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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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Return to Table of Contents

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ABOUT CORTELLIS COMPANY DETAILED PIPELINE REPORT

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

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Return to Table of Contents

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i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.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

Return to Table of Contents

TABLE OF CONTENTS

Company Overview..... 5
Company Profile..... 6
Product Portfolio Summary..... 7
Product Portfolio Drug Pipeline Detail..... 10
Phase 2 Clinical..... 11
Phase 1 Clinical..... 24
Discovery..... 28

Return to Table of Contents

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	9
Number of Inactive Drugs	1
Number of Patents as Owner	10
Number of Patents as Third Party	0
Number of Deals	9
Key Indications	Cancer,Colorectal tumor,Lung tumor,B-cell lymphoma,Glioblastoma,Metastasis,Non-Hodgkin lymphoma,Renal cell carcinoma,Melanoma,Breast tumor,Ovary tumor,Prostate tumor
Key Target-based Actions	Alpha-fetoprotein inhibitor,B-lymphocyte antigen CD19 inhibitor,T cell surface glycoprotein CD28 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,T-lymphocyte,Receptor chimeric,Cell therapy,Antigen,Parenteral formulation unspecified,Systemic formulation unspecified,Polynucleotide sequence,Tumor antigen,Antibody,Antibody fragment,Antigen presentation system,Autoantigen,Cell culture technique,Immunodetection,Isolation technology,Oligonucleotide,Peptide,Vector expression,Yeast recombinant

COMPANY PROFILE

SUMMARY

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

COMPANY LOCATION

In February 2015, the company entered into a lease agreement for a commercial manufacturing facility in El Segundo, CA, and also secured a lease for a clinical manufacturing facility in Santa Monica, CA. The two facilities would support the planned clinical trials of the company's product candidates, inclusive of the commercial launch and supply of the company's lead product candidate, KTE-C19, which was anticipated in 2017.

ACQUISITIONS AND SPIN-OFFS

In March 2015, the company acquired T-Cell Factory BV, a privately held Dutch company, and renamed it as Kite Pharma EU. Kite's acquisition of TCF included an upfront payment of up to €20.0M (US $21.0M) to TCF shareholders, licensors and employees, of which €3.8M (US $4.0M) would be paid in Kite stock.

FINANCIAL

In December 2014, the company was selected for addition to the NASDAQ Biotechnology Index, and it would be effective from December 22, 2014.

In November 2014, the company planned for a follow-on public offering of shares of its common stock. In December

Return to Table of Contents

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. Later that month, the underwriters exercised in full their option at a price of $54 per share. The option exercise was expected to close on January 02, 2015.

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.

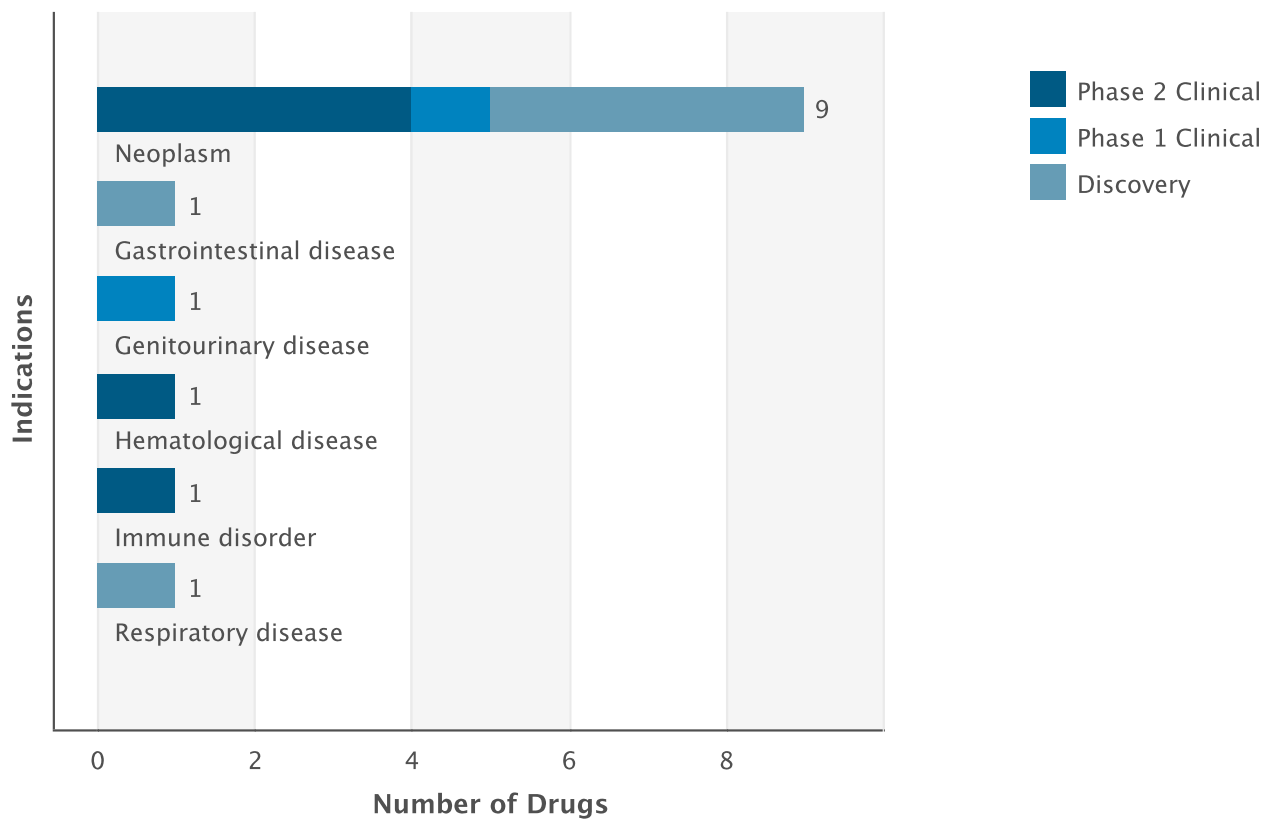
In March 2011, the company raised $15 million in from a private placement financing round.

PRODUCT PORTFOLIO SUMMARY

DRUGS

Drugs by Indication

Active Drugs by Indication Chart



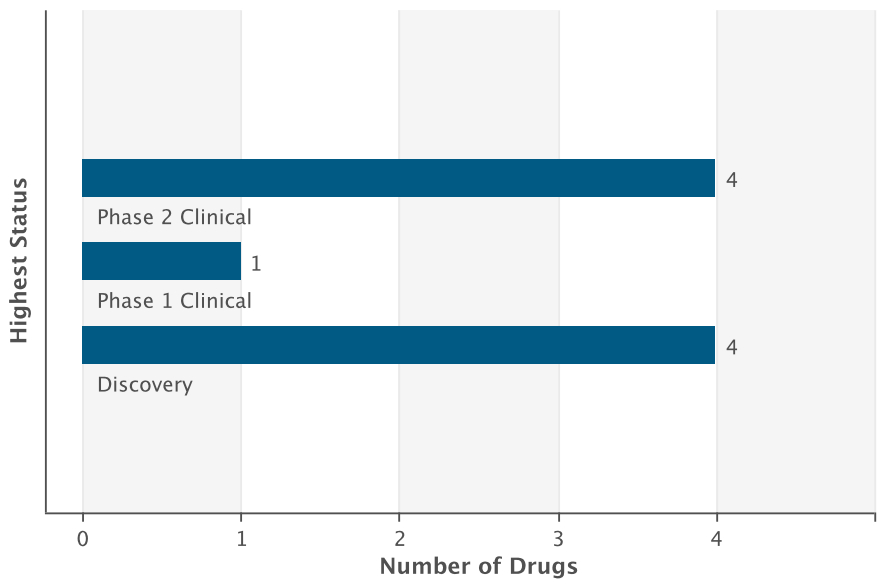
Return to Table of Contents

Drugs by Indication Table

Indication	Active	Inactive	Total
Neoplasm	9	1	10
Gastrointestinal disease	1	1	2
Hematological disease	1	0	1
Respiratory disease	1	0	1
Immune disorder	1	0	1
Genitourinary disease	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	4
Discontinued	1

Return to Table of Contents

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	0	0	1	0	1
Drug - Early Research/Development	0	0	1	0	1
Drug - Development/Commercialization License	3	0	0	0	3
Drug - Development Services	0	0	1	0	1

CLINICAL TRIALS

Trials by Condition Studied

Condition Studied	Ongoing	All
Hematological disease	1	2
Neoplasm	1	2
Immune disorder	1	2

Trials by Phase

Phase	Ongoing	All
Phase 2	1	1
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 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
Endocrine disease	3	0	3
Gastrointestinal disease	2	0	2
Genitourinary disease	4	0	4

Return to Table of Contents

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.

Return to Table of Contents

PRODUCT PORTFOLIO DRUG PIPELINE DETAIL

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

HPV E6/E7 targeting TCR-based T-cell therapy (cancer), Kite Pharma

HPV E6/E7 targeting TCR-based T-cell therapy (cancer), Kite Pharma SNAPSHOT

Drug Name	HPV E6/E7 targeting TCR-based 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	Cancer
Target-based Actions	Human papillomavirus E6 protein modulator;Human papillomavirus E7 protein modulator
Other Actions	Anticancer;Genetically engineered autologous cell therapy
Technologies	Biological therapeutic;Parenteral formulation unspecified;T-lymphocyte;Cell therapy
Last Change Date	20-Feb-2015

HPV E6/E7 targeting TCR-based 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 (eACT) including TCR-1, TCR-2, TCR-3, and TCR-4, targeting human papillomavirus (HPV)-16 E6 and E7 oncoproteins, incorporating Kite Pharma's T Cell Receptor (TCR) technology, for the potential treatment of cancers associated with HPV infection. In January 2015, it was reported that the National Cancer Institute (NCI) had recently initiated a phase I/II clinical trial under a CRADA with the company.

HPV E6/E7 targeting TCR-based T-cell therapy (cancer), Kite Pharma DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

Company	Indication	Country	Development Status	Date
Kite Pharma Inc	Cancer	US	Phase 2 Clinical	07-Jan-2015
National Institutes of Health	Cancer	US	Discontinued	07-Jan-2015

Return to Table of Contents

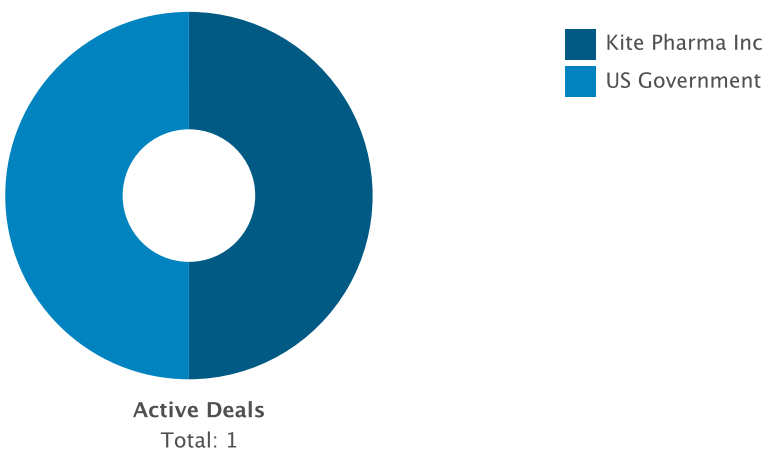
HPV E6/E7 targeting TCR-based T-cell therapy (cancer), Kite Pharma DRUG NAMES

Names	Type
TCR-3	Research Code
HPV E6/E7 targeting TCR-based T-cell therapy (cancer), Kite Pharma	
TCR-2	Research Code
TCR-1	Research Code
TCR-4	Research Code

HPV E6/E7 targeting TCR-based T-cell therapy (cancer), Kite Pharma DEALS AND PATENTS

DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

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

Return to Table of Contents

Deals by Type Chart

Deals by Type Table

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

Return to Table of Contents

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	Anticancer;Genetically engineered autologous cell therapy
Technologies	Biological therapeutic;Systemic formulation unspecified;T-lymphocyte;Cell therapy
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

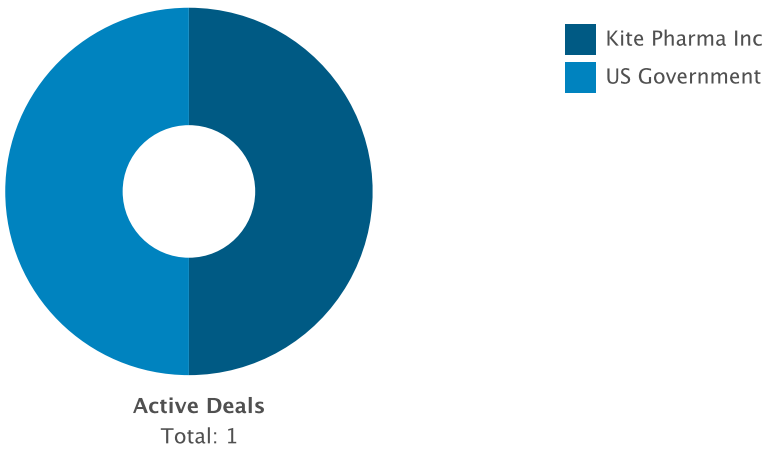
anti-NY-ESO-1 T-cell therapy (cancer), Kite Pharma DRUG NAMES

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

Return to Table of Contents

DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

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

Return to Table of Contents

Deals by Type Chart

Deals by Type Table

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

Return to Table of Contents

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	Anticancer;Genetically engineered autologous cell therapy
Technologies	Biological therapeutic;Parenteral formulation unspecified;Receptor chimeric;Cell therapy
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	Type
anti-EGFRvIII PBLs (glioblastoma), National Cancer Institute	
autologous anti-EGFRvIII T-cell receptor peripheral blood lymphocytes (glioblastoma), National Cancer Institute	
EGFRvIII chimeric antigen receptor program, Kite Pharma	

Return to Table of Contents

EGFRvIII chimeric antigen receptor program, Kite Pharma 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
Glioma											
0	0	0	0	1	1	0	0	0	0	1	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	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)

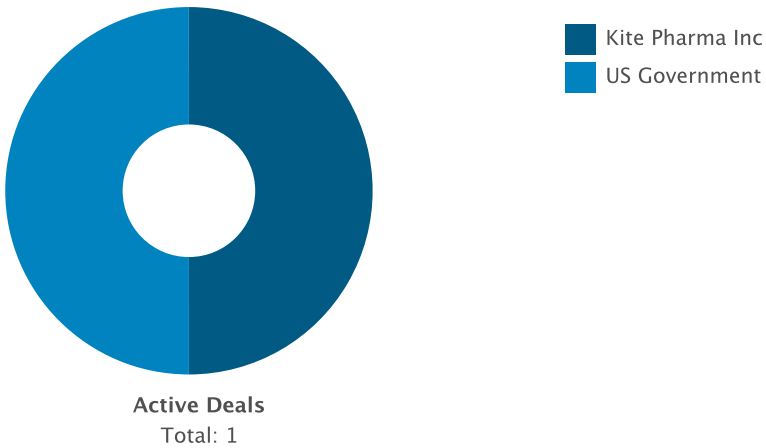
Phase 2 Clinical
Includes Phase 2, Phase 2a, Phase 2b, Phase 1/2 (where enrolment count is 100 or over), Phase 2/3 (where enrolment count is under 300 or not specified)

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

Return to Table of Contents

DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

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

Return to Table of Contents

Deals by Type Chart

Deals by Type Table

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

Return to Table of Contents

KTE-C19

KTE-C19 SNAPSHOT

Drug Name	KTE-C19
Key Synonyms	
Originator Company	Kite Pharma Inc
Active Companies	Amgen Inc;Kite Pharma Inc
Inactive Companies	
Highest Status	Phase 2 Clinical
Active Indications	Non-Hodgkin lymphoma;Cancer;B-cell lymphoma
Target-based Actions	T cell surface glycoprotein CD28 inhibitor;B-lymphocyte antigen CD19 inhibitor
Other Actions	Anticancer;CD3 antagonist;Immunomodulator;Genetically engineered autologous cell therapy
Technologies	Biological therapeutic;Parenteral formulation unspecified;Receptor chimeric
Last Change Date	27-Mar-2015

KTE-C19 DEVELOPMENT PROFILE

SUMMARY

Kite Pharma is developing KTE-C19, a zeta chimeric antigen receptor engineered peripheral blood autologous T-cell therapy (eACT) transduced with a retroviral vector that targets CD19 CD28/CD3, for the potential treatment of multiple hematological cancers, including non-Hodgkin's lymphoma (NHL), diffuse large B cell lymphoma (DLBCL), leukemias and solid tumor types,,,. Kite pharma, in collaboration with Amgen is investigating KTE-C19, for the potential treatment of cancer. In January 2015, a phase I/II trial for NHL was initiated. At that time, the trial was expected to complete in March 2017 . In February 2015, pivotal studies for DLBCL, mantle cell lymphoma, acute lymphoblastic leukemia and chronic lymphocytic leukemia were to be initiated later that year. In February 2015, the company planned for commercial launch of the drug in 2017.

KTE-C19 DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

Company	Indication	Country	Development Status	Date
Kite Pharma Inc	B-cell lymphoma	US	Phase 2 Clinical	11-Dec-2013
Kite Pharma Inc	Non-Hodgkin lymphoma	US	Phase 2 Clinical	27-Jan-2015
Amgen Inc	Cancer	US	Discovery	26-Mar-2015
Kite Pharma Inc	Cancer	US	Discovery	30-Apr-2012

Return to Table of Contents

KTE-C19 DRUG NAMES

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

KTE-C19 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
Non-Hodgkin lymphoma											
0	0	0	0	1	1	0	1	0	0	1	2
Follicle center lymphoma											
0	0	0	0	1	1	0	0	0	0	1	1
B-cell acute lymphoblastic leukemia											
0	0	0	0	0	0	1	1	0	0	1	1
B-cell lymphoma											
0	0	0	0	1	1	0	0	0	0	1	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	1	1	2	0	0	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)

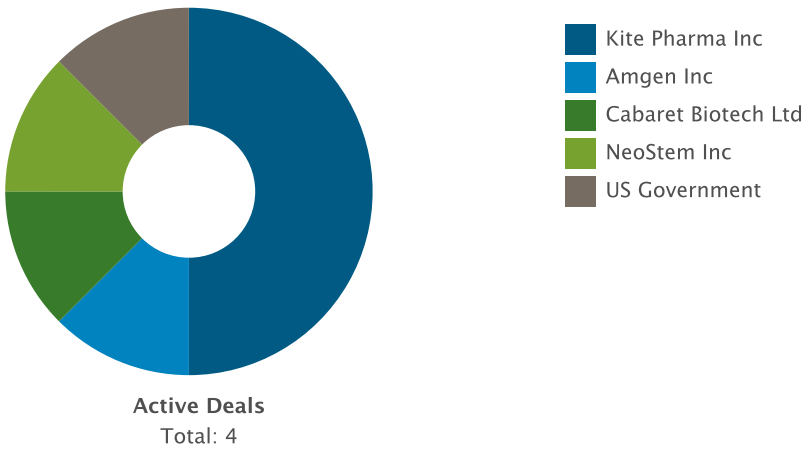
Phase 1 Clinical
Includes Phase 1, Phase 1a, Phase 1, Phase 1/2 (where enrolment count is under 100 or not specified), Phase 0

Return to Table of Contents

KTE-C19 DEALS AND PATENTS

DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

Company Name	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Kite Pharma Inc	1	0	3	0	4
NeoStem Inc	1	0	0	0	1
Amgen Inc	0	0	1	0	1
US Government	1	0	0	0	1
Cabaret Biotech Ltd	1	0	0	0	1

Return to Table of Contents

Deals by Type Chart

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
Drug - Development/Commercialization License	1	0	1

Return to Table of Contents

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;Intradermal formulation;Biological therapeutic;Antigen;Protein fusion
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

Return to Table of Contents

DC-Ad-GMCAIX DRUG NAMES

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

DC-Ad-GMCAIX 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
Metastatic renal cancer											
0	0	0	0	0	0	1	1	0	0	1	1

Total Trials by Phase and Status

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

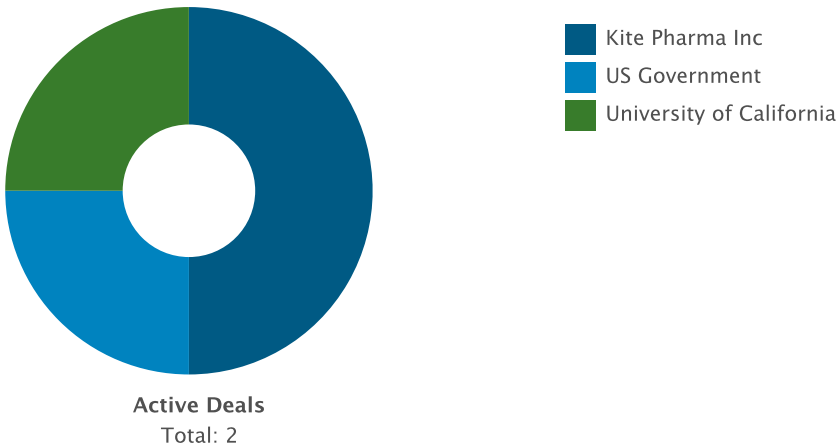
Phase 1 Clinical
Includes Phase 1, Phase 1a, Phase 1, Phase 1/2 (where enrolment count is under 100 or not specified), Phase 0

Return to Table of Contents

DC-Ad-GMCAIX DEALS AND PATENTS

DEALS

Deals by Parent Company Chart

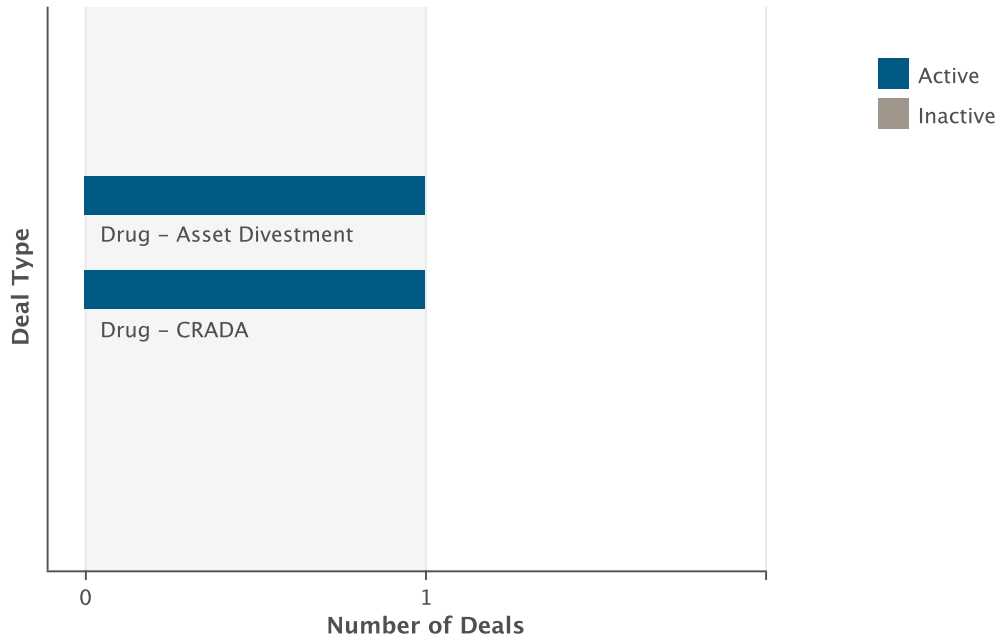


Deals by Parent Company Table

Company Name	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Kite Pharma Inc	0	0	2	0	2
US Government	1	0	0	0	1
University of California	1	0	0	0	1

Return to Table of Contents

Deals by Type Chart



Deals by Type Table

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

Return to Table of Contents

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	Biological therapeutic;T-lymphocyte;Cell therapy
Last Change Date	18-Feb-2015

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. In February 2015, the program was listed as being under 'pre-IND' phase.

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

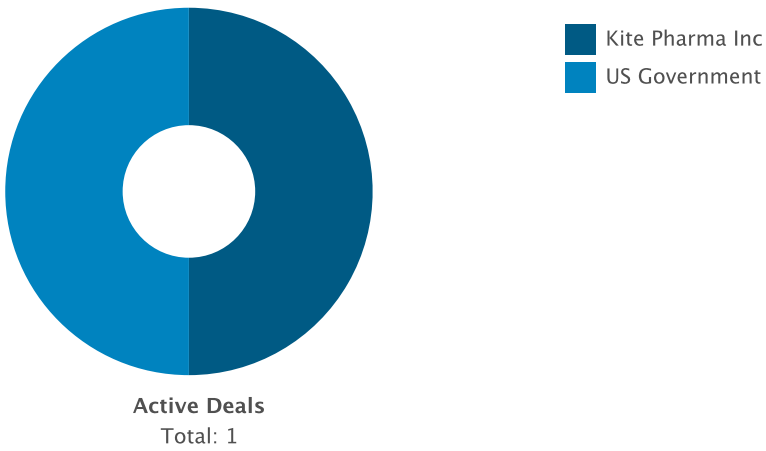
anti-SSX2 T-cell therapy (cancer), Kite Pharma DRUG NAMES

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

Return to Table of Contents

DEALS

Deals by Parent Company Chart



Deals by Parent Company Table

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

Return to Table of Contents

Deals by Type Chart

Deals by Type Table

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

Return to Table of Contents

T-cell therapy (epithelial tumors), Kite Pharma

T-cell therapy (epithelial tumors), Kite Pharma SNAPSHOT

Drug Name	T-cell therapy (epithelial tumors), Kite Pharma
Key Synonyms	
Originator Company	Kite Pharma Inc
Active Companies	Kite Pharma Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Colorectal tumor;Lung tumor
Target-based Actions	
Other Actions	Anticancer;Genetically engineered autologous cell therapy
Technologies	Biological therapeutic;T-lymphocyte;Cell therapy
Last Change Date	03-Mar-2015

T-cell therapy (epithelial tumors), Kite Pharma DEVELOPMENT PROFILE

SUMMARY

Kite Pharma is investigating an engineered autologous T-cell therapy targeting tumor antigens, that incorporates its T Cell Receptor (TCR) technology, for the potential treatment of epithelial tumors including colorectal and lung cancers.

T-cell therapy (epithelial tumors), Kite Pharma DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

Company	Indication	Country	Development Status	Date
Kite Pharma Inc	Colorectal tumor	US	Discovery	24-Feb-2015
Kite Pharma Inc	Lung tumor	US	Discovery	24-Feb-2015

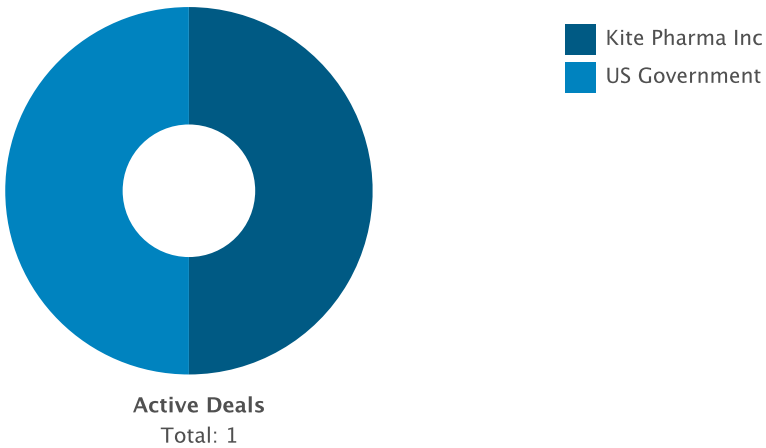
T-cell therapy (epithelial tumors), Kite Pharma DRUG NAMES

Names	Type
T-cell therapy (epithelial tumors), Kite Pharma	

Return to Table of Contents

DEALS

Deals by Parent Company Chart

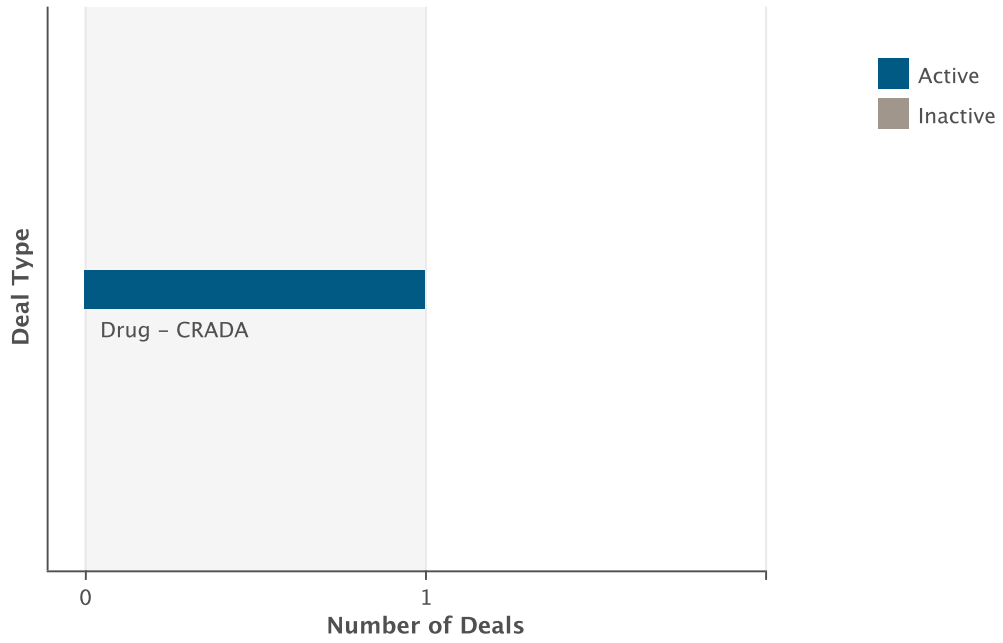


Deals by Parent Company Table

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

Return to Table of Contents

Deals by Type Chart



Deals by Type Table

Deal Type	Active	Inactive	Total
Drug - CRADA	1	0	1

Return to Table of Contents

chimeric antigen receptor T cell therapy (cancer), Kite Pharma/ Tel Aviv Sourasky Medical Center

chimeric antigen receptor T cell therapy (cancer), Kite Pharma/ Tel Aviv Sourasky Medical Center SNAPSHOT

Drug Name	chimeric antigen receptor T cell therapy (cancer), Kite Pharma/ Tel Aviv Sourasky Medical Center
Key Synonyms	
Originator Company	Kite Pharma Inc
Active Companies	Kite Pharma Inc;Tel Aviv Sourasky Medical Center
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	
Other Actions	Anticancer;Genetically engineered autologous cell therapy
Technologies	Biological therapeutic;T-lymphocyte;Receptor chimeric;Cell therapy
Last Change Date	24-Jan-2015

chimeric antigen receptor T cell therapy (cancer), Kite Pharma/ Tel Aviv Sourasky Medical Center DEVELOPMENT PROFILE

SUMMARY

Kite Pharma and Tel Aviv Sourasky Medical Center are investigating a chimeric antigen receptor (CAR) T cell therapy for the potential treatment of cancer.

chimeric antigen receptor T cell therapy (cancer), Kite Pharma/ Tel Aviv Sourasky Medical Center DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

Company	Indication	Country	Development Status	Date
Kite Pharma Inc	Cancer	US	Discovery	22-Jan-2015
Tel Aviv Sourasky Medical Center	Cancer	Israel	Discovery	22-Jan-2015

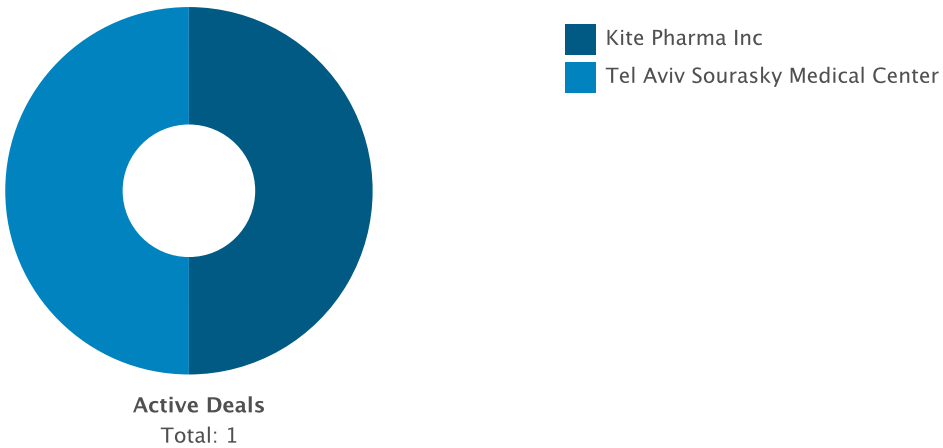
chimeric antigen receptor T cell therapy (cancer), Kite Pharma/ Tel Aviv Sourasky Medical Center DRUG NAMES

Names	Type
chimeric antigen receptor T cell therapy (cancer), Kite Pharma/ Tel Aviv Sourasky Medical Center	

Return to Table of Contents

DEALS

Deals by Parent Company Chart

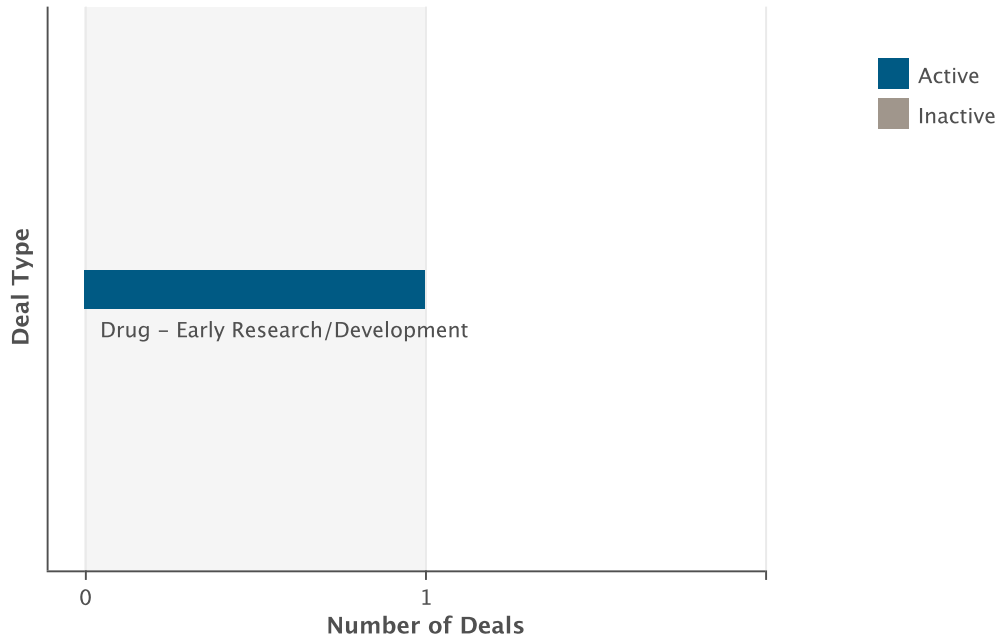


Deals by Parent Company Table

Company Name	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Kite Pharma Inc	0	0	1	0	1
Tel Aviv Sourasky Medical Center	1	0	0	0	1

Return to Table of Contents

Deals by Type Chart



Deals by Type Table

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

Return to Table of Contents

Chimeric Antigen Receptor eACTs (cancer), Kite/ Amgen

Chimeric Antigen Receptor eACTs (cancer), Kite/ Amgen SNAPSHOT

Drug Name	Chimeric Antigen Receptor eACTs (cancer), Kite/ Amgen
Key Synonyms	
Originator Company	Kite Pharma Inc
Active Companies	Kite Pharma Inc;Amgen Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	
Other Actions	Genetically engineered autologous cell therapy;Anticancer
Technologies	Biological therapeutic;T-lymphocyte;Receptor chimeric
Last Change Date	07-Jan-2015

Chimeric Antigen Receptor eACTs (cancer), Kite/ Amgen DEVELOPMENT PROFILE

SUMMARY

Kite Pharma and Amgen are investigating Chimeric Antigen Receptor (CAR) engineered peripheral blood autologous T-cell therapies (eACT) for the potential treatment of cancer.

Chimeric Antigen Receptor eACTs (cancer), Kite/ Amgen DEVELOPMENT STATUS

CURRENT DEVELOPMENT STATUS

Company	Indication	Country	Development Status	Date
Amgen Inc	Cancer	US	Discovery	31-Dec-2014
Kite Pharma Inc	Cancer	US	Discovery	31-Dec-2014

Chimeric Antigen Receptor eACTs (cancer), Kite/ Amgen DRUG NAMES

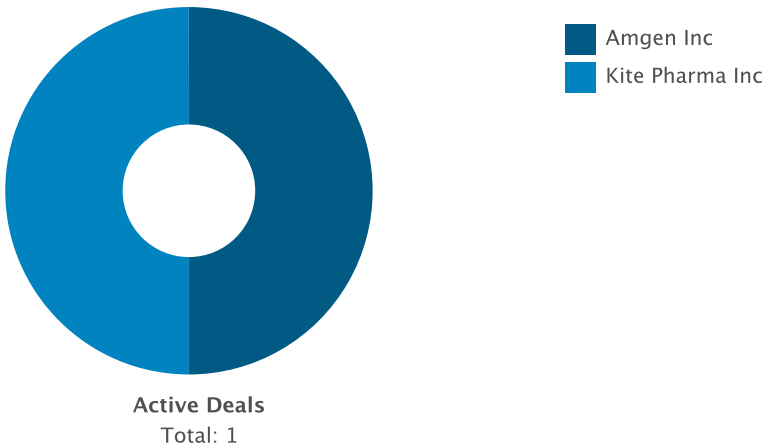
Names	Type
Chimeric Antigen Receptor eACTs (cancer), Kite/ Amgen	

Return to Table of Contents

Chimeric Antigen Receptor eACTs (cancer), Kite/ Amgen DEALS AND PATENTS

DEALS

Deals by Parent Company Chart

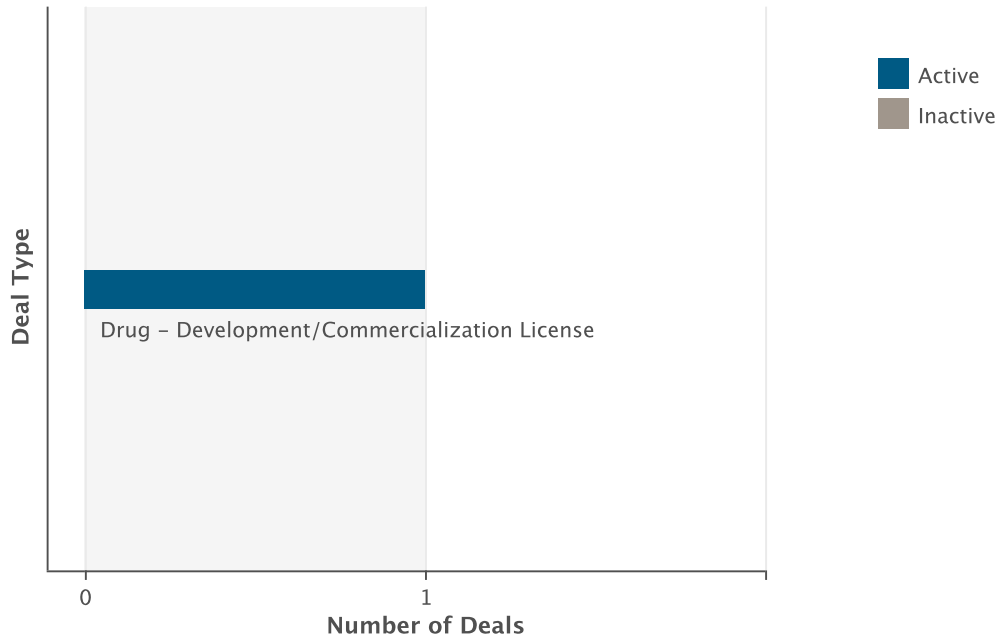


Deals by Parent Company Table

Company Name	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Kite Pharma Inc	1	0	0	0	1
Amgen Inc	0	0	1	0	1

Return to Table of Contents

Deals by Type Chart



Deals by Type Table

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

Return to Table of Contents

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Return to Table of Contents