Reduce the risk of missing genetically engineered sequence patents

Carolyn Finch,
Solution Scientist Team Lead

October 2018

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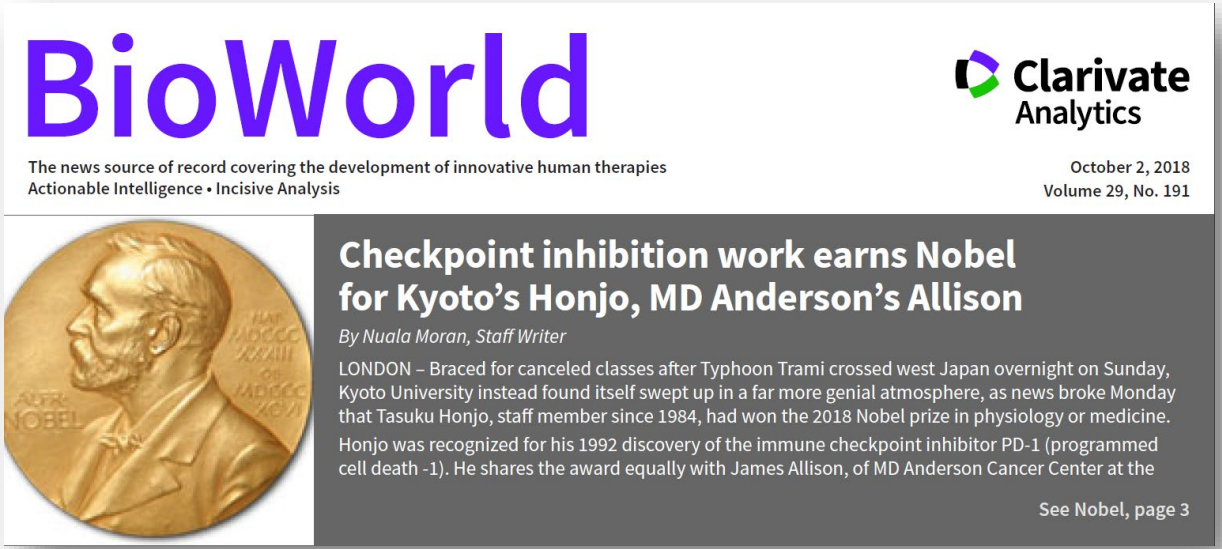
Agenda

Breaking news: The 2018 Nobel Prize in physiology or medicine goes to….

- Professor Tasuku Honjo, Kyoto University and Professor James Allison, MD Anderson Cancer Center
  - For the discovery of **immune checkpoint inhibitor PD-1 (programmed cell death 1)**



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October 2, 2018
Volume 29, No. 191

Checkpoint inhibition work earns Nobel for Kyoto's Honjo, MD Anderson's Allison

By Nuala Moran, Staff Writer

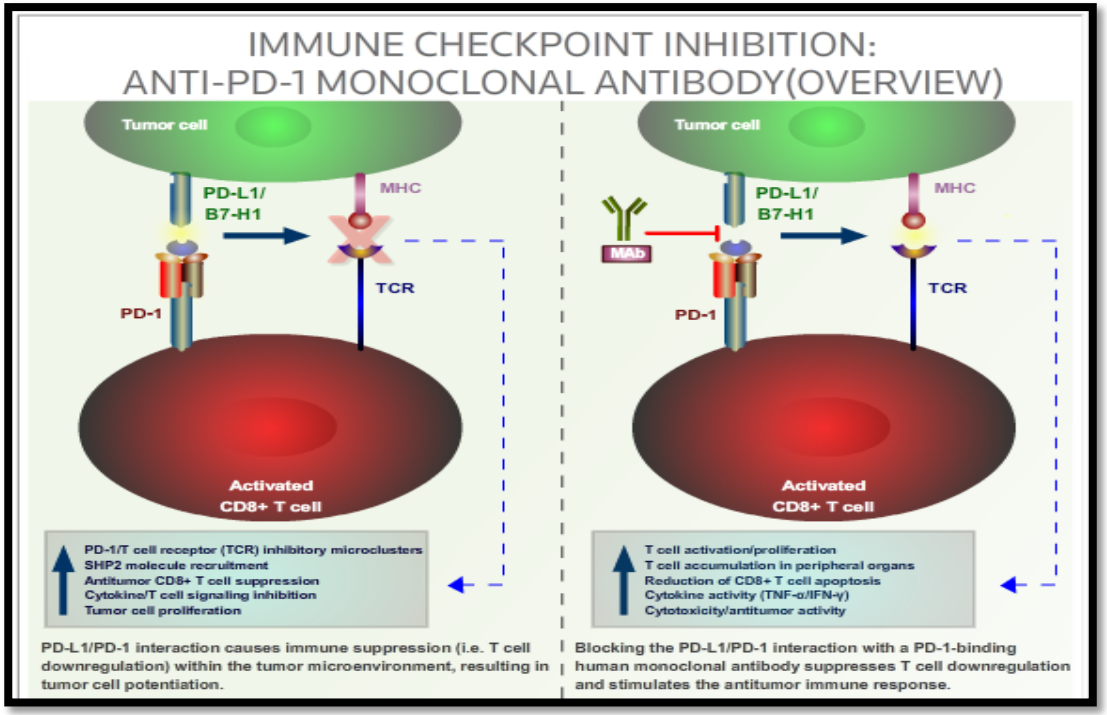
LONDON – Braced for canceled classes after Typhoon Trami crossed west Japan overnight on Sunday, Kyoto University instead found itself swept up in a far more genial atmosphere, as news broke Monday that Tasuku Honjo, staff member since 1984, had won the 2018 Nobel prize in physiology or medicine.

Honjo was recognized for his 1992 discovery of the immune checkpoint inhibitor PD-1 (programmed cell death -1). He shares the award equally with James Allison, of MD Anderson Cancer Center at the

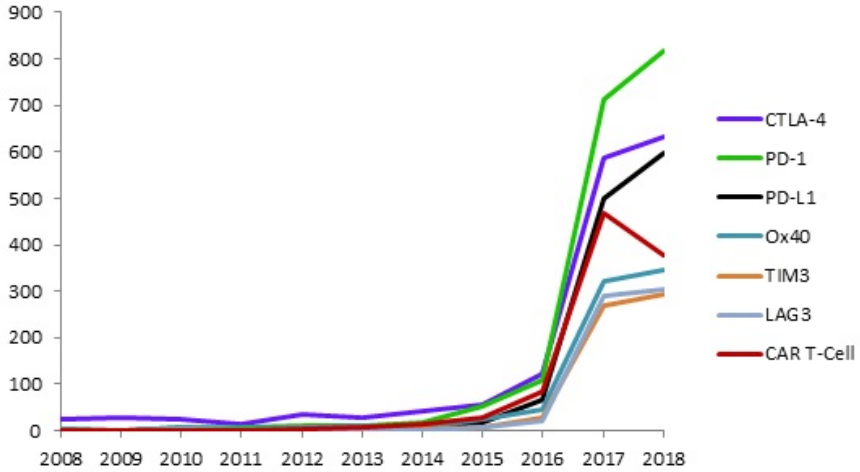
See Nobel, page 3

What is immuno-oncology (IO)?

- Tumor cells are different to normal cells. Therefore, one might expect the immune system to recognise and destroy tumor cells. However, this does not always happen.
- Immuno-oncology is the study of the immune system in relation to cancer. It is helping us to understand how tumors escape the body's immune response.
- Cancer immunotherapies such as anti-PD-1 antibodies are being developed to enable the immune system to recognise and kill cancer cells.



Immuno-oncology patent families 2008-2018



Volume of DWPI families in six checkpoint inhibitor targets (CTLA-4, PD-1, PD-L1, Ox40, TIM3 and LAG3) and CAR T-cell therapy from 2008-May 2018.

Projecting 2018 partial volumes, we see continuing growth rates of between 124% for CAR T and 234% for PD-L1 closely followed by PD-1 at 220% growth over 2017.

Source: Derwent Innovation (DWPI)

Chart taken from Clarivate's webinar (May 2018): Innovation trends in immuno-oncology

Chimeric Antigen Receptor (CAR) T-cell therapy

- Adoptive cell immunotherapy was named as "**Advance of the Year**" at ASCO 2018 in June.[1]
- T-cells are collected from a cancer patient and genetically engineered to produce a chimeric antigen receptor (CAR) which binds to a tumor-specific antigen. Inside the patient, CAR-T cells will recognise and destroy tumor cells.

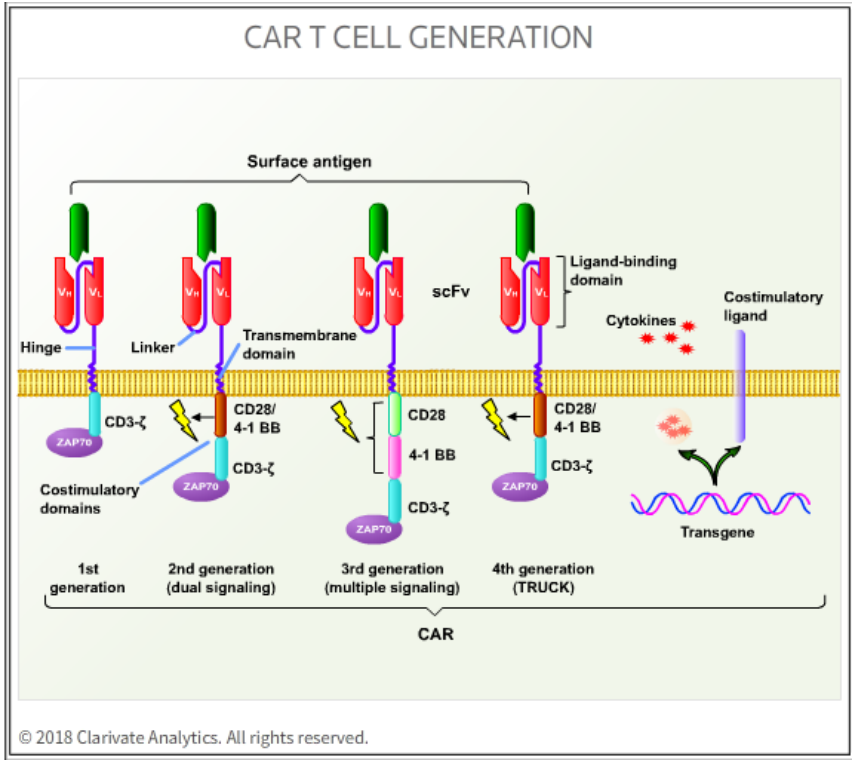
81%

- of children and young adults with B-cell lymphoblastic leukemia in ELIANA trial **treated with CAR-T therapy** tisagenlecleucel who **achieved complete remission** or complete remission with incomplete blood count recovery at three months.[2]

1. https://www.asco.org/research-progress/reports-studies/clinical-cancer-advances-2018/advance-year
2. Maude S.L. et al, N Engl J Med 2018, 378(5): 439 "Tisagenlecleucel in children and young adults with B-cell lymphoblastic leukemia"

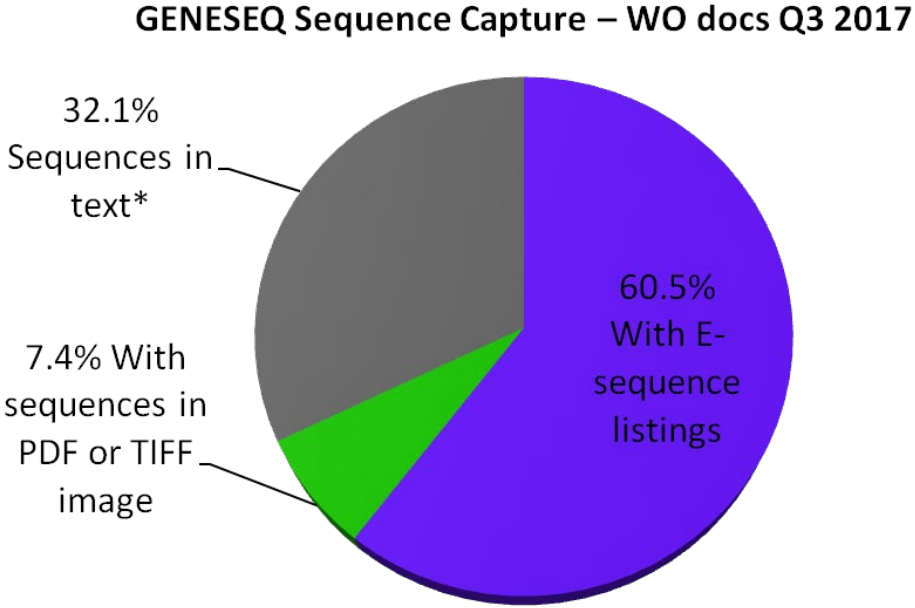
Anatomy of a Chimeric Antigen Receptor (CAR)

- CARs are composed of:
  - an extracellular binding domain (e.g. single-chain variable fragments (scFv) derived from tumor antigen-reactive antibodies)
  - a hinge region,
  - a transmembrane domain, and
  - CD3ζ chain intracellular signaling domain.
- CARs also contain co-stimulatory domains, like CD28 and/or 4-1BB.
- Current research is investigating “smart T cells” with built-in safety controls (e.g. suicide genes).



CAR-T patent challenges

- Ongoing legal dispute regarding “obviousness” of combining certain sequences, in particular a version of CD28 which includes the “MYPPPY” amino acid motif.
- Important to know the precise sequences being used in a chimeric antigen receptor.
- Not all sequences in a patent are necessarily included in the electronic sequence listing,



**for some of the patents in the ‘Sequences in text’ only category, sequence listings files are available via manual searching using the PN on WIPO, but are not present in the auto-download of SL data from WIPO*

Challenges of sequence searching

- Using public or proprietary sequence databases which rely on electronic sequence listings and original, local language descriptions can be costly:
  - **High risk of missing important patent documents** and therefore exposing your company to liabilities or wasting R&D resources.
  - **Waste precious time and effort** trying to assess the relevance of specific sequences or documents.
  - **Spend money on expensive translations**, possibly to find that the document is not relevant.

GENESEQ offers…

- **Global Coverage**
  - **Including CN**

- **Manual Capture**
  - **Including sequences not found in SEQ ID listings**

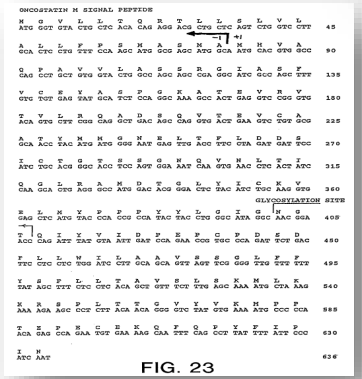


FIG. 23

- **Manual Annotation**
  - **All in plain English**

Immuno-oncology use case using GENESEQ and Derwent Innovation

Use Case: Freedom-to-operate around biological sequences

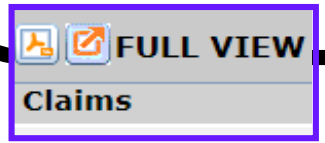
Workflow:

Upload patent list into Derwent Innovation for IP due diligence

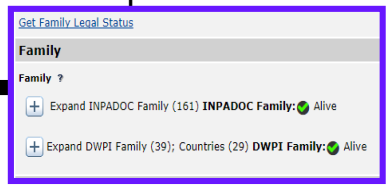
Search biological sequences in GENESEQ on SequenceBase

Leverage unique GENESEQ content and deep indexing

Full-text documents



DWPI patent families



Charts

Search example – CD3zeta and CD28

- **CD3 zeta (164 amino acids)**
- MKWKALFTAAILQAQLPITEAQSFGLLDPKLCYLLDGILFIYGVILTALFLRVKFSRSAD APAYQQGQNQLYNELNLGRREEYDVLDKRRGRDPEMGGKPQRRKNPQEGL YNELQKDKMAEAYSEIGMKGERRRGKGHDGLYQGLSTATKDTYDALHMQALPPR

- **CD28 (220 acids)**
- MLRLLLALNLFPSIQVTGNKILVKQSPMLVAYDNAVNLSCKYSYNLFSREFRASLHKGLDSAVEVCVVYGNYSQQLQV YSKTGFNCDGKLGNESVTFYLQNLYVNQTDIYFCKIEV**MYPPPY**LDNEKSNGTIIHVKGKHLCPSPLFPGPSKPFWVL VVVGGVLACYSLLVTVAFIIFWVRSKRSRLLHSDYMNMTP RRPGPTRKHYQPYAPPRDFAAYRS

IP due diligence on genetic sequence patents using Derwent Innovation

Bob Stembridge
Senior IP Analyst

October, 2018

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Powering IP Innovation

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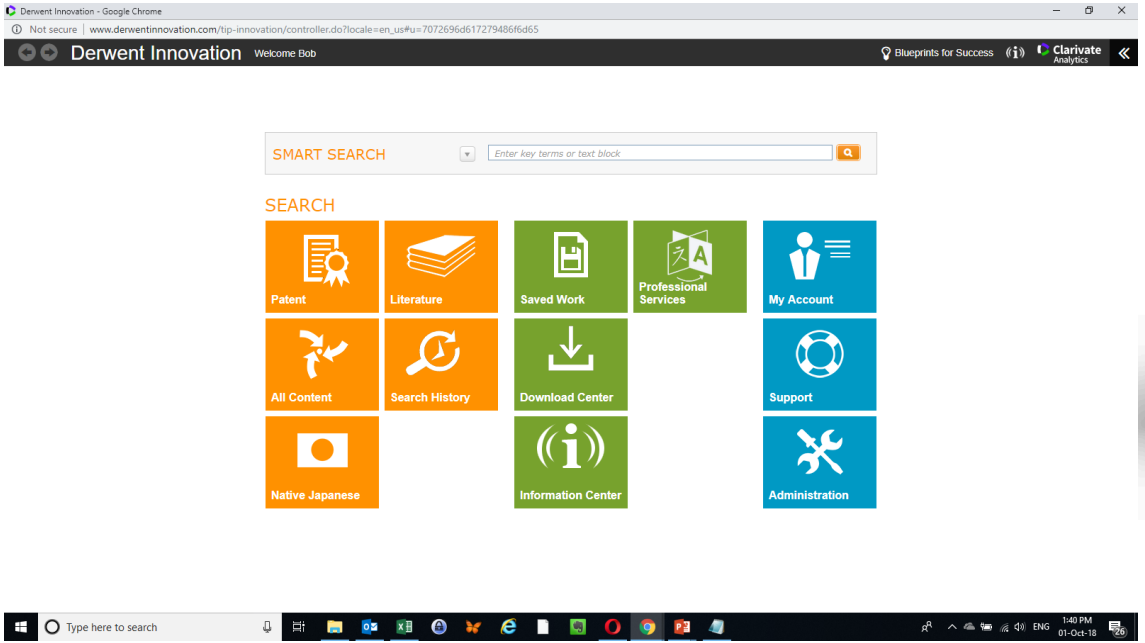
Introduction to Derwent Innovation



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Application: Derwent Innovation

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Derwent has been the leader in patent-smart technology, content and applications

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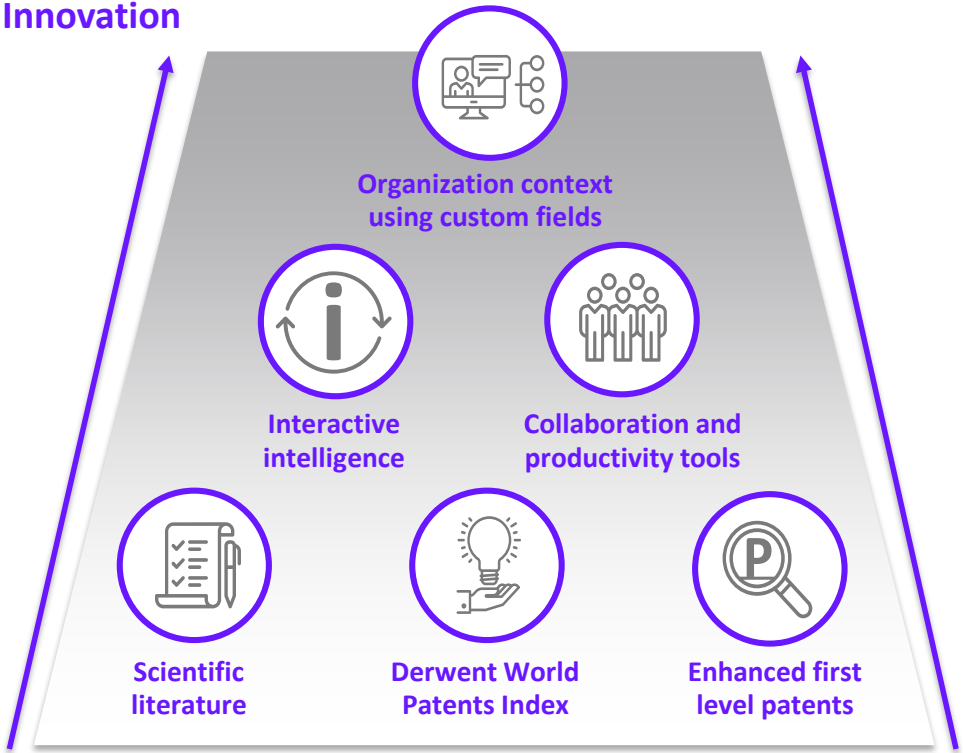

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Transferring GENESEQ results into Derwent Innovation

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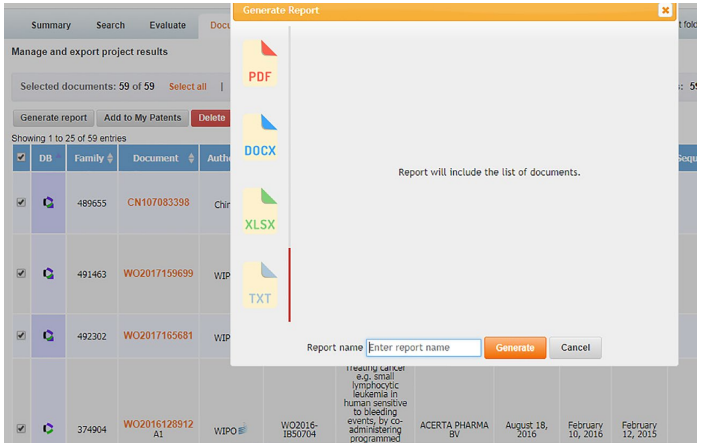
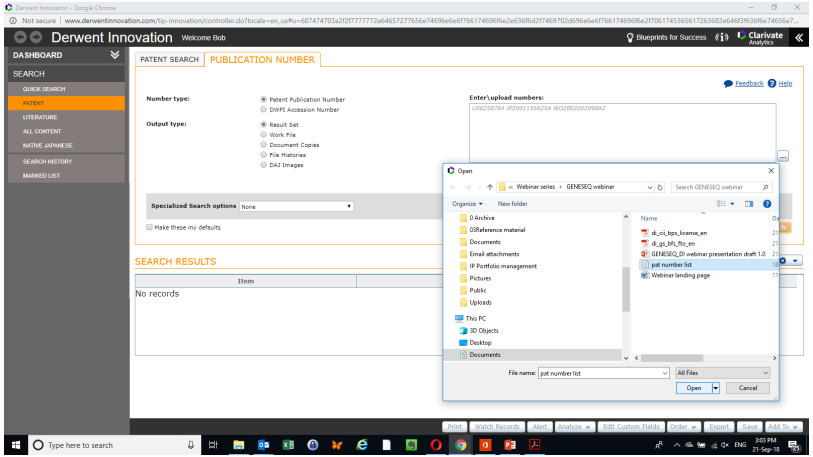
Export from GENESEQ, import into Derwent Innovation

- Data can be exported from GENESEQ in numerous formats, including Excel, to perform further analyses that can be shared with colleagues or clients
- The Text export option is specifically for exporting lists of deduplicated patent numbers
- The list of patent numbers can either be uploaded or copied into Derwent Innovation





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SEARCH RESULTS

38 record(s) found out of 38 searched (display limit 60,000) 0 record(s) selected

Displaying 1 - 38 of 38 Display 100 records per page

	Item	Publication Number	Assignee/Applicant	Optimized Assignee	Publication Date	Current IPC
[ ]	1	CN104087607A	SHANGHAI YIJIE BIOTECHNOLOGY CO LTD	SHANGHAI YIKELAI BIOLOGICAL MEDICINE TEC	2014-10-08	C12N 15/62
		DWPI Drawing: 	**Title:** Nucleic acid for coding chimeric antigen receptor protein and T lymphocyte for expression of chimeric antigen receptor protein **DWPI Title:** New nucleic acid encoding chimeric antigen receptor protein useful for producing transgenic T cell			
[ ]	2	WO2014180306A1	SHANGHAI YIJIE BIOTECHNOLOGY CO LTD	SHANGHAI YIJIE BIOTECHNOLOGY CO LTD	2014-11-13	C12N 15/09
		DWPI Drawing: 	**Title:** NUCLEIC ACID OF CODED GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN AND T LYMPHOCYTE EXPRESSING GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN			

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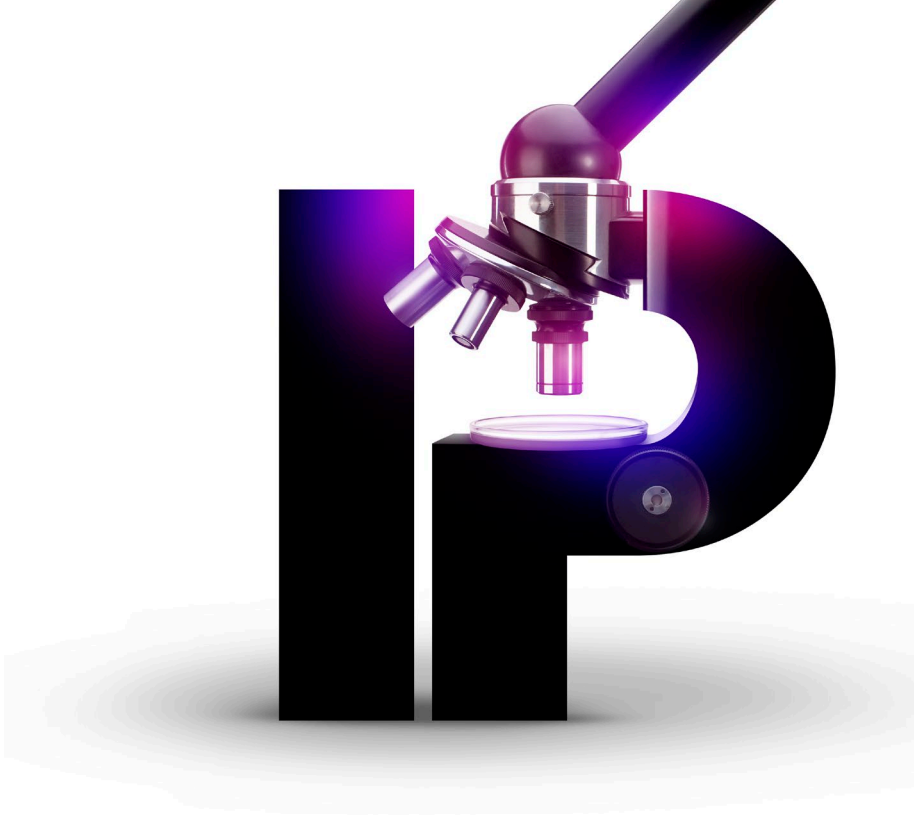
General insights



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Identify the top assignees in this result set.

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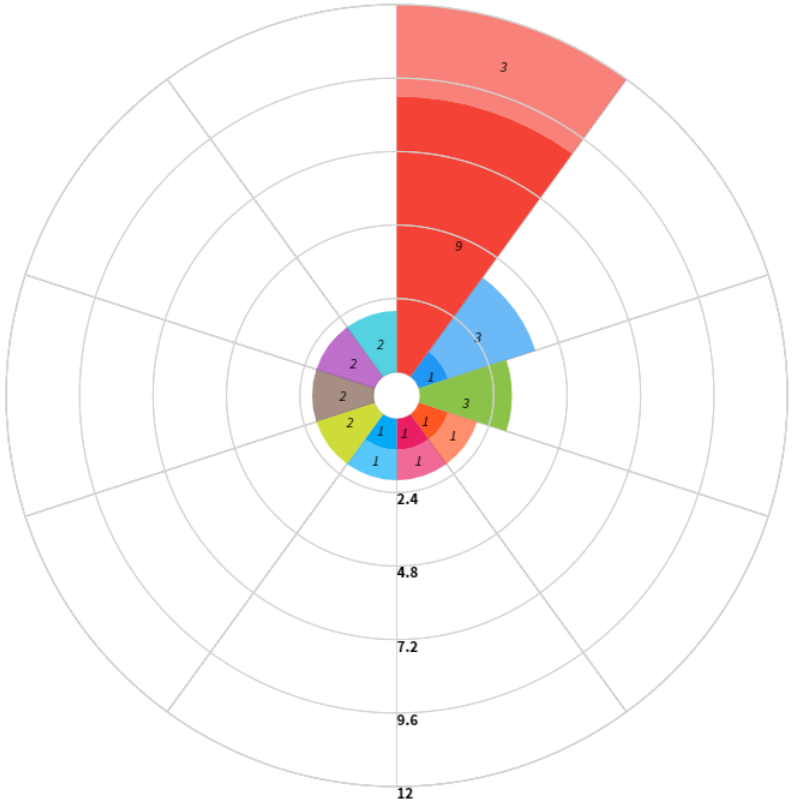

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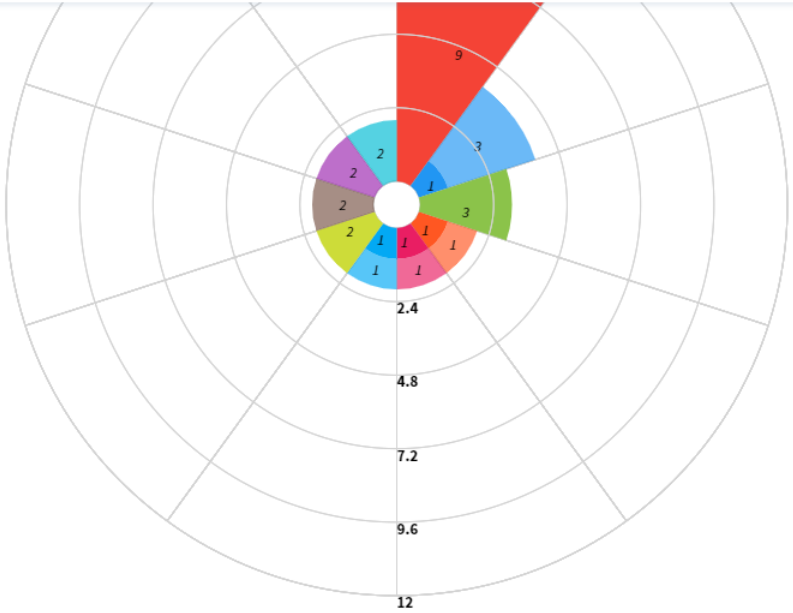

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2014
2018
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KEY INSIGHTS

200% In this chart, the top assignee, CARSGEN THERAPEUTICS LTD has 200 % (8 records) more than their closest competitor, MOLMED SPA.

36% Compared to the top 10 competitors in this result set, CARSGEN THERAPEUTICS LTD has 36 % of those inventions.

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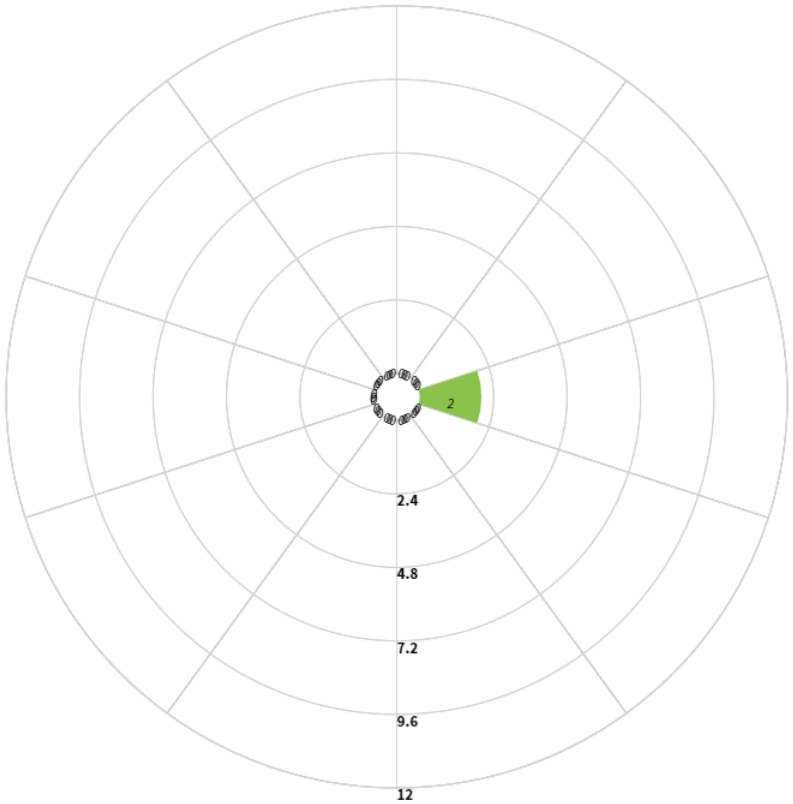

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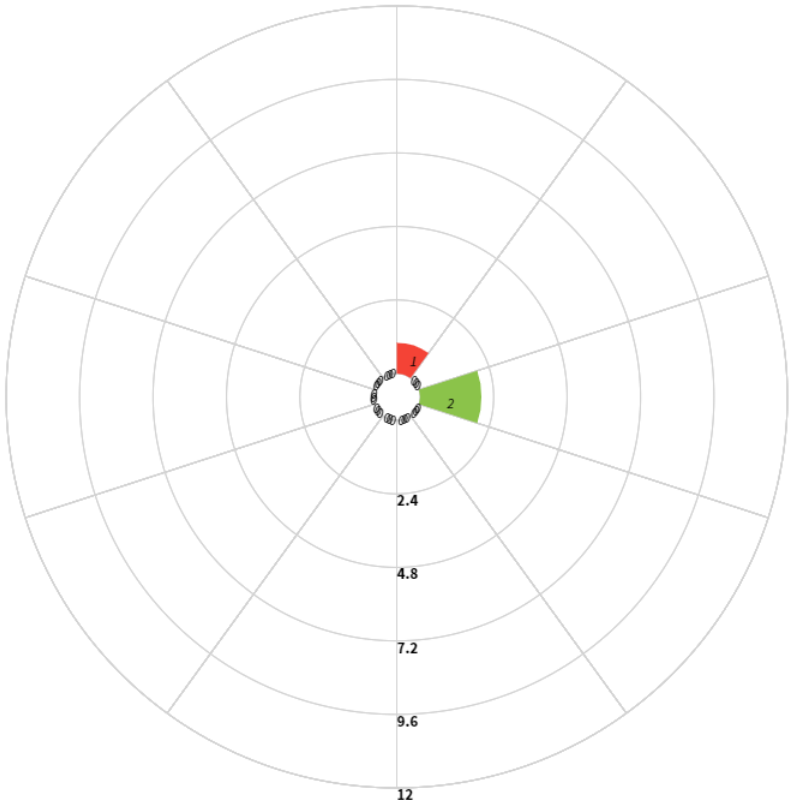

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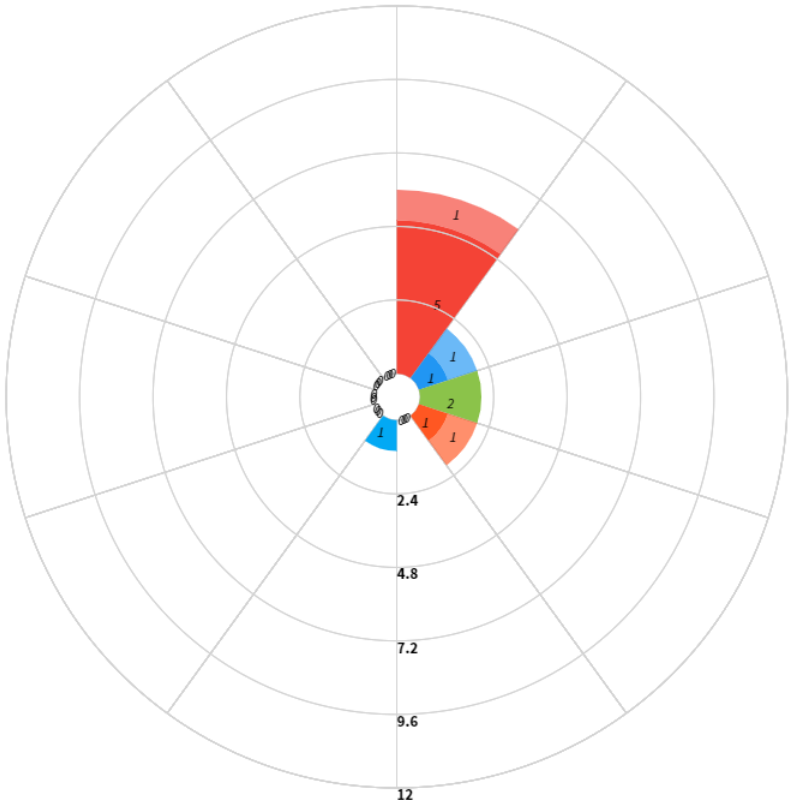

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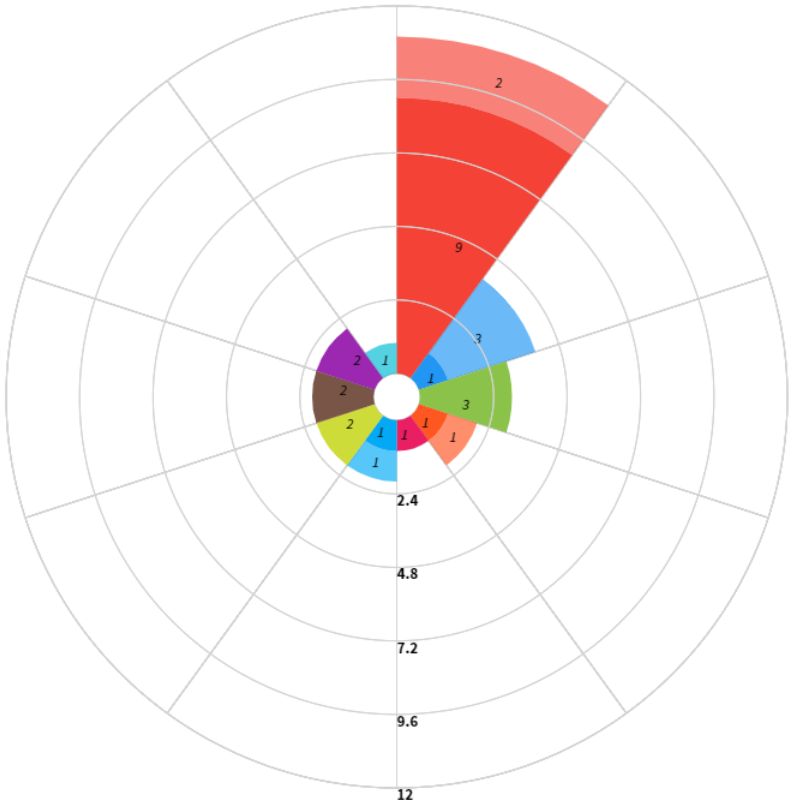

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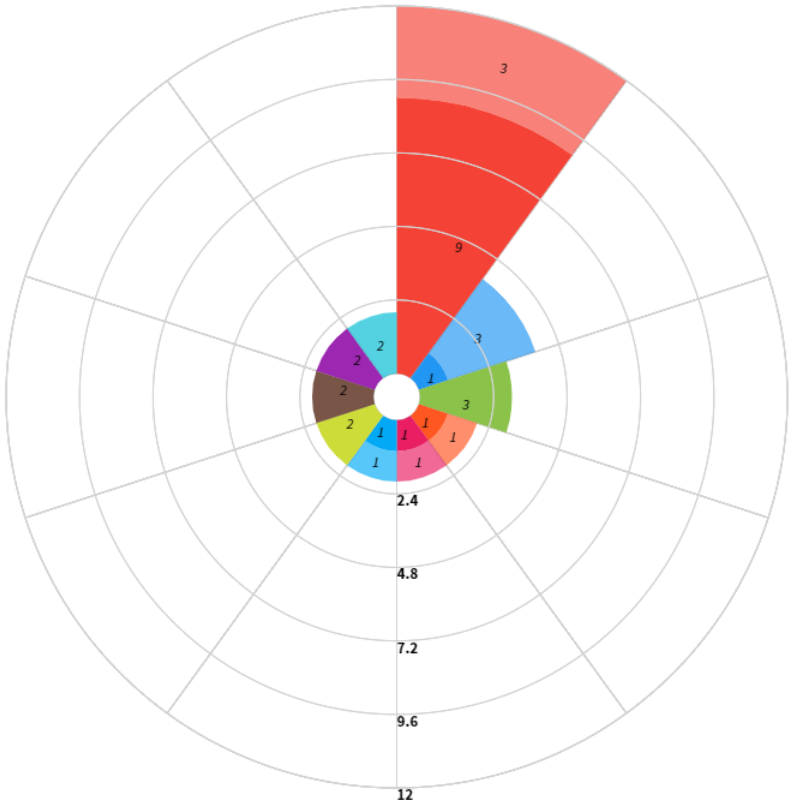

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2018

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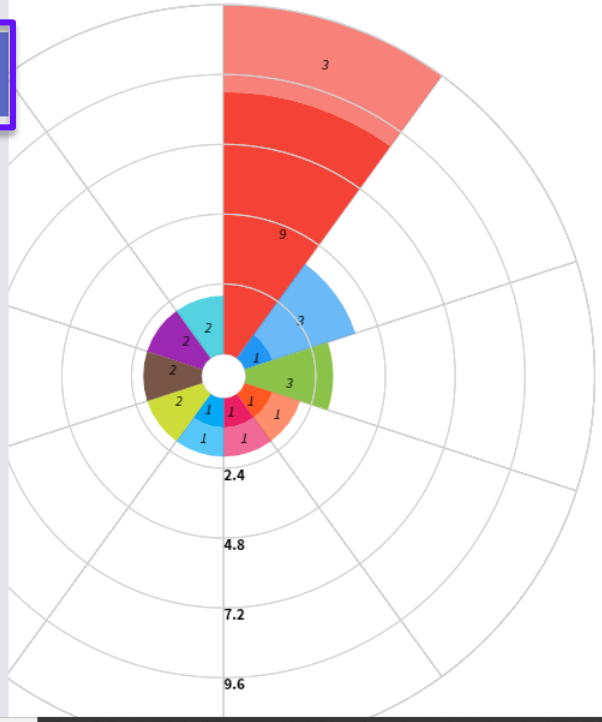

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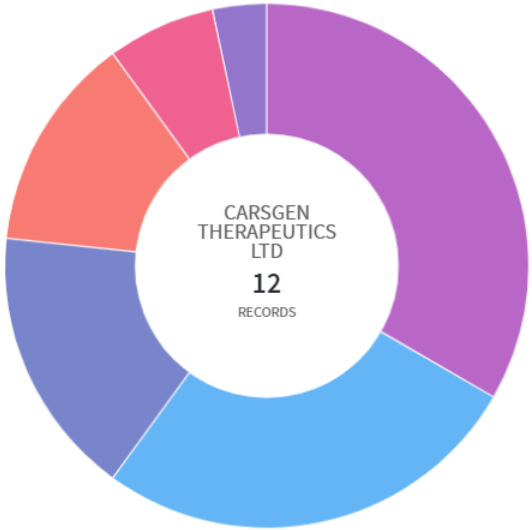

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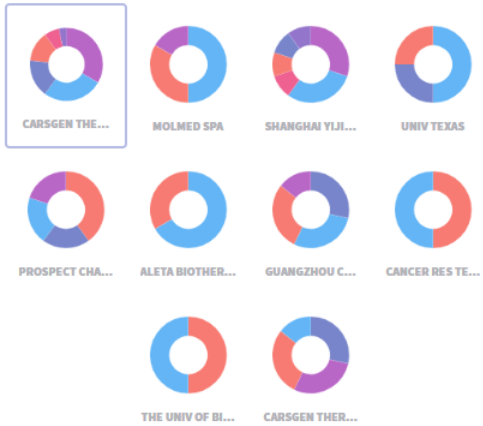

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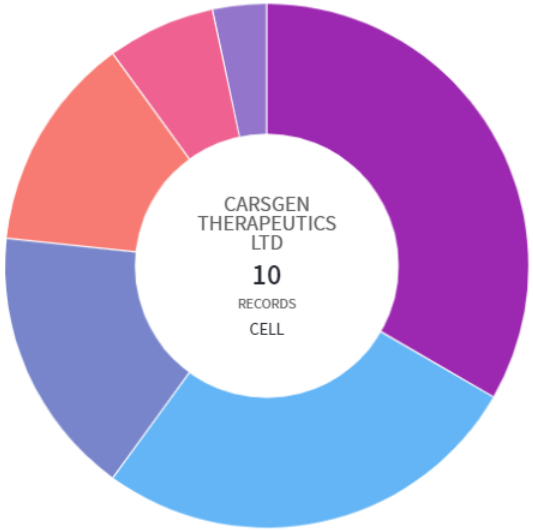

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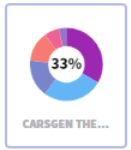

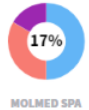

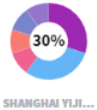

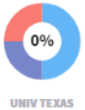

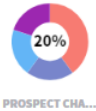

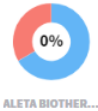

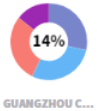

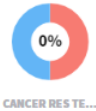

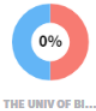

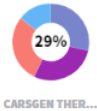

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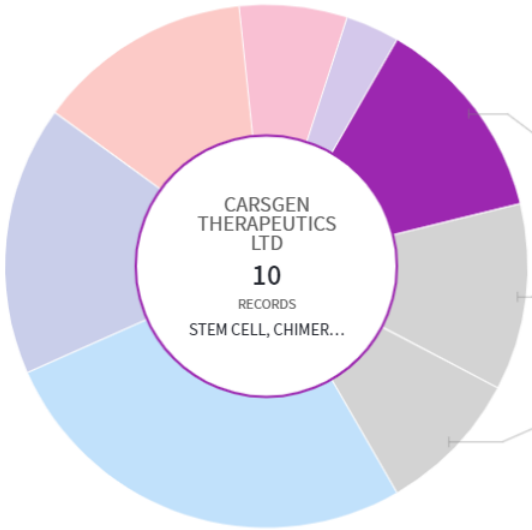

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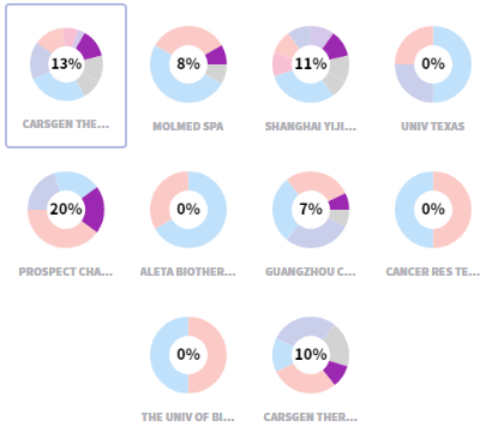

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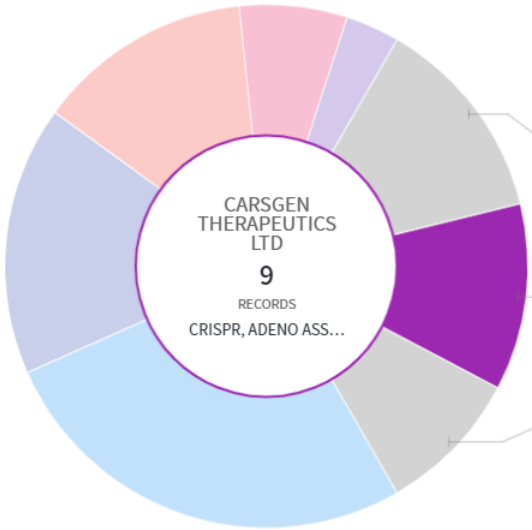

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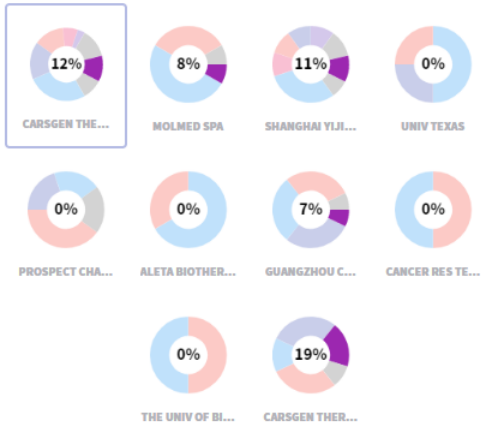

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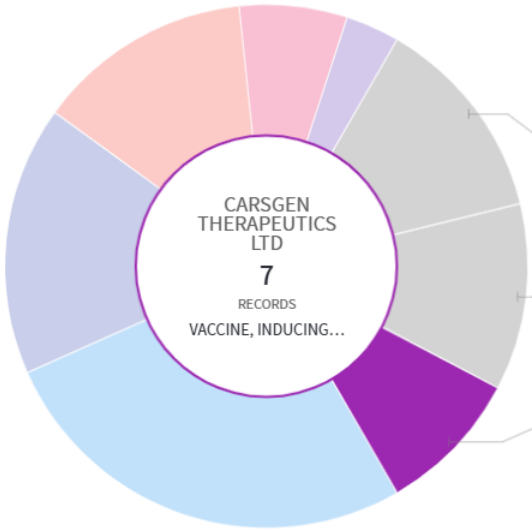

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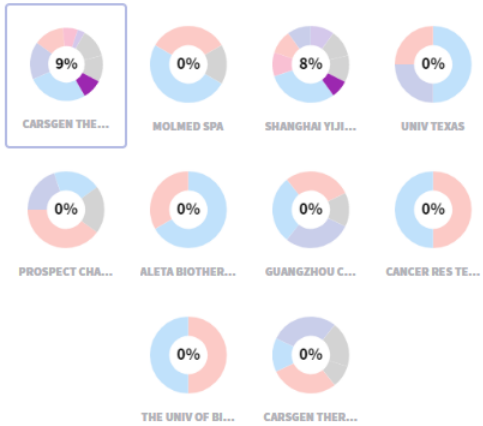

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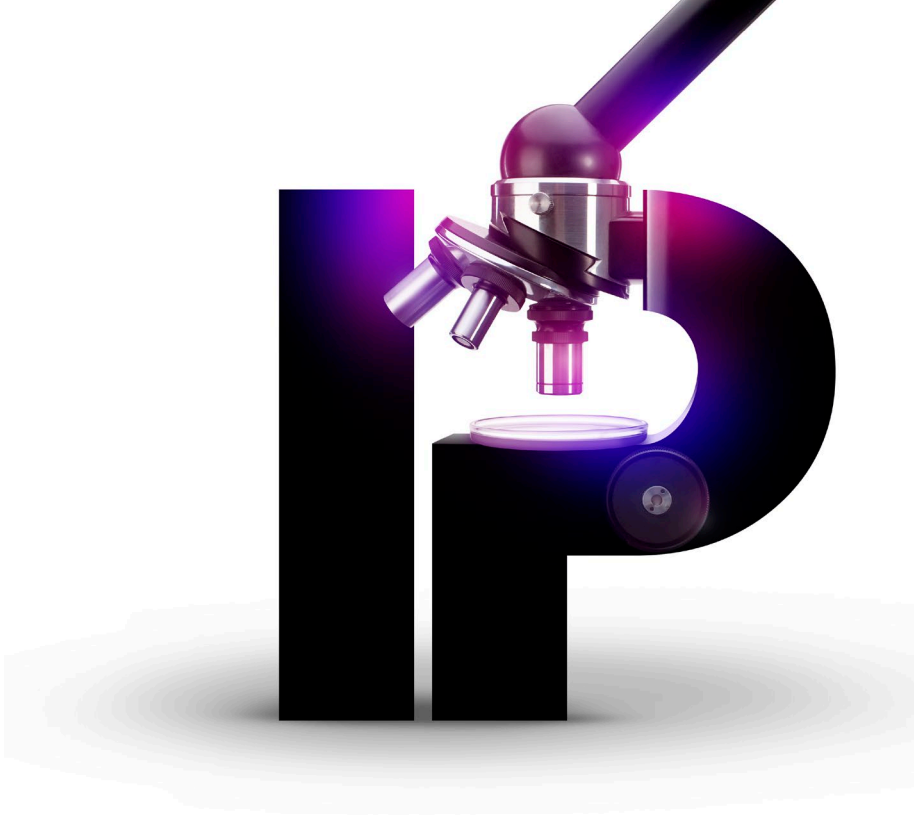

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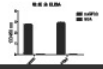
Item	Publication Number	Assignee/Applicant	Optimized Assignee	Publication Date	Current IPC
1	CA2958807A1 **DWPI Drawing:** 	MOLMED SPA	MOLMED SPA	2016-03-24	C07K 19/00
		Title: CHIMERIC ANTIGEN RECEPTORS **DWPI Title:** New chimeric antigen receptor (CAR) comprises an extracellular spacer comprising at least part of the extracellular domain of human low affinity nerve growth factor or a derivative for use in treating cancer			
2	CN104087607A **DWPI Drawing:** 	SHANGHAI YIJIE BIOTECHNOLOGY CO LTD	SHANGHAI YIKELAI BIOLOGICAL MEDICINE TEC	2014-10-08	C12N 15/62
		Title: Nucleic acid for coding chimeric antigen receptor protein and T lymphocyte for expression of chimeric antigen receptor protein **DWPI Title:** New nucleic acid encoding chimeric antigen receptor protein useful for producing transgenic T cell			
3	CN104087607B **DWPI Drawing:** 	Keji Biological Medicine (shanghai) Co. Ltd.	SHANGHAI YIKELAI BIOLOGICAL MEDICINE TEC	2017-06-20	C12N 15/62
		Title: nucleic acid and expressing a chimeric T lymphocyte antigen receptor protein encoding chimeric antigen receptor protein **DWPI Title:** New nucleic acid encoding chimeric antigen receptor protein useful for producing transgenic T cell			
4	CN105924533A **DWPI Drawing:** 	BEIJING BIOHEALTHCARE BIOTECHNOLOGY CO LTD	BEIJING BIOHEALTHCARE BIOTECHNOLOGY CO	2016-09-07	C07K 19/00
		Title: ROR1 specific chimeric antigen receptor and application thereof **DWPI Title:** New receptor tyrosine kinase like orphan receptor 1 (ROR1)-specific chimeric antigen receptor useful in preparation of product for e.g. treating tumor and killing tumor cell, contains anti-human ROR1 single chain variable fragment			
5	CN106397593A **DWPI Drawing:** 	CARSGEN THERAPEUTICS (SHANGHAI) CO LTD	SHANGHAI YIKELAI BIOLOGICAL MEDICINE TEC	2017-02-15	C07K 16/28
		Title: An anti-glypican-3 antibody and an application thereof **DWPI Title:** Antibody used in pharmaceutical composition for preparing medicament, targeting drug or drug conjugate for targeting, diagnosing or inhibiting tumor, has light chain variable region and heavy chain variable region			

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INPADOC Family: Alive View Details
Original Assignee: Keji Biological Medicine (shanghai) Co. Ltd., S...
Optimized Assignee: SHANGHAI YIKELAI BIOLOGICAL MEDICINE TEC
Ultimate Parent: SHANGHAI YIKELAI BIOLOGICAL MEDICINE TEC

Publication Date: 2017-06-20
Expiration Date: 2033-04-01 (estimated) View factors
Remaining Life: 5296 days (14 year(s), 5 month(s))

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DWPI Title ?

New nucleic acid encoding chimeric antigen receptor protein useful for producing transgenic T cell

Original Title ?

nucleic acid and expressing a chimeric T lymphocyte antigen receptor protein encoding chimeric antigen receptor protein *(Translation from Clarivate Analytics)*

English Title ?

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Assignee/Applicant ?

Original: Keji Biological Medicine (shanghai) Co. Ltd., Shanghai, 200031, CN

Optimized Assignee/Ultimate Parent ?

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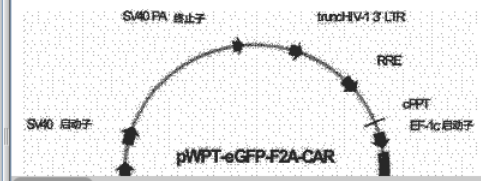

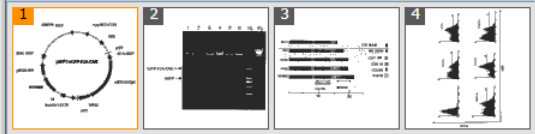

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	2014-10-08	C12N 15/62
	2017-06-20	C12N 15/62
	2016-09-07	C07K 19/00
	2017-02-15	C07K 16/28

...racellular spacer comprising at least part of the extracellular domain of ...ating cancer

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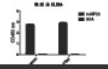

Title: An anti-glypican-3 antibody and an application thereof
DWPI Title: Antibody used in pharmaceutical composition for preparing medicament, targeting drug or drug conjugate for targeting, diagnosing or inhibiting tumor, has light chain variable region and heavy chain variable region

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Original Assignee: Keji Biological Medi

Optimized Assignee: SHANGHAI YIKE

Ultimate Parent: SHANGHAI YIKELAI B

Publication Date: 2017-06-20

Expiration Date: 2033-04-01 (estimated) View factors

Remaining Life: 5206 days (14 year(s), 5 month(s))

Factors considered for expiration date calculation

Publication Number - CN104087607B

Estimated Expiration Date	2033-04-01
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Original: Keji Biological Medicine (shanghai) Co. Ltd., Shanghai, 200031, CN

Optimized Assignee/Ultimate Parent ?

Optimized Assignee	Ultimate Parent
SHANGHAI YIKELAI BIOLOGICAL MEDICINE TEC	SHANGHAI YIKELAI BIOLOGICAL MEDICINE TEC

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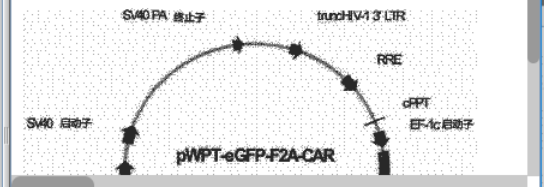

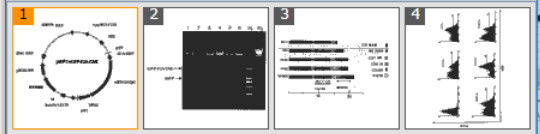

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	21		**DWPI Drawing:** 	**Title:** COMPOSITIONS AND METHODS FOR TREATMENT OF CANCER **DWPI Title:** New cell comprising constitutive expression construct encoding fusion protein comprising antigen binding protein that binds tumor antigen and polypeptide target for cellular therapeutic, useful for treating solid tumor e.g. ovarian cancer		
	22	US20180244796A1	**DWPI Drawing:** 	CARSGEN THERAPEUTICS LTD **Title:** FULLY HUMAN ANTI-MESOTHELIN ANTIBODIES AND IMMUNE EFFECTOR CELLS TARGETING MESOTHELIN **DWPI Title:** New human antibody used for preparing targeted antitumor drugs, or agent for diagnosing tumors which express mesothelin e.g. pancreatic cancer and ovarian cancer, comprises heavy chain variable region and light chain variable region	CARSGEN THERAPEUTICS LTD	2018-08-30	C07K 16/30
	23	WO2014180306A1	**DWPI Drawing:** 	SHANGHAI YIJIE BIOTECHNOLOGY CO LTD **Title:** NUCLEIC ACID OF CODED GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN AND T LYMPHOCYTE EXPRESSING GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN **DWPI Title:** New nucleic acid capable of resisting chimeric antigen receptor protein of glypican-3 encoded and expressed on surface of human T lymphocyte	SHANGHAI YIJIE BIOTECHNOLOGY CO LTD	2014-11-13	C12N 15/09
	24	WO2015172339A1	**DWPI Drawing:** 	CARSGEN THERAPEUTICS LTD **Title:** NUCLEIC ACID FOR CODING CHIMERIC ANTIGEN RECEPTOR PROTEIN AND T LYMPHOCYTE FOR EXPRESSION OF CHIMERIC ANTIGEN RECEPTOR PROTEIN **DWPI Title:** New nucleic acid capable of encoding chimeric antigen receptor protein expressed on surface of human T lymphocyte, useful for treating cancer e.g. bladder cancer and ovarian cancer	CARSGEN THERAPEUTICS LTD	2015-11-19	C12N 15/62
	25	WO2015172339A8	**DWPI Drawing:** 	CARSGEN THERAPEUTICS LTD **Title:** NUCLEIC ACID FOR CODING CHIMERIC ANTIGEN RECEPTOR PROTEIN AND T LYMPHOCYTE FOR EXPRESSION OF CHIMERIC ANTIGEN RECEPTOR PROTEIN **DWPI Title:** New nucleic acid capable of encoding chimeric antigen receptor protein expressed on surface of human T lymphocyte, useful for treating cancer e.g. bladder cancer and ovarian cancer	CARSGEN THERAPEUTICS LTD	2016-02-04	C12N 15/62
	26	WO2016042461A1	**DWPI Drawing:** 	MOLMED SPA **Title:** CHIMERIC ANTIGEN RECEPTORS **DWPI Title:** New chimeric antigen receptor (CAR) comprises an extracellular spacer comprising at least part of the extracellular domain of human low affinity nerve growth factor or a derivative for use in treating cancer	MOLMED SPA	2016-03-24	C07K 14/725
	27	WO2016073629A1	**DWPI Drawing:**	UNIV TEXAS **Title:** CHIMERIC ANTIGEN RECEPTORS (CAR) TO SELECTIVELY TARGET PROTEIN COMPLEXES **DWPI Title:** New chimeric antigen receptor polypeptide used in pharmaceutical composition for treating cancer, comprising antigen binding	UNIVERSITY OF TEXAS	2016-05-12	C07K 16/28

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Optimized Assignee: SHANGHAI YIJIE BIOTECHNOLOGY CO LTD
Ultimate Parent: SHANGHAI YIJIE BIOTECHNOLOGY CO LTD

Publication Date: 2014-11-13
Expiration Date: - View factors
Remaining Life: -

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Original Title

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Assignee/Applicant

Standardized: **SHANGHAI YIJIE BIOTECHNOLOGY CO LTD**

Original: SHANGHAI YIJIE BIOTECHNOLOGY CO. LTD, TU, Yan, Rm 301, Building 6, #333 Guiping Rd. Xuhui District, Shanghai 200032, CN

Optimized Assignee/Ultimate Parent

Optimized Assignee	Ultimate Parent
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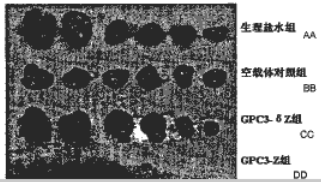

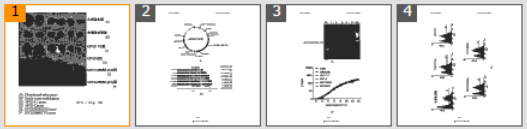

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Key Summary Data

Patent: Alive
DWPI Family: Alive View Details
INPADOC Family: Alive View Details
Original Assignee: SHANGHAI YIJIE BIOTECHNOLOGY CO. LTD, CN
Optimized Assignee: SHANGHAI YIJIE BIOTECHNOLOGY CO LTD
Ultimate Parent: SHANGHAI YIJIE BIOTECHNOLOGY CO LTD

Publication Date: 2014-11-13
Expiration Date: - View factors
Remaining Life: -

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Family

Family

Expand INPADOC Family (10) **INPADOC Family:** Alive

Expand DWPI Family (9); Countries/Regions (130) **DWPI Family:** Alive

Claims

Claims

1. A nucleic acid of a chimeric antigen receptor protein expressed by code on a surface of a T lymphocyte, targeting the chimeric antigen receptor protein of GPC3 comprises a sequence of an extracellular binding domain, film area and a cell area, wherein the said extracellular combine area a C end of epitope specific identification GPC3 of single chain antibody scFv (GPC3).

Expand All Claims (10)

Description

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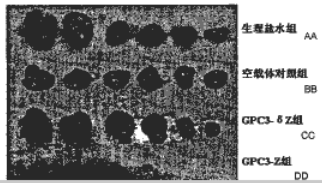

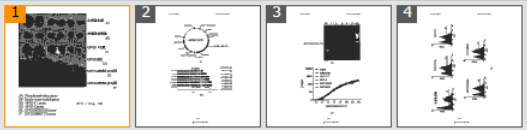

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DWPI Family (9); Countries/Regions (130) **DWPI Family:** Alive View as Result Set

Publication	DWPI Update	Publication Date	IPC Code	Dead/Alive	Language
WO2014180306A1 *	201479	2014-11-13	C12N001509	✓	Chinese
Designated States: (National) AE AG AL AM AO AT AU AZ BA BB BG BH BN BR BW BY BZ CA CH CL CN CO CR CU CZ DE DK DM DO DZ EC EE EG ES FI GB GD GE GH GM GT HN HR HU ID IL IN IR IS JP KE KG KN KP KR KZ LA LC LK LR LS LT LU LY MA MD ME MG MK MN MW MX MY MZ NA NG NI NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SK SL SM ST SV SY TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW					
Local Applications: WO2014CN76913A filed 2014-05-06					
CN104140974A =	201505	2014-11-12	C12N001562	✓	Chinese
Local Applications: CN201310164725A filed 2013-05-08					
KR2016003287A =	201615	2016-01-08	C12N001586	✓	English
Local Applications: based on WO2014180306 WO2014CN76913A filed 2014-05-06 KR2015734790A filed 2014-05-06					

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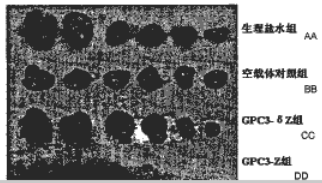

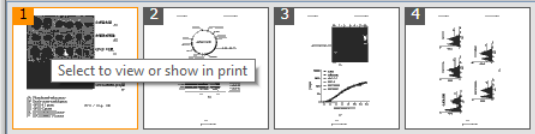

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Legal Status

INPADOC Legal Status

Gazette Date	Code	Description
2016-03-01	WWE +	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE US 14889778
2015-12-07	ENP	ENTRY INTO THE NATIONAL PHASE IN: KR 20157034790 A
2015-11-09	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN: DE
2015-11-06	ENP	ENTRY INTO THE NATIONAL PHASE IN: JP 2016512212 A
2014-12-31	121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION EP 14794936 A1

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Expand INPADOC Family (10) **INPADOC Family:** Alive

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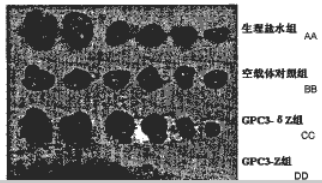

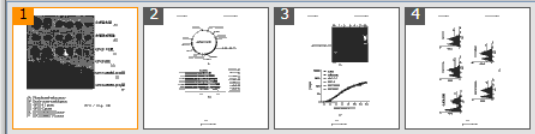

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WO2014180306A1Family Legal Status Report

- 10 members found

Jump	Publication	Title	Filed	ApplNo
Status	WO2014180306A1	NUCLEIC ACID OF CODED GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN AND T LYMPHOCYTE EXPRESSING GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN	2014-05-06	WO2014CN76913A
Status	US20160215261A1	Nucleic Acid Of Coded GPC3 Chimeric Antigen Receptor Protein And T Lymphocyte Expressing GPC3 Chimeric Antigen Receptor Protein	2016-03-01	US14889778A
Status	EP2995682A4	NUCLEIC ACID OF CODED GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN AND T LYMPHOCYTE EXPRESSING GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN	2014-05-06	EP2014794936A
Status	CN107460201A	Nucleic acid for encoding GPC (Glypican)-3 chimeric antigen receptor protein and T-lymphocyte for expressing GPC-3 chimeric antigen receptor protein	2013-05-08	CN201710672717A
Status	CN104140974B	编码GPC-3嵌合抗原受体蛋白的核酸及表达GPC-3嵌合抗原受体 蛋白的T淋巴细胞	2013-05-08	CN201310164725A
Status	CN104140974A	Nucleic acid for coding GPC-3 (glypican-3) chimeric antigen receptor protein and T lymphocytes for expression of GPC-3 chimeric antigen receptor protein	2013-05-08	CN201310164725A
Status	KR20160003287A	NUCLEIC ACID OF CODED GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN AND T LYMPHOCYTE EXPRESSING GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN	2014-05-06	KR20157034790A
Status	KR1857229B1	NUCLEIC ACID OF CODED GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN AND T LYMPHOCYTE EXPRESSING GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN	2014-05-06	KR20157034790A
Status	JP2016523518A	ＧＰＣ３キメラ抗原受容体蛋白質をコードする核酸及びＧＰＣ３キメラ抗原受容体蛋白質を発現するＴリンパ球	2014-05-06	JP2016512212A
Status	EP2995682A1	NUCLEIC ACID OF CODED GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN AND T LYMPHOCYTE EXPRESSING GPC3 CHIMERIC ANTIGEN RECEPTOR PROTEIN	2014-05-06	EP2014794936A

Codes shown: All Positive Negative *Positive actions are shown in green, Negative actions in red, neutral in black*

WO2014180306A1:

Gazette Date	Code	Description(remarks) List all possible codes forWO
2016-03-01	WWE +	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE (US14889778)
2015-12-07	ENP	ENTRY INTO THE NATIONAL PHASE IN: (KR20157034790)
2015-11-09	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN: (DE)

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KR2016003287A:

Gazette Date	Code	Description(remarks)	List all possible codes forKR
2018-05-04	GRNT +	WRITTEN DECISION TO GRANT	
2018-04-02	E701 +	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
2017-05-22	E902 -	NOTIFICATION OF REASON FOR REFUSAL	
2015-12-23	A201	REQUEST FOR EXAMINATION	

KR1857229B1:

Gazette Date	Code	Description(remarks)	List all possible codes forKR
2018-05-04	GRNT +	WRITTEN DECISION TO GRANT	
2018-04-02	E701 +	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
2017-05-22	E902 -	NOTIFICATION OF REASON FOR REFUSAL	
2015-12-23	A201	REQUEST FOR EXAMINATION	

JP2016523518A:

Gazette Date	Code	Description(remarks)	List all possible codes forJP
2018-08-14	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI) (JAPANE A911) (2018-08-13)	
2018-06-26	A521	WRITTEN AMENDMENT (JAPANESE INTERMEDIATE CODE: A523) (2018-06-26)	
2018-02-27	A02 -	DECISION OF REFUSAL (JAPANESE INTERMEDIATE CODE: A02) (2018-02-27)	
2017-10-23	A521	WRITTEN AMENDMENT (JAPANESE INTERMEDIATE CODE: A523) (2017-10-23)	
2017-08-22	A601	WRITTEN REQUEST FOR EXTENSION OF TIME (JAPANESE INTERMEDIATE CODE: A60	
2017-05-23	A131 -	NOTIFICATION OF REASONS FOR REFUSAL (JAPANESE INTERMEDIATE CODE: A131)	
2017-01-12	A521	WRITTEN AMENDMENT (JAPANESE INTERMEDIATE CODE: A523) (2017-01-12)	
2016-10-18	A131 -	NOTIFICATION OF REASONS FOR REFUSAL (JAPANESE INTERMEDIATE CODE: A131)	

EP2995682A1:

Gazette Date	Code	Description(remarks)	List all possible codes forEP
2017-12-06	17Q +	FIRST EXAMINATION REPORT (2017-11-06)	
2016-11-23	RIC1	CLASSIFICATION (CORRECTION)	
2016-11-23	A4 +	DESPATCH OF SUPPLEMENTARY SEARCH REPORT (2016-10-21)	
2016-11-23	RIC1	CLASSIFICATION (CORRECTION)	
2016-11-23	RIC1	CLASSIFICATION (CORRECTION)	
2016-11-23	RIC1	CLASSIFICATION (CORRECTION)	
2016-11-23	RIC1	CLASSIFICATION (CORRECTION)	

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- Detailed indexing and plain English annotations mean you can quickly understand the relevance of a given document, saving time and reducing spend on unnecessary translations.

- For additional insight and IP due diligence, transfer gene sequence search results into Derwent Innovation for:
  - Charting and analysis for general insights;
  - DWPI record review for detailed patent information including:
    - Patent alive/dead/indeterminate status
    - Patent expiry date (estimated)
    - Remaining patent life (estimated)
    - Optimized assignee and ultimate parent information
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Q&A

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