产业信息的检索与分析

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目录

- 产业信息调研思路
- 检索策略
- 什么是专利
- 专利数据库（Lens）的检索与分析

产业信息调研思路

技术、市场与政策导向

- 产业技术态势：通过企业申请和授权的专利，了解其相关技术发展。
- 产业市场调研：具体产品结构及其市场销售形势。上市公司年报、行业信息网站以及商业财经全文数据库等。
- 行业发展态势：行业发展政策战略分析。国家与行业与区域战略发展政策，发改委、工信部等国家部委或地方厅局发展布局安排等。

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检索策略

1. 把问题拆分成概念
2. 确认每一个概念的含义
3. 构建每一个概念的关键词

例如：非编码核糖核酸（non-coding RNA）

概念：非编码 (non-coding); 核糖核酸 (RNA)

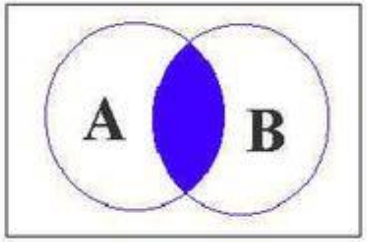
含义：微RNA (microRNA); 长非编码RNA (long non-coding RNA, lncRNA); 环形RNA (circular RNA)
以及各种缩写或其他写法

检索主题词：“non-coding RNA” or “ncRNA” or “microRNA” or “miRNA” or “long non-coding RNA” or “lncRNA” or “circular RNA” or “circRNA”

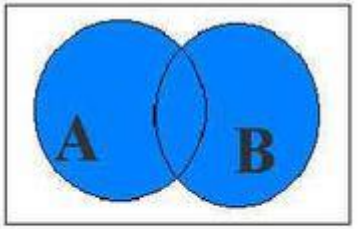
检索策略

Tips:

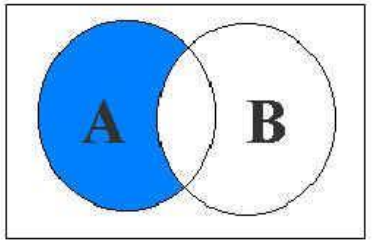
- 借助一篇已知的“目标文献”来确定检索术语
- 记录并整理这些术语
- Review类文章
- 导师、前辈或企业联系人构建正确的检索式，获得正确的数据集



A and B



A or B



A not B

检索7步骤

1. 确定检索问题
2. 把问题拆分成若干个独立的概念
3. 确定每个概念的表达词及短语
4. 每个概念单独检索（不分大小写）
5. 把这些检索式用AND，OR，NOT连接起来
6. 显示并评估检索结果
7. 提炼检索结果：收敛或扩张

专利的基本知识

专利是**专利权**的简称，即国家依法在**一定时期内**授予发明人**独占使用**此创造的权利。

- 是单个个体或一个团体与官方之间的协议
- 用于保护发明
- 存在于一个国家里或国家组织中

专利主要**分类**

1. **发明专利**：对产品、方法或其改进所提出的**新技术方案**
2. 实用新型专利：对产品的形状，构造或者其结合所提出的适于使用的新的技术方案
3. 外观设计专利：产品的形状、图案、色彩或其结合所做出的富有美感并使用与工业上应用的新设计。

发明专利的核心：权利要求（保护范围）

专利的基本知识

发明专利：**有效期20年**。
专利申请采用的是**先申请原则**，具有**创造性**、**新颖性**和**实用性**的发明创造**谁先申请了，专利就授予谁**。

发明专利审查流程：
1. **初步审查**：专利局收到专利申请后，对该申请进行编号，即为**申请号**，相应日期为**申请日**。专利局对申请进行初步审查，合格后，自申请日起满18个月，必须公布。（也可提前公开）
2. **实质审查**：发明申请公开后，在申请人的实审请求下，启动实质审查。
3. **授权**：实质审查合格后，审查员会发出授予专利权通知书。

专利的信息类别：
- 首页(Bibliography)
- 图示(Drawings)
- 说明书(Description)
- 权利要求(Claims)
- 调查报告(Search Report)

包含在专利文献中

- 法律信息(Legal status) → 需要另查

US008987422B2

专利公开（文献）号

(12) **United States Patent**
Delaney et al.

(10) **Patent No.: US 8,987,422 B2**
(45) **Date of Patent: Mar. 24, 2015**

专利授权公告日

专利名称

(54) **CD27L ANTIGEN BINDING PROTEINS**

专利申请人
专利发明人

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*专利权人（一般是公司）

(73) Assignee: **Amgen Inc.**, Thousand Oaks, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

专利申请号

(21) Appl. No.: **13/623,836**

*专利申请日

(22) Filed: **Sep. 20, 2012**

先公布专利文献的公开号和公开日

(65) **Prior Publication Data**

US 2013/0078237 A1 Mar. 28, 2013

Related U.S. Application Data

优先权日

(60) Provisional application No. 61/538,024, filed on Sep. 22, 2011.

IPC分类号

(51) **Int. Cl.**

C07K 16/30	(2006.01)
C07K 16/46	(2006.01)
C07K 16/28	(2006.01)
A61K 47/48	(2006.01)

UPC分类号

(52) **U.S. Cl.**

CPC ***C07K 16/2875*** (2013.01); *C07K 2317/21* (2013.01); *C07K 2317/33* (2013.01); *C07K 2317/56* (2013.01); *C07K 2317/732* (2013.01); *C07K 2317/734* (2013.01); *C07K 2317/76* (2013.01); *C07K 2317/92* (2013.01); *C07K 2317/77* (2013.01); ***A61K 47/48384*** (2013.01); ***A61K 47/48561*** (2013.01)

USPC **530/388.85**; 530/388.73; 530/388.15; 530/391.7

(58) **Field of Classification Search**

CPC .. C07K 16/2875; C07K 16/46; C07K 16/461; C07K 16/464; C07K 2317/21; C07K 2317/24; C07K 16/468; A61K 47/48384; A61K 47/48561

See application file for complete search history.

调查报告

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专利代理人

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Assistant Examiner — Jessica H Roark
(74) *Attorney, Agent, or Firm* — Joseph W. Bulock

摘要

(57) **ABSTRACT**

The present invention relates to CD27L antigen binding proteins, such an antibodies, polynucleotides encoding said CD27l antigen binding proteins, antibody drug conjugate compositions, and methods for diagnosing and treating diseases associated with CD27L expression.

权利要求，图示

29 Claims, 12 Drawing Sheets

为什么需要分类号（IPC/UPC/CPC…）

数量大：千万件
范围广：几乎所有技术领域
关键词或全文检索：专利用语不同于一般的科技文献，字面检索不能满足检索需求。

给予统一标示（标签）

IPC分类表：
http://www.sipo.gov.cn/wxfw/zlwxxxggfw/zsyd/bzyfl/gjzlfl/201502/t20150202_1070536.html

IPC分类表等级结构
部（A-H共8个部）、大类、小类、大组、小组
A61K38/00：含肽的医药配制品

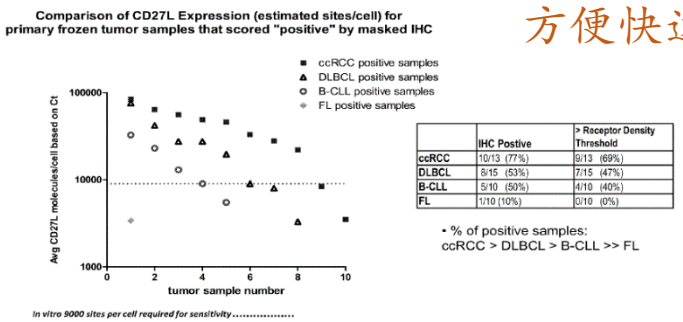
A	61	K	38/00
部	大类	小类	大组

A61K39/395：抗体（凝集素入A61K 38/36）；免疫球蛋白；免疫血清，例如抗淋巴细胞血清

A	61	K	39	/395
部	大类	小类	大组	小组

图示(Drawings)

方便快速浏览



	IHC Postive	> Receptor Density Threshold
ccRCC	10/13 (77%)	9/13 (69%)
DLBCL	8/15 (53%)	7/15 (47%)
B-CLL	5/10 (50%)	4/10 (40%)
FL	1/10 (10%)	0/10 (0%)

- % of positive samples:
ccRCC > DLBCL > B-CLL >> FL

FIG. 10

说明书(Description)

科技信息

- 对最新技术的详细说明
- 约占公开的科技信息量的80%
- 易于理解的原文

US 8,987,422 B2

1

CD27L ANTIGEN BINDING PROTEINS

RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application No. 61/538,024 filed on Sep. 22, 2011, the contents of which are hereby incorporated by reference in their entirety.

The present application is being filed along with a Sequence Listing in electronic format. The Sequence Listing is provided as a file entitled A-1437-US-NP(US Non-Prov)_ST25.txt, created Sep. 17, 2012, which is 94.3 KB in size. The information in the electronic format of the Sequence Listing is incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

The field of this invention relates to compositions of antigen binding proteins including antibodies capable of binding CD27L, as well as related methods.

BACKGROUND

CD27L (CD70, TNFSF7) is a type II integral membrane protein whose expression on normal tissues is highly restricted to a subset of activated T and B cells, dendritic cells and to a small subset of cells in the thymic epithelium. The biological functions of CD27L, which include augmentation or regulation of the immune response, are mediated via binding to its receptor, CD27, which is expressed predominately

2

etry on circulating tumor cells (Ranheim et al., *Blood* 85, 3556-3565 (1965); Trentin et al., Cancer Res. 57, 4940-4947 (1997)).

Of the 127,000 patients in the US currently with active B-NHL, approximately 50% of these patients present with the DLBCL (intermediate grade) sub-type (Morton et al., *Blood* 107, 265-276 (2002)). Despite Rituxan plus cyclophosphamide, adriamycin, vincristine, prednisone (CHOP) standard of care therapy for DLBCL patients, almost 50% relapse. Therefore an unmet medical need remains in this disease as well.

SUMMARY

The invention provides anti-CD27L antigen binding proteins, e.g., antibodies and functional fragments thereof. The anti-CD27L antigen binding proteins are particularly useful in methods of treating diseases and disorders associated with aberrant cell proliferation, e.g., cancer, and/or with inflammation.

In a first aspect, the CD27L antigen binding protein comprises a) a light chain variable domain having at least 90% identity, at least 95% identity, or is identical to the amino acid sequence set forth in SEQ ID NO:63, SEQ ID NO:64, SEQ ID NO:65, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:68, SEQ ID NO:69, or SEQ ID NO:70; b) a heavy chain variable domain having at least 90% identity, at least 95% identity, or is identical to the amino acid sequence set forth in SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, or SEQ ID

body comprising a light chain variable domain amino acid sequence as set forth in SEQ ID NO:66 and a heavy chain variable domain amino acid sequence as set forth in SEQ ID NO:20 (e.g., Ab4), an antibody comprising a light chain variable domain amino acid sequence as set forth in SEQ ID NO:67 and a heavy chain variable domain amino acid sequence as set forth in SEQ ID NO:21 (e.g., Ab5), an antibody comprising a light chain variable domain amino acid sequence as set forth in SEQ ID NO:68 and a heavy chain variable domain amino acid sequence as set forth in SEQ ID NO:22 (e.g., Ab6), an antibody comprising a light chain variable domain amino acid sequence as set forth in SEQ ID NO:69 and a heavy chain variable domain amino acid sequence as set forth in SEQ ID NO:23 (e.g., Ab7), or an antibody comprising a light chain variable domain amino acid sequence as set forth in SEQ ID NO:70 and a heavy chain variable domain amino acid sequence as set forth in SEQ ID NO:24 (e.g., Ab8). In preferred embodiments, the CD27L antigen binding protein inhibits binding of CD27 to CD27L. In particularly preferred embodiments, the autoimmune or inflammatory disorder is systemic lupus erythematosus (SLE), insulin dependent diabetes mellitus (IDDM), inflammatory bowel disease (IBD), multiple sclerosis (MS), psoriasis, autoimmune thyroiditis, rheumatoid arthritis (RA), or glomerulonephritis. In other embodiments, treatment inhibits or prevents transplant rejection or graft versus host disease in the patient.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1. Summary of functional and physical characteristics of exemplary embodiments of CD27L antigen binding proteins.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The section headings used herein are for organizational purposes only and are not to be construed as limiting the subject matter described. All references cited within the body of this specification are expressly incorporated by reference in their entirety.

Standard techniques may be used for recombinant DNA, oligonucleotide synthesis, tissue culture and transformation, protein purification, etc. Enzymatic reactions and purification techniques may be performed according to the manufacturer's specifications or as commonly accomplished in the art or as described herein. The following procedures and techniques may be generally performed according to conventional methods well known in the art and as described in various general and more specific references that are cited and discussed throughout the specification. See, e.g., Sambrook et al., 2001, *Molecular Cloning: A Laboratory Manuel*, 3rd ed., Cold Spring Harbor Laboratory Press, cold Spring Harbor, N.Y., which is incorporated herein by reference for any purpose.

EXAMPLES

The following examples, both actual and prophetic, are provided for the purpose of illustrating specific embodiments or features of the present invention and are intended to limit its scope.

Example 1

Fully Human Monoclonal Antibodies Against CD27L

权利要求(Claims)

- 专利的核心
- 用于法律领域
- 侵权检索的重要依据
- 大多数对已授权的专利感兴趣

What is claimed is:

1. A CD27L antigen binding protein having a light chain variable domain comprising an LCDR1 as set forth in SEQ ID NO:71; an LCDR2 sequence as set forth in SEQ ID NO:79; and an LCDR3 sequence as set forth in SEQ ID NO:87; and a heavy chain variable domain comprising an HCDR1 as set forth in SEQ ID NO:25; an HCDR2 sequence as set forth in SEQ ID NO:33; and an HCDR3 sequence as set forth in SEQ ID NO:41.

2. A CD27L antigen binding protein having a light chain variable domain comprising an LCDR1 as set forth in SEQ ID NO:72; an LCDR2 sequence as set forth in SEQ ID NO:80; and an LCDR3 sequence as set forth in SEQ ID NO:88; and a heavy chain variable domain comprising an HCDR1 as set forth in SEQ ID NO:26; an HCDR2 sequence as set forth in SEQ ID NO:34; and an HCDR3 sequence as set forth in SEQ ID NO:42.

3. A CD27L antigen binding protein having a light chain variable domain comprising an LCDR1 as set forth in SEQ ID NO:73; an LCDR2 sequence as set forth in SEQ ID NO:81; and an LCDR3 sequence as set forth in SEQ ID NO:89; and a heavy chain variable domain comprising an HCDR1 as set forth in SEQ ID NO:27; an HCDR2 sequence as set forth in SEQ ID NO:35; and an HCDR3 sequence as set forth in SEQ ID NO:43.

4. A CD27L antigen binding protein having a light chain variable domain comprising an LCDR1 as set forth in SEQ ID NO:74; an LCDR2 sequence as set forth in SEQ ID NO:82; and an LCDR3 sequence as set forth in SEQ ID NO:90; and a heavy chain variable domain comprising an HCDR1 as set SEQ ID:56 and the heavy chain comprises the amino acid sequence set forth in SEQ ID NO:10.

10. The CD27L antigen binding protein of claim **2**, wherein the light chain comprises the amino acid sequence set forth in SEQ ID:57 and the heavy chain comprises the amino acid sequence set forth in SEQ ID NO:11.

11. The CD27L antigen binding protein of claim **4**, wherein the light chain comprises the amino acid sequence set forth in SEQ ID:58 and the heavy chain comprises the amino acid sequence set forth in SEQ ID NO:12.

12. The CD27L antigen binding protein of claim **5**, wherein the light chain comprises the amino acid sequence set forth in SEQ ID:59 and the heavy chain comprises the amino acid sequence set forth in SEQ ID NO:13.

13. The CD27L antigen binding protein of claim **6**, wherein the light chain comprises the amino acid sequence set forth in SEQ ID:60 and the heavy chain comprises the amino acid sequence set forth in SEQ ID NO:14.

14. The CD27L antigen binding protein of claim **7**, wherein the light chain comprises the amino acid sequence set forth in SEQ ID:61 and the heavy chain comprises the amino acid sequence set forth in SEQ ID NO:15.

15. The CD27L antigen binding protein of claim **8**, wherein the light chain comprises the amino acid sequence set forth in SEQ ID:62 and the heavy chain comprises the amino acid sequence set forth in SEQ ID NO:16.

16. A variant of the CD27L antigen binding protein of claim **11**, wherein the variant is selected from the group consisting of:

发明专利申请号和专利文献号及其意义

日期	专利编号	编号规则	编号意义	文献种类
专利申请日	申请号	CN年号+专利类别号+序列号+校验码（4+1+7=13位） CN xxxx 1 xxxxxxx.x	提交专利申请文件时，专利局给该申请的编号。	申请文件：申请书、权利要求书、说明书、摘要、附图。
公开日	公开号	CN+专利类别号+文献流水号+专利文献种类标示代码，CN xxxxxxxx A	发明专利申请说明书公开号	发明专利申请公开说明书
授权公告日	授权公告号	CN+专利类别号+文献流水号+专利文献种类标示代码，CN xxxxxxxx B	发明专利授权公告号	发明专利审定授权说明书
	专利号	ZL+申请号 ZL xxxx 1 xxxxxxx.x	经授权的专利号，载于专利书上。	发明专利证书

专利检索思路

确定检索主题→选择数据库→选择检索入口

专利技术信息检索：可以了解某技术领域的技术现状、专利保护情况。
检索线索：IPC+关键词
IPC确定：检索、阅读分类表 /对初步检索结果的统计/密切相关专利的分类号

专利相关人（专利权人或发明人）检索 ：可以进行竞争对手分析、寻求合作伙伴、挖掘技术人才 。
检索线索：名称（包括各种书写和缩写形式） 专利权人为机构时，要考虑分支机构构成、兼并等情况。

专利法律状态检索 ：了解专利目前的法律状态 。
同族专利检索 ：了解专利地域效力、同一发明创造在不同国家地域的审查情况、文种转换。
检索线索：申请号或文献号

https://www.lens.org/

Lens

Open public resource for innovation cartography

➢ **专利检索**

Lens专利检索提供多字段组合检索，并且支持基于全文的专利搜索。

➢ **专利分析**

Lens分析平台可实现一维统计分析及可视化，便于检索结果的二次筛选。

➢ **专利管理**

Lens分析平台可以实现主题结果的保存、共现以及标签管理等。

目标：

安进公司有关蛋白质的专利

Structured Search

Submit Search

Query Query Predicate: AND

protein in Full text

amgen in

- Full text
- Lens ID
- Inventors
- Owners (US)
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- Abstract
- Claims
- Title, Abstract or Claims
- Applicants
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- ORCID Works Citations
- Publication Number
- Filing Number
- CPC Classifications
- US Classifications
- IPCR Classifications

Dates:

Documents That Were: Published between

Filed

Jurisdictions

Only search patent documents that are IN **the following jurisdictions.**

- Armenia
- Austria
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- ARIPO
- Australia
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- Canada
- China
- Czechoslovakia
- Czech Republic
- Denmark
- Eurasian Patent Organization
- Ecuador

Document Type

- Patent Application
- Search report
- Abstract
- Supplementary protection certificate
- Granted Patent
- Amended Patent
- Plant patent
- ambiguous
- Limited Patent
- Design right
- Statutory Invention Registration
- unknown

Options

Full Text One doc per family: Stemming: Query Language: English

applicant:amgen && protein

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Enhancement Of Microbial Expression Of Polypeptides
Published: **Aug 25, 1987** Family: **1** Cited: **205** Info:
Owner: **Amgen**
US 4
Doc type:
ID: lens.o

Ob Fusion Protein Compositions And Methods
Published: **Jul 28, 2005** Family: **6** Cited: **15** Info:
Applicant: **amgen Inc**
US 2
Doc type:
ID: lens.o

Proteolytic Enzymes
Published: **Jan 11, 1994** Family: **1** Cited: **29** Info:
Applicant: **amgen**
US 5278062 A
Doc type: **Granted Patent**
ID: **lens.org/139-245-792-574-463**

Wash Buffer And Method Of Using
Published: **Dec 10, 2009** Family: **4** Cited: **2** Info:
Owner: **Amgen Inc**
US 2009/0306351 A1
Doc type: **Patent Application**
ID: **lens.org/103-355-501-502-939**

Potentiation Of The Effects Of Insulin By Peptides
Published: **Dec 10, 1985** Family: **1** Cited: **32** Info:
Owner: **Amgen**
US 4558033 A
Doc type: **Granted Patent**
ID: **lens.org/063-085-280-936-648**

Methods And Materials For Development Of Parvovirus Vaccine.
Published: **Aug 29, 1984** Family: **3** Cited: **10** Info:
Applicant: **amgen**
EP 0117063 A1
Doc type: **Patent Application**
ID: **lens.org/127-115-600-922-531**

Expression Of Exogenous Polypeptides And Polypeptide Products Including Hepatitis B Surface
US 4977092 A

Methods And Materials For Development Of Parvovirus Vaccine.

Published: **Aug 29, 1984** Family: **3** Sequences: **7** Non Patent Citations: **2** Cites: **1** Cited: **10**
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EP 0117063 A1
Doc Type: **Patent Application**
ID: **lens.org/127-115-600-922-531**

The full document isnt yet available to us from the patent office, but weve found a related patent (family member) to use for our images and PDF.

Abstract

Novel immunologically active polypeptides for use in anti-parvovirus vaccines are provided through structural analysis and characterization of the parvovirus genome. In a preferred embodiment, microbial expression of polypeptides is secured through use of DNA vectors comprising DNA sequences duplicative of porcine parvovirus (PPV) genomic DNA. Microbially expressed polypeptides as well as synthetic replicas of polypeptides coded for by DNA sequences of the invention exhibit immunological activity in, e.g., plate binding assays.

Claims

Information currently unavailable.

Applicants

- Amgen

Inventors

- Fox Gary M
- Hu Sylvia S

CPC Classifications

- A61K39/00
- C07K14/005
- C07K2319/00
- C07K2319/40
- C12N15/69
- C12N2750/14322
- C12Q1/701
- G01N33/56983

IPC Classifications

- A61K39/00
- C07K14/015
- C12N15/69
- C12P21/04
- C12Q1/70
- G01N33/569

Document History

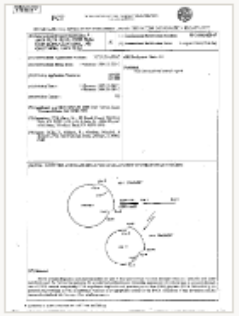
Publication
Aug 29, 1984 EP_0117063_A1

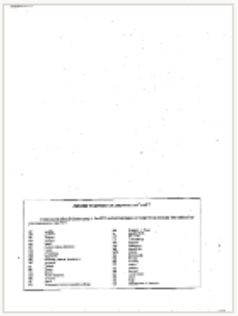
Application
Jan 18, 1984 EP_84300312_A

Priority
Jan 6, 1984 US_56796884_A
Jan 19, 1983 US_45920383_A

Family Member Preview

These are the images from a related family member, as the full document isn't yet available to us from the patent office.





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法律状态

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Methods Of Reducing Or Eliminating Protein Modification And Degradation Arising From Exposure To Uv Light

Published: **May 2, 2013** Family: **13** Non Patent Citations: **33** Cites: **17** Cited: **2**
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WO 2013/063298 A1
Doc Type: **Patent Application**
ID: **lens.org/016-358-818-154-047**

Legal events (OPS)

Gazette date	Legal code	Document number	Description
Jun 19, 2013	121	WO 2012061965 W	**EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION** ▸ Ref Document Number: 12781248 ▸ Country of Ref Document: EP ▸ Kind Code of Ref Document: A1
Apr 9, 2014	WWE	WO 2012061965 W	**+WIPO INFORMATION: ENTRY INTO NATIONAL PHASE** ▸ Ref Document Number: 232019 ▸ Country of Ref Document: IL
Apr 23, 2014	ENP		
Apr 24, 2014	ENP		▸ Kind Code of Ref Document: A
Apr 25, 2014	ENP	WO 2012061965 W	**ENTRY INTO THE NATIONAL PHASE IN:** ▸ Ref Document Number: 2014539012

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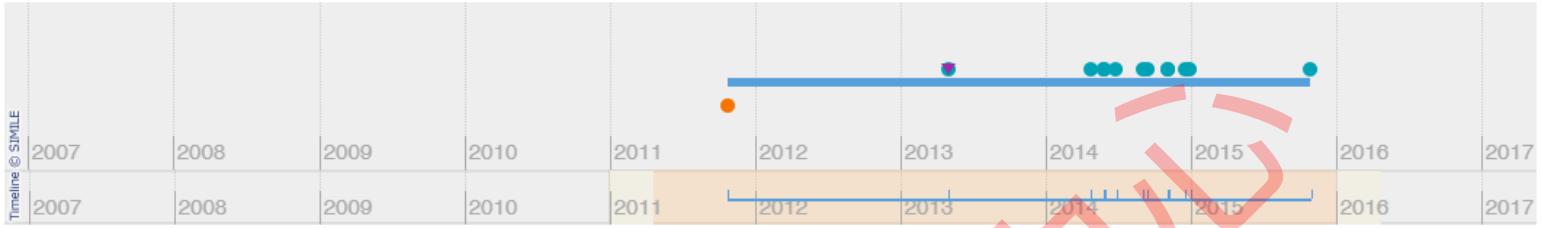

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Family of WO 2013/063298 A1

Family priorities tables

#	Publication Number	Info	Publication Date	Priority Claims
1	CA 2853371 A1 Doc type: Patent Application ID: lens.org/029-609-738-179-813		May 2, 2013	1
2	WO 2013/063298 A1 Doc type: Patent Application ID: lens.org/016-358-818-154-047		May 2, 2013	1
3	AU 2012/328753 A1 Doc type: Patent Application ID: lens.org/028-198-428-889-078		Apr 24, 2014	1
4	IL 232019 D0 Doc type: Patent Application ID: lens.org/023-730-575-254-802		May 28, 2014	1
5	SG 11201401739Y A		May 29, 2014	1

Priorities table

#	Priority Key	Filing Date
1	US_201161551822_P	Oct 26, 2011

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Methods Of Reducing Or Eliminating Protein Modification And Degradation Arising From Exposure To Uv Light

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WO 2013/063298 A1 cites *17* patent documents

- US 5877293 A (Mar 2, 1999) Cdr Grafted Anti-cea Antibodies And Their Production
- US 5886152 A (Mar 23, 1999) Humanized B-b10
- US 5981163 A (Nov 9, 1999) Process For The Sterilization Of Biological Compositions Using Irradiation And Quenchers Of Type I And Type Ii Photodynamic Reactions
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- US 6696245 B2 (Feb 24, 2004) Methods For Selecting Functional I
- US 2004/0038291 A2 (Feb 26, 2004) Method To Screen Phage Dis
- EP 1415669 A1 (May 6, 2004) Process For Sterilization Of Protein
- US 2004/0202995 A1 (Oct 14, 2004) Nucleic Acids, Proteins, And
- US 6846634 B1 (Jan 25, 2005) Method To Screen Phage Display I
- US 2005/0202512 A1 (Sep 15, 2005) Method To Screen Phage Dis
- US 7138370 B2 (Nov 21, 2006) Specific Binding Agents Of Human
- US 7511012 B2 (Mar 31, 2009) Myostatin Binding Agents

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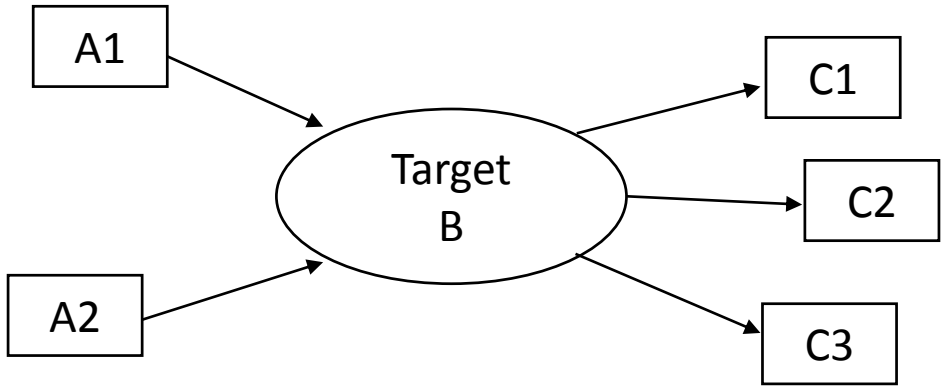

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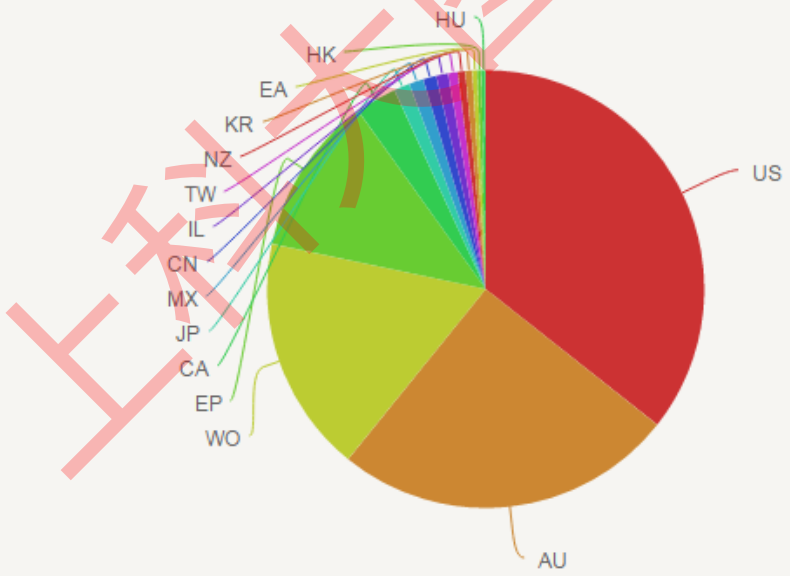

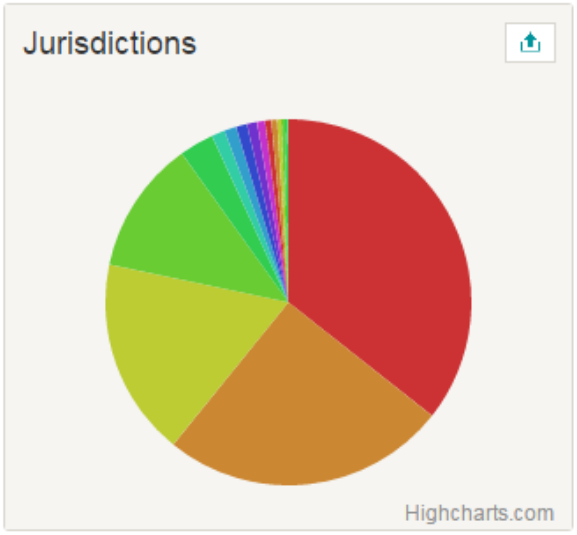
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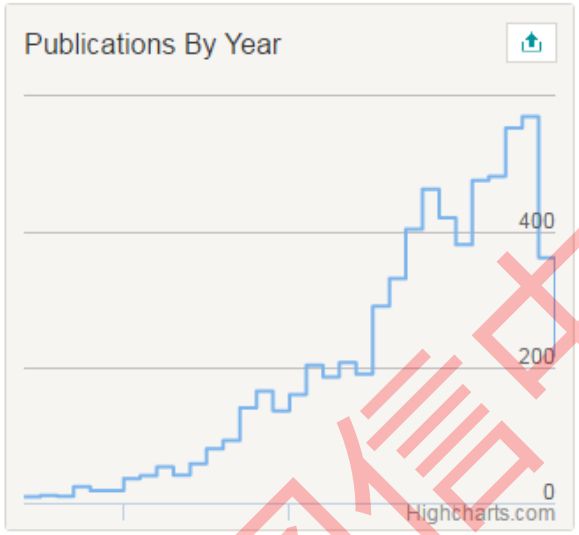
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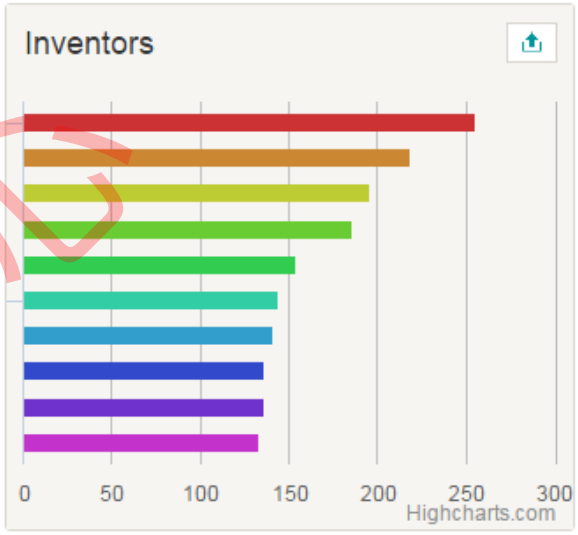
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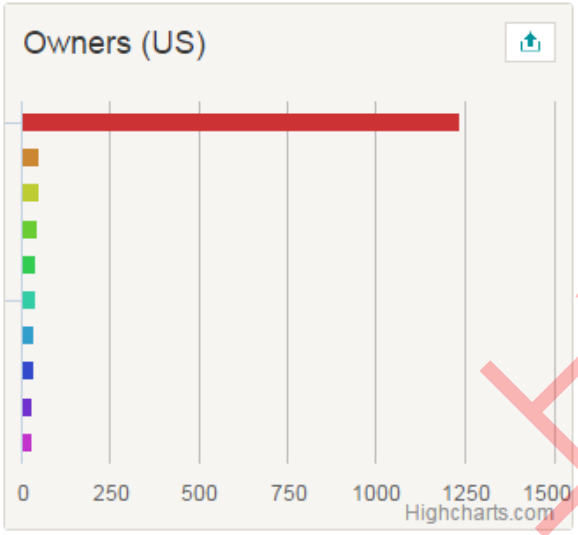
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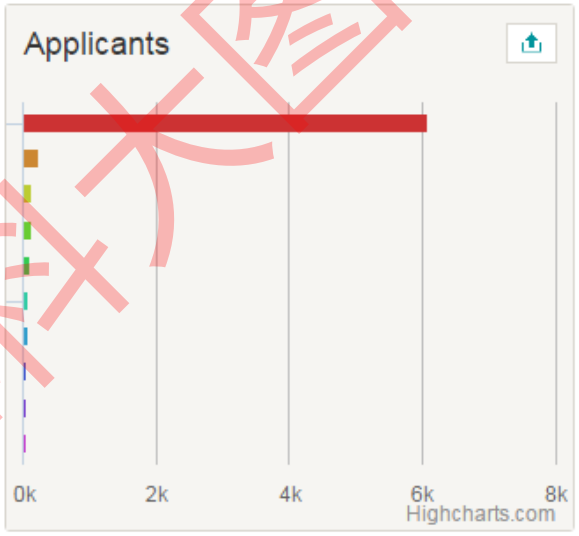
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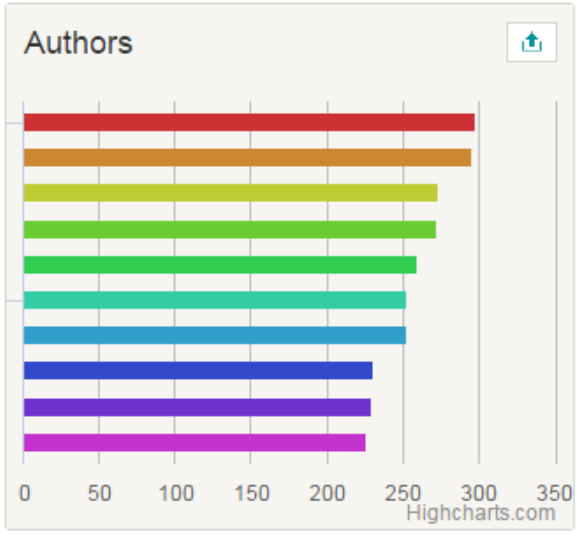
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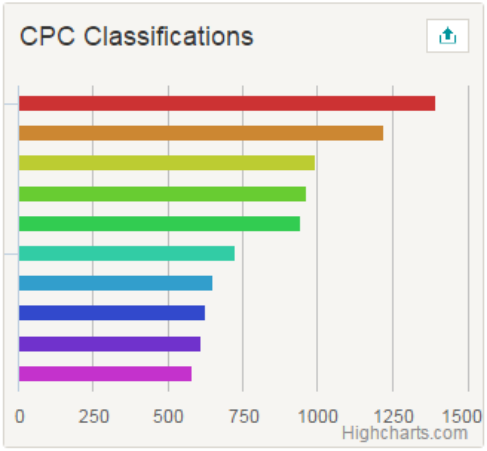
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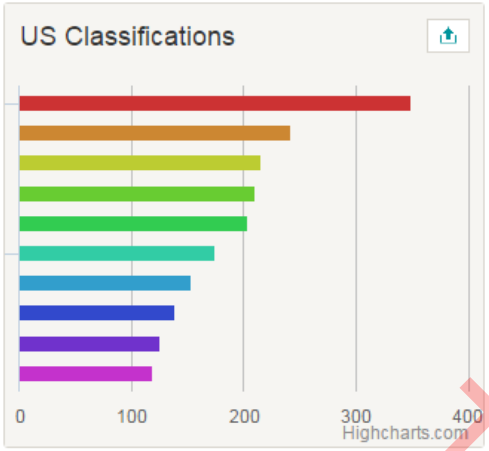
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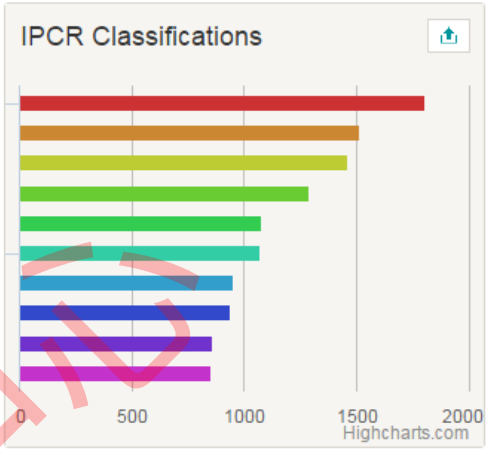
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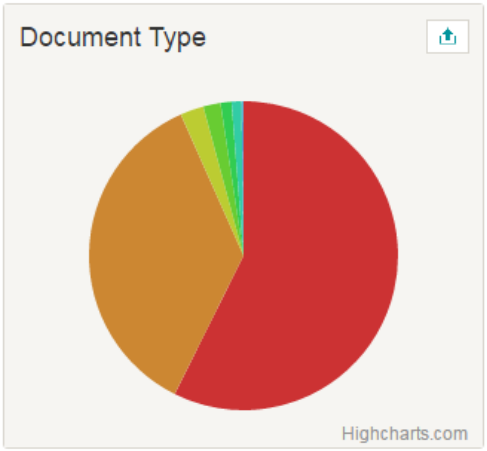
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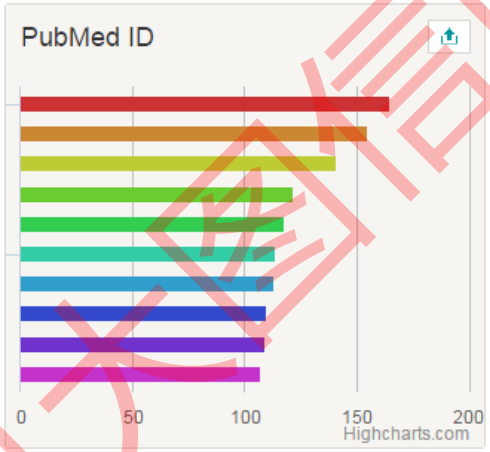
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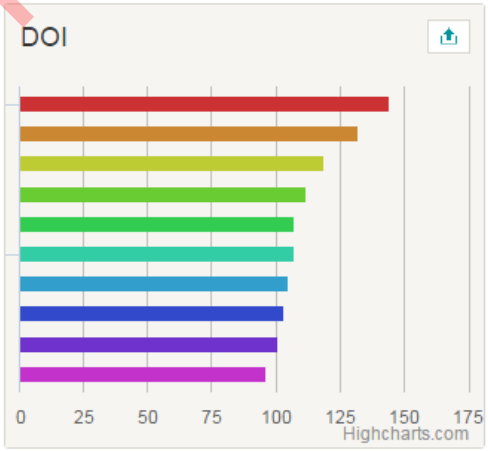
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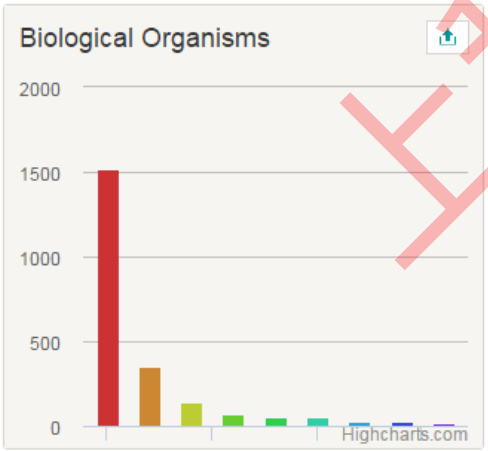
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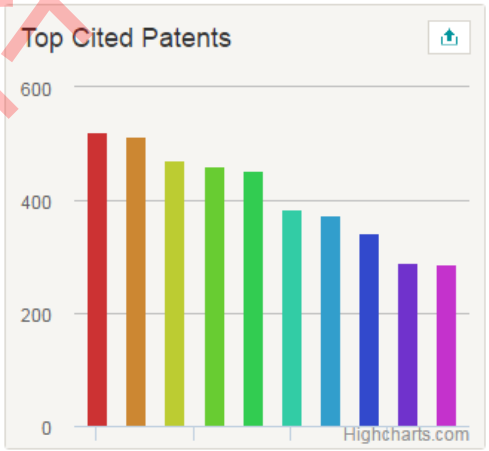
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