. In May 2012, development was ongoing ; in December 2013, this was still the case. Licensee Zhejiang Conba Pharmaceuticals and AFP Sino Development, through their joint venture Hangzhou Beiluokang Biotechnology, are investigating this vaccine in China. In August 2014, preclinical development was ongoing in China.

alpha-fetoprotein cancer vaccine (hepatocellular carcinoma), Kite DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

| OUTILE DEVELOR | ILITI OTATOO | | | |
|--|--------------------------|---------|---------------------------|-------------|
| Company | Indication | Country | Development Status | Date |
| Kite Pharma Inc | Hepatocellular carcinoma | US | Phase 2 Clinical | 16-Sep-2010 |
| AFP Sino Development Co LLC | Hepatocellular carcinoma | China | Discovery | 26-May-2012 |
| Hangzhou Beiluokang Biotechnology Co Ltd | Hepatocellular carcinoma | China | Discovery | 01-Feb-2013 |
| Zhejiang Conba Pharmaceuticals Limited | Hepatocellular carcinoma | China | Discovery | 14-Jun-2011 |
| Kite Pharma Inc | Hepatocellular carcinoma | China | Discontinued | 26-May-2012 |



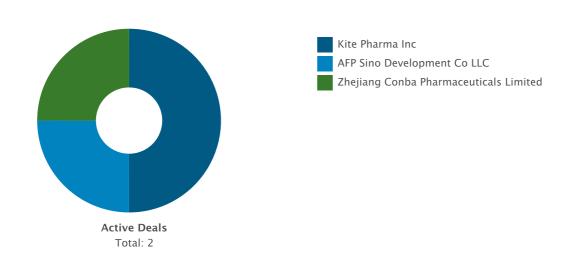
alpha-fetoprotein cancer vaccine (hepatocellular carcinoma), Kite DRUG NAMES

| Names | Туре |
|---|------|
| alpha-fetoprotein cancer vaccine (hepatocellular carcinoma), Kite | |

alpha-fetoprotein cancer vaccine (hepatocellular carcinoma), Kite DEALS AND PATENTS

DEALS

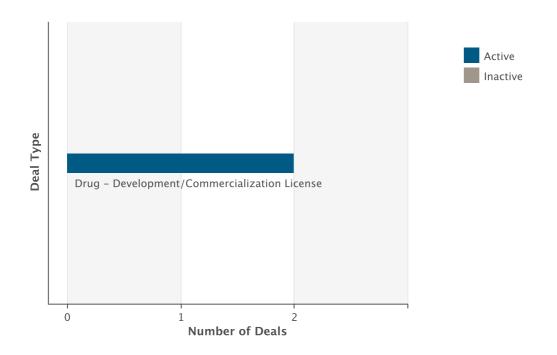
Deals by Parent Company Chart



Deals by Parent Company Table

| Company Name | Principal Active Inactive | | Partner Active Inactive | | Total |
|--|---------------------------|---|-------------------------|---|-------|
| Kite Pharma Inc | 2 | 0 | 0 | 0 | 2 |
| Zhejiang Conba Pharmaceuticals Limited | 0 | 0 | 1 | 0 | 1 |
| AFP Sino Development Co LLC | 0 | 0 | 1 | 0 | 1 |





Deals by Type Table

| Deal Type | Active | Inactive | Total |
|--|--------|----------|-------|
| Drug - Development/Commercialization License | 2 | 0 | 2 |

EGFRvIII chimeric antigen receptor program, Kite Pharma

EGFRvIII chimeric antigen receptor program, Kite Pharma SNAPSHOT

| Drug Name | EGFRvIII chimeric antigen receptor program, Kite Pharma |
|----------------------|--|
| Key Synonyms | |
| Originator Company | National Cancer Institute |
| Active Companies | Kite Pharma Inc |
| Inactive Companies | National Cancer Institute |
| Highest Status | Phase 2 Clinical |
| Active Indications | Glioblastoma |
| Target-based Actions | Epidermal growth factor receptor modulator |
| Other Actions | Genetically engineered autologous cell therapy;Anticancer |
| Technologies | Receptor chimeric;Cell therapy;Biological therapeutic;Parenteral formulation unspecified |
| Last Change Date | 04-Jun-2014 |

EGFRvIII chimeric antigen receptor program, Kite Pharma DEVELOPMENT PROFILE

SUMMARY

Kite Pharma, under license from NIH affiliate National Cancer Institute, is developing autologous peripheral blood lymphocytes (PBLs), transduced with T-cells expressing the anti-EGFRvIII chimeric antigen receptor, for the potential treatment of glioblastoma. In October 2011, the NCI started a phase I/II trial. In September 2013, the trial was ongoing. In May 2014, work was ongoing.

EGFRvIII chimeric antigen receptor program, Kite Pharma DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|------------------------------|--------------|---------|---------------------------|-------------|
| Kite Pharma Inc | Glioblastoma | US | Phase 2 Clinical | 11-Apr-2013 |
| National Cancer Institute | Glioblastoma | US | Discontinued | 11-Apr-2013 |

EGFRvIII chimeric antigen receptor program, Kite Pharma DRUG NAMES

| Names | Туре |
|---|------|
| anti-EGFRvIII PBLs (glioblastoma), National Cancer Institute | |
| EGFRvIII chimeric antigen receptor program, Kite Pharma | |
| autologous anti-EGFRvIII T-cell receptor peripheral blood lymphocytes (glioblastoma), National Cancer Institute | |



EGFRvIII chimeric antigen receptor program, Kite Pharma CLINICAL TRIALS

Trials by Phase and Condition Studied

| Phase 4 Phase 3 Clinical 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 |
| Glioma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |

Total Trials by Phase and Status

| Phase 4 Phase 3 Clinical 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 | 1 | 0 | 0 | 0 | 0 | 1 | 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)

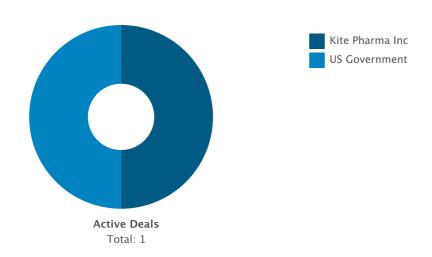
Phase 1 Clinical

Includes Phase 1, Phase 1a, Phase 1, Phase 1/2 (where enrolment count is under 100 or not specified), Phase 0

EGFRvIII chimeric antigen receptor program, Kite Pharma DEALS AND PATENTS

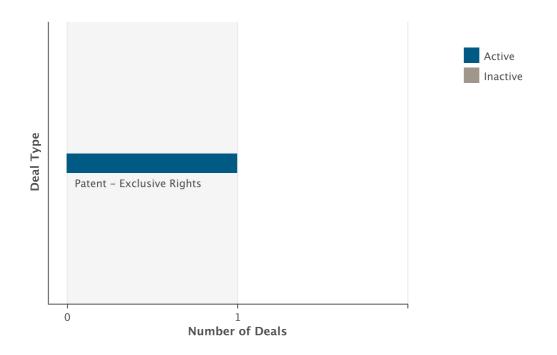
DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

| Company Name | Principal Active Inactive | | Partner Active Inactive | | Total |
|-----------------|---------------------------|---|-------------------------|---|-------|
| Kite Pharma Inc | 0 | 0 | 1 | 0 | 1 |
| US Government | 1 | 0 | 0 | 0 | 1 |



Deals by Type Table

| Deal Type | Active | Inactive | Total |
|---------------------------|--------|----------|-------|
| Patent - Exclusive Rights | 1 | 0 | 1 |

DC-Ad-GMCAIX

DC-Ad-GMCAIX SNAPSHOT

| Drug Name | DC-Ad-GMCAIX |
|----------------------|---|
| Key Synonyms | |
| Originator Company | University of California Los Angeles |
| Active Companies | Kite Pharma Inc |
| Inactive Companies | University of California Los Angeles |
| Highest Status | Phase 1 Clinical |
| Active Indications | Renal cell carcinoma |
| Target-based Actions | Carbonic anhydrase-IX modulator |
| Other Actions | Therapeutic vaccine;Anticancer;Protein subunit vaccine |
| Technologies | Tumor antigen therapeutic;Antigen;Biological therapeutic;Protein fusion;Intradermal formulation |
| Last Change Date | 18-Jun-2014 |

DC-Ad-GMCAIX DEVELOPMENT PROFILE

SUMMARY

Kite Pharma under license from the University of California, Los Angeles, is developing GM-CSF-G250 (DC-Ad-GMCAIX), a GM-CSF vaccine which consists of dendritic cells adenovirally transduced with tumor antigen, GM-CSF carbonic anhydrase IX (G250; CIAX) fusion protein for the potential intradermal treatment of renal cell carcinoma (RCC),.. In April 2013, a phase I trial was initiated.

DC-Ad-GMCAIX DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|--------------------------------------|----------------------|---------|---------------------------|-------------|
| Kite Pharma Inc | Renal cell carcinoma | US | Phase 1 Clinical | 04-Apr-2013 |
| University of California Los Angeles | Renal cell carcinoma | US | Discontinued | 17-Sep-2010 |

DC-Ad-GMCAIX DRUG NAMES

| Names | Туре |
|---|------|
| GM-CSF-G250 vaccine, UCLA | |
| DC-Ad-GMCAIX | |
| GM-CAIX | |
| GM-CSF/cancer antigen chimeric protein (renal cancer), Kite | |

DC-Ad-GMCAIX CLINICAL TRIALS

Trials by Phase and Condition Studied

| | Phase 4 Phase 3 Clinical 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 |
| Metastatic renal cancer | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

Total Trials by Phase and Status

| Phase 4 Clinical | | | ise 3 nical | 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 | 0 | 1 | 1 | 0 | 0 | 1 | 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)

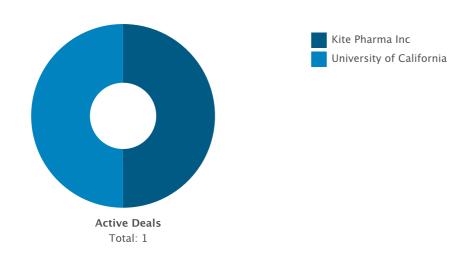
Phase 1 Clinical

Includes Phase 1, Phase 1a, Phase 1, Phase 1/2 (where enrolment count is under 100 or not specified), Phase 0

DC-Ad-GMCAIX DEALS AND PATENTS

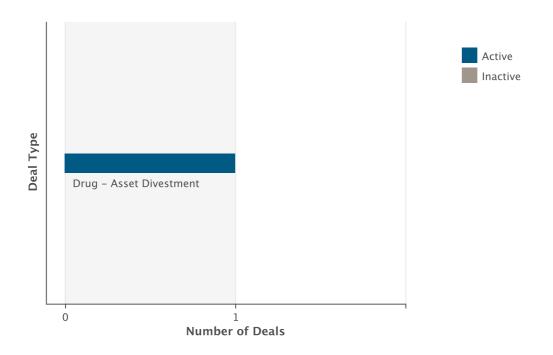
DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

| Company Name | | cipal Inactive | | tner Inactive | Total |
|--------------------------|---|--------------------------|---|------------------|-------|
| Kite Pharma Inc | 0 | 0 | 1 | 0 | 1 |
| University of California | 1 | 0 | 0 | 0 | 1 |



Deals by Type Table

| Deal Type | Active | Inactive | Total |
|-------------------------|--------|----------|-------|
| Drug - Asset Divestment | 1 | 0 | 1 |

anti-SSX2 T-cell therapy (cancer), Kite Pharma

anti-SSX2 T-cell therapy (cancer), Kite Pharma SNAPSHOT

| Drug Name | anti-SSX2 T-cell therapy (cancer), Kite Pharma |
|----------------------|---|
| Key Synonyms | |
| Originator Company | National Institutes of Health |
| Active Companies | Kite Pharma Inc |
| Inactive Companies | National Institutes of Health |
| Highest Status | Discovery |
| Active Indications | Cancer |
| Target-based Actions | Synovial sarcoma X breakpoint protein 2 inhibitor |
| Other Actions | Anticancer;Genetically engineered autologous cell therapy |
| Technologies | T-lymphocyte;Cell therapy;Biological therapeutic |
| Last Change Date | 01-Jul-2014 |

anti-SSX2 T-cell therapy (cancer), Kite Pharma DEVELOPMENT PROFILE

SUMMARY

Kite Pharma, under license from the National Institutes of Health, is investigating an engineered autologous T-cell therapy targeting the cancer/testis antigen SSX2 (synovial sarcoma X breakpoint protein 2), incorporating Kite Pharma's T Cell Receptor (TCR) technology, for the potential treatment of tumors including head and neck cancer, hepatocellular carcinoma, melanoma, prostate cancer and sarcoma.

anti-SSX2 T-cell therapy (cancer), Kite Pharma DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|-------------------------------|------------|---------|---------------------------|-------------|
| Kite Pharma Inc | Cancer | US | Discovery | 11-Apr-2013 |
| National Institutes of Health | Cancer | US | Discontinued | 11-Apr-2013 |

anti-SSX2 T-cell therapy (cancer), Kite Pharma DRUG NAMES

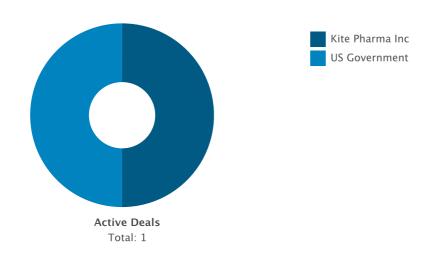
| Names | Туре |
|--|------|
| anti-SSX2 TCR-based T-cell therapy (cancer), Kite Pharma | |
| anti-SSX2 T-cell therapy (cancer), Kite Pharma | |



anti-SSX2 T-cell therapy (cancer), Kite Pharma DEALS AND PATENTS

DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

| Company Name | | cipal Inactive | | tner Inactive | Total |
|-----------------|---|--------------------------|---|------------------|-------|
| Kite Pharma Inc | 0 | 0 | 1 | 0 | 1 |
| US Government | 1 | 0 | 0 | 0 | 1 |



Deals by Type Table

| Deal Type | Active | Inactive | Total |
|---------------------------|--------|----------|-------|
| Patent - Exclusive Rights | 1 | 0 | 1 |

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