



Topic 1: **Work-Sharing and Work-Products related to Biosequences**

Transparency of examination in national phases

Dr. Lutz Mailänder

Head, Cooperation on Examination and Training Section

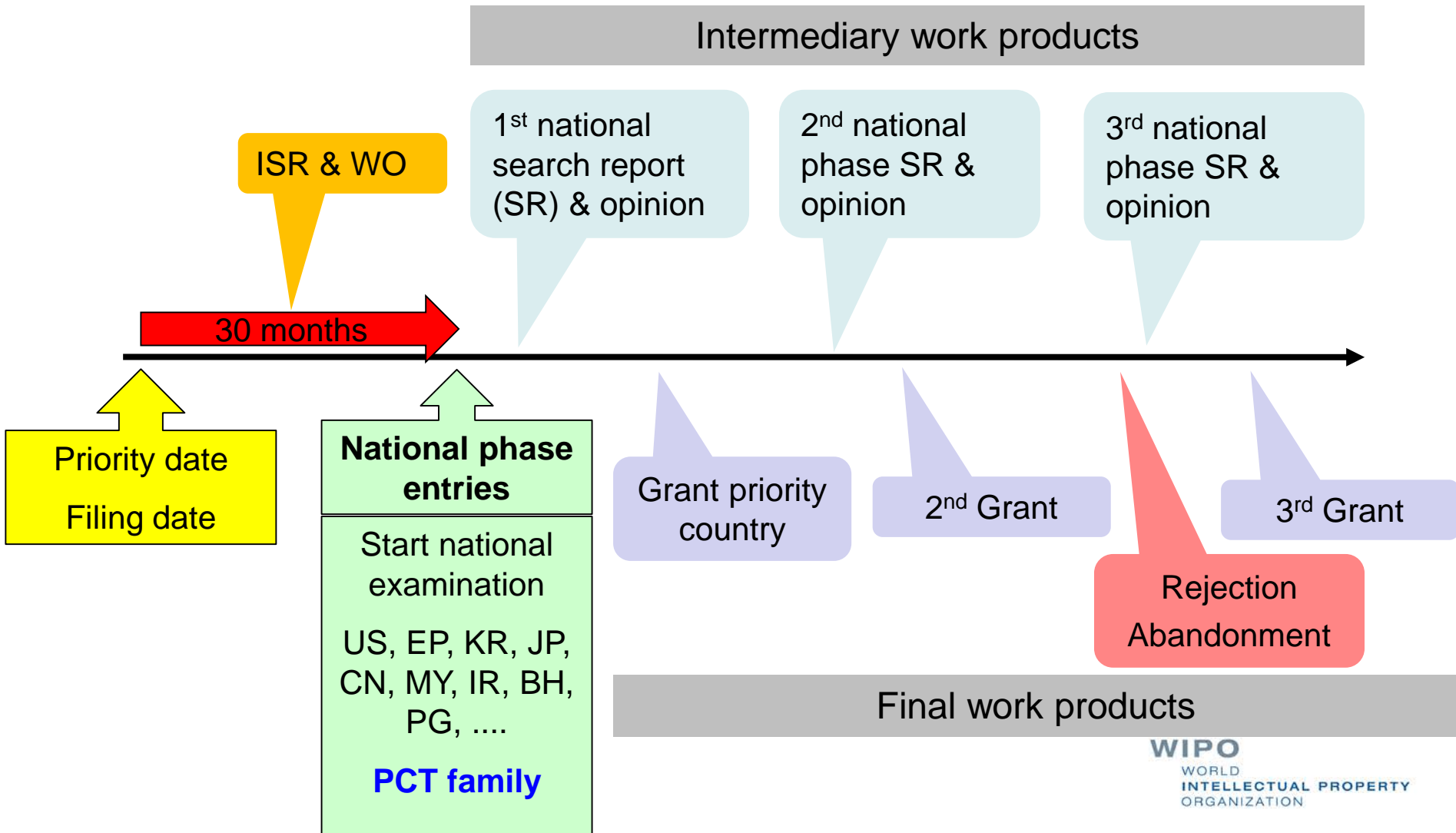
PCT International Cooperation Division

Manila
May 20, 2019

Agenda

- Growing transparency because of work-sharing platforms
 - Diversity of examination work-products
 - Visible for other examiners
 - Visible for third parties
- Opportunities and implications for national phase examination
 - Enhancing efficiency and improving quality
 - Regional cooperation - cooperative examination
 - Monitoring of quality:
 - Has an examiner seen what he could have seen?**

Potential life cycle of a PCT application



Work-Sharing through patent families

- **Patent family:** same or similar invention was **filed in several IPOs**, e.g. a PCT application entered several national phases
- **PCT family:** all applications linked through same PCT application number
- **Simple family or extended family:** may include more than one PCT family (e.g. WO2014136037 has WO2014136055 in SF; WO2015058464 has 31 WO in EF)
- Examination results/work products for members of the patent family may be utilized for improving **efficiency** and **quality** of examination
 - Opportunities for small/under-resourced IPOs

Types of examination work products

- **Intermediary or pre-grant** work products
 - Search reports
 - basic list of citations (cited by examiner, by applicant)
 - enriched search reports (citation category X, Y, ..; relevant claims;...)
 - Patent literature; non-patent literature; bio-sequences
 - **Search strategies**
 - Written opinions, examination reports
 - Communications from applicant to examiner
 - Protocols of hearings
 - Third party observations
- **Final** work products/results
 - Granted claims; claims after opposition
 - Rejections; withdrawals following substantive reports; abandoned claims
- **Post-grant** work products/results
 - Additional prior art from opposition/re-examination/invalidation
 - Restricted claims
 - Communications between involved parties (3+)

4. A METHOD FOR RECOVERING HYDROCARBON COMPOUNDS AND A HYDROCARBON RECOVERY APPARATUS FROM A GASEOUS BY-PRODUCT

<p>★ Inventor: TASAKA KAZUHIKO [JP]</p>	<p>Applicant: JAPAN OIL GAS & METALS JOGMEC [JP] INPEX CORP [JP] (+4)</p>	<p>CPC: B01D3/00</p>	<p>IPC: C10G2/00</p>	<p>Publication info: CA2752839 (A1) 2010-09-02 CA2752839 (C) 2014-02-18</p>	<p>Priority date: 2009-02-27</p>
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Grant

5. Method for collecting hydrocarbon compound from gaseous by-product and apparatus for collecting hydrocarbon

<p>★ Inventor: KAZUHIKO TASAKA</p>	<p>Applicant: JAPAN OIL GAS & METALS JOGMEC INPEX CORP (+4)</p>	<p>CPC: B01D3/00</p>	<p>IPC: C10G2/00</p>	<p>Publication info: CN102333846 (A) 2012-01-25 CN102333846 (B) 2014-01-29  Global Dossier</p>	<p>Priority date: 2009-02-27</p>
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Grant

6. METHOD FOR COLLECTING HYDROCARBON COMPOUNDS FROM GASEOUS BY-PRODUCT AND APPARATUS FOR COLLECTING HYDROCARBON


<p>★ Inventor: Тасака, Казухико</p>	<p>Applicant: ДЖЭПЭН ОЙЛ, ГЭЭ ЭНД МЕТАЛЗ НЭШНЛ КОРПОРЕЙШН, ИНПЕКС КОРПОРЕЙШН, (+4)</p>	<p>CPC: B01D3/00</p>	<p>IPC: C10G2/00</p>	<p>Publication info: EA201170995 (A1) 2012-02-28 EA018772 (B1) 2013-10-30</p>	<p>Priority date: 2009-02-27</p>
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Grant

publication kind
code for grants
B or C
(sometimes A)

publication date

7. METHOD FOR COLLECTING HYDROCARBON COMPOUND FROM GASEOUS BY-PRODUCT AND APPARATUS FOR COLLECTING HYDROCARBON

<p>★ Inventor: TASAKA KAZUHIKO [JP]</p>	<p>Applicant: JAPAN OIL GAS & METALS JOGMEC [JP] INPEX CORP [JP] (+4)</p>	<p>CPC: B01D3/00</p>	<p>IPC: B01D53/14</p>	<p>Publication info: EP2402418 (A1) 2012-01-04 EP2402418 (A4) 2012-11-21  Global Dossier</p>	<p>Priority date: 2009-02-27</p>
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No grant

8. METHOD FOR COLLECTING HYDROCARBON FROM FT GAS COMPONENT AND APPARATUS FOR COLLECTING HYDROCARBON

<p>★ Inventor: TASAKA KAZUHIKO</p>	<p>Applicant: JAPAN OIL GAS & METALS JOGMEC INPEX CORP (+4)</p>	<p>CPC: B01D3/00</p>	<p>IPC: C10G2/00</p>	<p>Publication info: JP2010202677 (A) 2010-09-16 JP5301318 (B2) 2013-09-25  Global Dossier</p>	<p>Priority date: 2009-02-27</p>
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Grant



European Patent Register

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EP2402418
European procedure
About this file
Legal status
Federated register
Event history
Citations
Patent family
All documents

All documents: EP2402418 Dossier alert: RSS Email

Refine search ↓ Selected documents ↓ Zip Archive ↗ Espacenet Submit observations Report error

All documents(38)

<input type="checkbox"/> <u>Date</u> ⬇	Document type
<input type="checkbox"/> 18.09.2017	Closing of application
<input type="checkbox"/> 07.06.2017	Application deemed to be withdrawn (translations of claims/payment missing from 01-04-2012) ←
<input type="checkbox"/> 04.04.2017	Notice drawing attention to the payment of the renewal fee and additional fee
<input type="checkbox"/> 21.12.2016	Bibliographic data of the European patent application
<input type="checkbox"/> 21.12.2016	Communication about intention to grant a European patent ←
<input type="checkbox"/> 21.12.2016	Intention to grant (signatures)
<input type="checkbox"/> 21.12.2016	Text intended for grant
<input type="checkbox"/> 21.12.2016	Text intended for grant (clean copy)

Quick help -

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- [Can I open multiple documents in separate windows?](#)
- [Is it possible to print a document?](#)

Maintenance news +


What is needed for work-sharing?

- Comprehensive **patent family information**, detailed as
 - Simple family (all priorities are the same; descriptions are very likely equivalent)
 - Distinguishing PCT families
 - Extended family (largest possible family)
- Examination (legal) status information
- **Access to examination work products/dossiers**
- Platforms which integrate this information user friendly
- Translation tools for work products
- Tools for comparing work products
 - Citations (search reports)
 - Claims
- Information on differing national practices (naming and content of work products; important case law; exclusions; ..)

Sources of family information

- **Family building:** family relations are derived from priority and PCT application data
- EPO processes accordingly bibliographic data of all publications included in its database (90+ jurisdictions) obtained from offices sharing publication data
- **EPO's INPADOC database** is major source of such family information, accessible through:
 - Espacenet, EP-Register and CCD (simple and extended families; domestic families)
 - Other free patent information databases, like Depatis, Google Patents,..
- **WIPO's PATENTSCOPE** aggregates **national phase entry data reported from Designated/Elected Offices** (obligation as from July 1, 2017; rule 95)
- **WIPO CASE** performs family building among applications shared by providing offices; families are complex families (i.e. share at least one priority)
- Commercial patent databases obtain and use widely INPADOC data, and apply proprietary family building rules and data cleaning, e.g.
 - Clarivate/Derwent: WPI family
 - Questel/Orbit: Fampat family
 - ...
- Other specialized platforms, e.g. WIPO's Pat-Informed

Source of family information: Espacenet



Europäisches Patentamt
European Patent Office
Office européen des brevets

Espacenet
Patent search

Deutsch English Français

Contact

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Search Result list **★ My patents list (0)** Query history Settings Help

WO2007111918 (A2)

Bibliographic data

Description

Claims

Mosaics

Original document


Cited documents

Citing documents

INPADOC legal status


INPADOC patent family

Bibliographic data: WO2007111918 (A2) — 2007-10-04

★ In my patents list → EP Register → Report data error 

HEAT PROCESSING SYSTEMS, APPARATUSES, AND METHODS FOR COLLECTION AND DISPOSAL OF INFECTIOUS AND MEDICAL WASTE

Page bookmark [WO2007111918 \(A2\) - HEAT PROCESSING SYSTEMS, APPARATUSES, AND METHODS FOR COLLECTION AND DISPOSAL OF INFECTIOUS AND MEDICAL WASTE](#)

Inventor:  **Inpadoc ('extended') family**

Applicant: ORDER D...

Classification: - international: **A61B19/02; A61L11/00; A61M5/32; B09B3/00**



- cooperative: **A61B19/0288; A61L11/00; B09B3/0075; B09B3/0083; A61B19/024; A61B2019/0294; A61B2019/0295; A61B2019/0296**

Application number: WO2007US07071 20070322

Priority number(s): **US20060785512P 20060323 ; US20060785548P 20060323**

Also published as: **WO2007111918 (A3) → UY30238 (A1) □ US2007224077 (A1) □ TW200812650 (A) → PE12992007 (A1) → more**

Abstract of WO2007111918 (A2)

Translate this text into 
  powered by EPO and Google

Various embodiments of systems and methods for collection and disposal of infectious and medical waste are disclosed. An embodiment includes a system with a body having a chamber that receives a container of medical waste. The chamber may include a canister that has limited access to the interior of the

Priorities (here 2 US)
create family relations

Simple family ('equivalents')

WORLD INTELLECTUAL PROPERTY ORGANIZATION

National phase entries in Patentscope

The screenshot shows the WIPO Patentscope interface. At the top, the WIPO logo and 'PATENTSCOPE' are visible. Below the logo, the text 'Search International and National Patent Collections' is present. A navigation bar includes 'Search', 'Browse', 'Translate', 'Options', 'News', and 'Login'. The main content area displays a search result for '1. (WO1999007319) A MULTI-FUNCTIONAL FASTENER FOR DISPOSABLE...'. A red circle highlights the 'National Phase' tab in the navigation bar. A green circle highlights the text 'Available information on National Phase entries (more information)'. A table below lists national phase entries for various countries, including Australia, Canada, European Patent Office, Israel, Republic of Korea, and Mexico. A green callout bubble points to the 'National Number' column, and a yellow callout bubble points to the table content.

WIPO PATENTSCOPE
Search International and National Patent Collections
WORLD INTELLECTUAL PROPERTY ORGANIZATION
Search Browse Translate Options News Login
Home > IP Services > PATENTSCOPE
Machine translation
1. (WO1999007319) A MULTI-FUNCTIONAL FASTENER FOR DISPOSABLE...
PCT Biblio. Data Description Claims National Phase Notices Drawings Documents
Available information on National Phase entries (more information)
Office Entry Date National Number National Status
Australia 07.03.2000 86022/98 Granted: 12.07.2001
Canada 03.11.1999 2289029
European Patent Office 07.03.2000 1998937274 Published: 24.05.2000
Granted: 15.12.2004
Israel 29.07.1998 132595 Published: 19.03.2001
Granted: 11.02.2005
Republic of Korea 07.02.2000 1020007001251 Published: 26.03.2001
Granted: 27.04.2006
Mexico Not_Available

National application numbers

Hyperlinked to national registers

Sharing NPE data mandatory as from July 2017

Currently some 60 jurisdictions

WIPO CASE family table

WIPO CASE

Application Number Extended Simple e.g.: (PCT/JP2013/081486, PCT/US2013/071150) Compare History Maximize Close all tabs

PCTKR2007002479

Time Line **Tabular View** Family Citations Discussion

Application/Priority #	Filing/National Entry Date	Publications	PCT Application #
KR1020070049340	2007-05-21	KR 1020070112725.B1.2007-11-27, KR 1020070112725.A.2007-11-27	
US12/301,700	2007-05-22	US 20090163574.B2.2009-06-25	
AU2007252371	2007-05-22	AU 2007252371.B2.2013-07-25	
KR1020060045715			
KR1020070049340			
CA2653124			
KR1020060045715			
KR1020070049340	2007-05-21		
EP2007746627	2007-05-22	EP 2019664.B1.2009-02-04	
KR20060045715	2006-05-22		
KR20070049340	2007-05-21		
MY2008004753	2007-05-22	MY PI20084753.A.2013-09-30, MY PI 20084753.A.2008-11-22, MY PI 20084753.A.2008-11-22	
KR1020060045715	2006-05-22		
KR1020070049340	2007-05-21		
IL195459	2007-05-22	IL 195459.A.2009-08-03	PCT/KR2007/002479.2007-05-22
KR1020060045715	2006-05-22		
KR1020070049340	2007-05-21		

Family table

Does **NOT** mean simple and extended family CASE families are complex families

Patent family in Global Dossier (USPTO)



Global Dossier

Office WIPO Type PCT Application PCT/US2014/052705

★ Collections 0 ↻ History 1

PCT/US2014/052705 12 Members in Patent Family (12 currently shown)

Domestic families

Extended family, no option to select simple family

Office	Application	Applicant	Title	App. Date	Priority #	Pub. #	Pub. Date	Action
PE	0002862016			08/26/2014	US 61870089	PE 03542016 A1	05/11/2016	
MX	2016002410			08/26/2014	US PCT/US14/52705 US 61870089	MX 2016002410 A	05/31/2016	
EA	201690475			014	US PCT/US14/52705 US 61870089	EA 201690475 A1	06/30/2016	
AR	P140103202			014	US 61870089	AR 097461 A1	03/16/2016	
AU	2014311324 View Dossier	1) Red Leaf Resources, Inc.,	Gas barrier	014	US PCT/US14/52705 US 61870089	AU 2014311324 A1 AU 2014311324 B2	04/07/2016 11/10/2016	(2) Add to ★
AP	201609052			014	US PCT/US14/52705 US 61870089	AP 201609052 D0	02/29/2016	
US	14469062 View Dossier	1) Patten, James W. 2) Bungler, James W. 3) Seely, Dan	GAS COM	014	US 61870089 US 14469062	US 20150053269 A1	02/26/2015	(1) Add to ★
CA	2922019			08/26/2014	US PCT/US14/52705 US 61870089	CA 2922019 A1	03/05/2015	

- IP Office Type
- All IP5 Offices
 - EPO
 - SIPO
 - KIPO
 - JPO
 - USPTO
 - Non-IP5 Offices

Comparison of family data of 4 samples

Status as of Aug 22, 2018	EPO Inpadoc	USPTO GD	Patentscope NPE	WIPO CASE
PCT/KR2007/002479 stable composition	26: AU, BR, CA, CN, CR, EA, EC, EP, ES-T, GE, GT, HK, IL, JP, 2xKR, MA, MX, MY, NZ, SV, TN, UA, US, ZA	= Inpadoc	15: AU, CA, CN, CO, EA, EG, EP, GE, IN, JP, MX, NZ, PH, US	21: AU, BR, CA, CN, EC, EP, GE, ID, IL, IN, JP, KR, MA, MN, MY, MX, SG, SV, VN, US
PCT/JP2010/001325 collecting hydrocarbon compound	12 : AU, BR, CA, CN, EA, EP, JP, MY, 2xUS, ZA	= Inpadoc	7: AU, CA, CN, EA, EP, US	13: AU, BR, CA, CN, EP, ID, JP, MY, TH, VN, 2xUS
PCT/US2014/052705 composite barrier	12 : AR, AU, CA, CN, EA, EP, MA, MX, PE, TN, US	= Inpadoc + IL	13: AU, CA, CN, EA, EP, GE, ID, IL, MA, MX, PE, UA	11: AR, AU, CN, EA, EP, ID, IN, MA, MX, MY
PCT/IB2016/000305 mercury based compound	19: AR, AU, CA, CL, CN, CO, CR, CU, DO, EA, EP, JP, KR, MX, PE, PH, SG, TW	= Inpadoc + IL	16: AU, CA, CN, CO, EA, EP, GE, IL, KR, MX, 2xNI, PE, PH, SG	15: AR, AU, CN, CU, DO, EA, EP, ID, IN, KR, MX, MY, PE, PH
	Green Bold: present in all 4 databases Black Bold: present only in one database Counts include PCT applications			

What is available for work-sharing?

- Primary sources: **National Patent Registers** are **authoritative** sources for
 - national **legal status** (!),
 - national family relations (divisions, continuations)
 - national publications,
 - access to national **dossiers** (public file inspection).
- For some countries, national registers are accessible online and therefore useful for work-sharing:
 - legal status only: AP, AR, CL, GC, ID, MY, PH, SA, ZA, ...
 - dossier as well: AU, BR, **CA**, CN, DE, EP, FI, GB, IL, IN, JP, KR, MX, SE, TW, US, ..
- RSS feeds enable examiners of other offices and other experts to be alerted of changes to status/dossiers
- Many registers enable deeplinking

Example: Canadian Register

Canadian Patents Database

- Introduction
- Green Technologies
- Search Options**
- Basic Search
- Number Search
- Boolean Search
- Advanced Search
- Help**
- General Content
- Searching
- Search Language
- FAQ
- Disclaimer

Patent 2805819 Summary

Third-party information liability Claims and Abstract availability

(12) Patent Application:	(11) CA 2805819
(54) English Title:	IMPROVED BROMINATED SORBENTS FOR REMOVING MERCURY FROM EMISSIONS PRODUCED DURING FUEL COMBUSTION
(54) French Title:	SORBANTS BROMES AMELIORES POUR L'ELIMINATION DU MERCURE D'EMISSIONS PRODUITES PENDANT LA COMBUSTION DE CARBURANT

- Bibliographic Data
- Abstracts
- Claims
- Representative Drawing
- Admin Status
- Documents

- To view images, click a link in the Document Description column. To download the documents, select one or more checkboxes in the first column and then click the "Download Selected in PDF format (Zip Archive)" button.
- [List of published and non-published patent-specific documents on the CPD.](#)
- If you have any difficulty accessing content, you can call the Client Service Centre at 1-866-997-1936 or send them an e-mail at CIPO Client Service Centre.

Filter

Show entries

Search:

	Document Description	Date (yyyy-mm-dd)	Number of pages	Size of Image (KB)
<input type="checkbox"/>	Prosecution-Amendment	2017-05-16	4	236
<input type="checkbox"/>	Prosecution-Amendment	2016-08-10	1	34

What is available for work-sharing?

Secondary work-sharing platforms ("one-stop-shop") aggregate information or enable access to work products from several authoritative sources (Registers)

Espacenet

- Includes **INPADOC data**:
 - Very (most?) comprehensive extended and simple family data
 - National and regional legal status of jurisdictions sharing such data with EPO
- Includes **Global Dossier** (IP5 initiative)
 - Access to **IP5 Offices' file wrappers/dossiers** (One Portal Dossier)
 - always up-to-date because it is retrieved on-the-fly from IP5 national registers
 - Machine translation for non-English documents
 - Status may often be derived from recent dossier documents
 - **Inpadoc legal status** sometimes include complementary status that cannot be derived from most recent communication
 - Access to **non-IP5 dossiers** of 'providing' Offices of WIPO-CASE
 - partly operational (AU, CA, ..)

What is available for work-sharing?

Secondary platforms ...

Espacenet ...

- Includes Global Dossier
- integrated access to Common Citation Document (CCD):
 - viewing and comparing of citations from members of extended and simple families from AP, AU, CA, CN, DE, EA, EP, JP, KR, RU, TW, US, WO,
 - 'comparing': which examiners have seen a particular citation or an equivalent thereof

USPTO Global Dossier

- Website dedicated to Global Dossier (appears to be still under development)
- Access to same dossiers like Espacenet GD (IP5 and CASE 'providing offices')
- presents **only extended family information** (without WO member); i.e. doesn't permit to view/select only simple family/PCT family
- Integrated application 'Citation List' (under development) to view comprehensive lists of citations from family members (backward and forward); **not suitable for 'comparing'**

Global Dossier at USPTO



Global Dossier

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[Public Pair](#)
[Common Citation Document](#)
[Current Service Status](#)
[Service Hours](#)
[Help](#)
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Office:
 Type:

★ Collections 0
🕒 History 1

PCT/US2014/052705 12 Members in Patent Family (12 currently shown)

Office	Application	Applicant	Title	App. Date	Priority #	Pub. #	Pub. Date	Action
⚠ PE	0002862016			08/26/2014	US 61870089	PE 03542016 A1	05/11/2016	
⚠ MX	20160024				US PCT/US14/52705 US 61870089	MX 2016002410 A	05/31/2016	
⚠ EA	20169047				US PCT/US14/52705 US 61870089	EA 201690475 A1	06/30/2016	
⚠ AR	P1401002			08/26/2014	US 61870089	AR 097461 A1	03/16/2016	
⊕ AU	2014311324 View Dossier	1) Red Leaf Resources, Inc.,	Gas transport composite barrier	08/26/2014	US PCT/US14/52705 US 61870089	AU 2014311324 A1 AU 2014311324 B2	04/07/2016 11/10/2016	<input type="button" value="📁 (2)"/> <input type="button" value="Add to ★"/>
⚠ AP	201609052			08/26/2014	US PCT/US14/52705 US 61870089	AP 201609052 D0	02/29/2016	
⊕ US	14469062 View Dossier	1) Patten, James W. 2) Bunger, James W. 3) Seely, Dan	GAS TRANSPORT COMPOSITE BARRIER	08/26/2014	US 61870089 US 14469062	US 20150053269 A1	02/26/2015	<input type="button" value="📁 (1)"/> <input type="button" value="Add to ★"/>
⚠ CA	2922019			08/26/2014	US PCT/US14/52705 US 61870089	CA 2922019 A1	03/05/2015	

"+" indicates that AU dossier is accessible

- IP Office Type
- All IP5 Offices
 - EPO
 - SIPO
 - KIPO
 - JPO
 - USPTO
 - Non-IP5 Offices

What is available for work-sharing?

Secondary platforms ...

WIPO-CASE (non public)

- **Accessible only for 'accessing' and 'providing' Offices**
- 'providing' offices share their dossiers with other participating offices
- Includes IP5 dossiers obtained from GD/OPD & AU, CA, GB, IL, **IN**, NZ, ..
- Family information includes only so-called 'complex' families
 - Proprietary family building based on applications of 'providing' Offices recorded in CASE, and NPEs recorded in Patentscope
- Majority of dossiers are also **publicly accessible through Patentscope** 'document' tab (labelled as 'Global Dossier') and Global Dossier

PATENTSCOPE

- Access to WIPO CASE dossiers in 'document' tab (labelled as 'Global Dossier')
- Includes PCT family (limited; only NPEs reported to WIPO from Designated and Elected Offices); only visible for WO publications; no separate family building
- No extended or simple families (EPO data are not integrated)
- No citation data

'GD' in Patentscope (WIPO CASE data)

WIPO PATENTSCOPE
Search International and National Patent Collections

WORLD INTELLECTUAL PROPERTY ORGANIZATION

Search Browse Translate Options News Login Help

Home > IP Services > PATENTSCOPE

1. (IN201637003071) COMPOSITIONS AND METHODS FOR IDENTIFYING A RISK OF CANCER IN A SUBJECT

National Biblio. Data Documents

Legal date	Description	
24.07.2017	FORM 18	
31.10.2016	FORM-13	
25.07.2016	FORM 3	
25.07.2016	OTHER PATENT DOCUMENT	
24.02.2016	CORRESPONDENCE	
24.02.2016	OTHERS	
28.01.2016	CORRESPONDENCE	
28.01.2016	FORM-1	
28.01.2016	FORM-2	PDF
28.01.2016	FORM-3	PDF
28.01.2016	FORM-5	PDF
28.01.2016	INTERNATIONAL PUBLICATION	PDF
28.01.2016	PCT SEARCH REPORT & OTHERS	PDF
28.01.2016	WO7692A1	PDF

Dossier is retrievable only if national application or publication number is known
(NB Patentscope includes only NPE family information reported to WIPO, and only when viewing the respective PCT)

RTY

Secondary platforms for work-sharing

- Espacenet, US-Global Dossier, WIPO-CASE and Patentscope are (at the present) complementary to each other
- Shall, in future, cover access to same set of dossiers
- Which one to use then?
 - Better user interface?
 - Searching, viewing, exporting, ...
 - Additional tools (comparing, translations, alerts, ..)
 - Additional information (citations, enriched citations, different types of families, ...)
- Many national registers already enable deep linking
- Do we still need secondary platforms then? Or just a 'federated register' linking to national registers

How different are examination results?

Sample **WO2008035580**

- 2 JP priorities
- Extended family: 39 members
- Simple family: 35 members

Derived from kind codes of publications recorded in Espacenet

- **Simple** family: **grants** in AP, AU, CA, 2xCN, NZ, EA, EP, KR, MA, MX, MY, NZ, TW, UA, US, PH, VN,?
- **Extended** family: further grants in: 2xJP (priority country)
- **Pendency: 2-10 years**
 - 2006-09-20 earliest priority date
 - 2008-09-03 JP grant
 - 2016-10-26 EP
- Still pending in BH, LA,..

Examples of grants: WO2008035580

WO-A1 = AU-B2 = JP-B1

1. A plant cultivation system comprising:

- a nonporous hydrophilic film for cultivating a plant thereon, and
- a feeding means for supplying water or a nutrient fluid to the lower surface of said nonporous hydrophilic film in the absence of a hydroponic tank for accommodating water or a nutrient fluid and cultivating a plant therein.

AU, JP granted initial claims without any modification

CA-C

1. A plant cultivation system comprising:

- a nonporous hydrophilic film for cultivating a plant thereon;
- a feeding means for feeding water or a nutrient fluid to the lower surface of said nonporous hydrophilic film,
- said feeding means comprising at least one layer which is a water impermeable material layer or a water absorbing material layer,
- said at least one layer is laid and extends under said nonporous hydrophilic film,
- wherein, when said feeding means comprises both the water impermeable material layer and the water absorbing material layer, the water absorbing material layer is disposed between said nonporous hydrophilic film and said water impermeable material layer and in contact with the lower surface of said nonporous hydrophilic film;
- and a drip tube as an irrigation means for supplying water or a nutrient fluid to the feeding means,
- said drip tube being disposed below said nonporous hydrophilic film in a manner such that water or a nutrient fluid supplied from the drip tube is fed to the lower surface of the nonporous hydrophilic film.

CA granted heavily modified claim

Examples of grants: WO2008035580

CA-C

1. A plant cultivation system comprising:
 - a nonporous hydrophilic film for cultivating a plant thereon;
 - a feeding means for feeding water or a nutrient fluid to the lower surface of said nonporous hydrophilic film,
 - said feeding means comprising at least one layer which is a water impermeable material layer or a water absorbing material layer,
 - said at least one layer is laid and extends under said nonporous hydrophilic film,
 - wherein, when said feeding means comprises both the water impermeable material layer and the water absorbing material layer, the water absorbing material layer is disposed between said nonporous hydrophilic film and said water impermeable material layer and in contact with the lower surface of said nonporous hydrophilic film;
 - and a drip tube as an irrigation means for supplying water or a nutrient fluid to the feeding means,
 - said drip tube being disposed below said nonporous hydrophilic film in a manner such that water or a nutrient fluid supplied from the drip tube is fed to the lower surface of the nonporous hydrophilic film.

US-B2

1. A plant cultivation system comprising:
 - a nonporous hydrophilic film for cultivating a plant thereon,
 - a feeding means for feeding water or a nutrient fluid to the lower surface of said nonporous hydrophilic film in the absence of a hydroponic tank for accommodating water or a nutrient fluid and cultivating a plant therein,
 - said feeding means comprising at least one layer selected from the group consisting of a water impermeable material layer and a water absorbing material layer,
 - which is laid and extends under said nonporous hydrophilic film,
 - wherein, when said feeding means comprises both of said water impermeable material layer and said water absorbing material layer, said water absorbing material layer is disposed between said nonporous hydrophilic film and said water impermeable material layer and is in contact with the lower surface of said nonporous hydrophilic film,
 - and a drip tube as an irrigation means for supplying water or a nutrient fluid to said feeding means,
 - said drip tube disposed below said nonporous hydrophilic film in a manner such that water or nutrient fluid supplied from said drip tube is fed to the lower surface of said nonporous hydrophilic film;
 - wherein said nonporous hydrophilic film is a film which exhibits an electrical conductivity (EC) difference of 4.5 dS/m or less,
 - said EC difference being determined by a method comprising contacting water with a saline solution having a salt concentration of 0.5% by weight through said nonporous hydrophilic film, measuring the electrical conductivity of each of the water and the saline solution 4 days (96 hours) after the start of the contact, and calculating the difference in electrical conductivity between the water and the saline solution.

US granted even more restricted claim

ISR: 2 category A documents only

INTERNATIONAL SEARCH REPORT		International application No. PCT/JP2007/067578
A. CLASSIFICATION OF SUBJECT MATTER A01G27/00(2006.01)i, A01G1/00(2006.01)i, A01G7/00(2006.01)i, A01G13/00(2006.01)i, A01G25/00(2006.01)i According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) A01G27/00, A01G1/00, A01G7/00, A01G13/00, A01G25/00 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2007 Kokai Jitsuyo Shinan Koho 1971-2007 Toroku Jitsuyo Shinan Koho 1994-2007 Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant part thereof	Relevant to
A	JP 2001-292643 A (Taiyo Kogyo Kabushiki Kaisha), 23 October, 2001 (23.10.01) Full text; all drawings (Family: none)	
A	JP 2003-506051 A (E.I. Du Pont De Nemours & Co.), 18 February, 2003 (18.02.03), Full text; all drawings & US 6484439 B1 & WO 2001/010192 A1 & EP 1530896 A2	1-13

Only A documents
Only JP publications

EP-A4: Supplementary EP search report



SUPPLEMENTARY PARTIAL EUROPEAN SEARCH REPORT

Application Number

under Rule 62a and/or 63 of the European Patent Convention.
This report shall be considered, for the purposes of
subsequent proceedings, as the European search report

EP 07 82 8221

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 1 695 615 A1 (UNIV LAVAL [CA]) 30 August 2006 (2006-08-30) * paragraph [0011] - paragraph [0013]; figures * -----	1	INV. A01G27/00 A01G1/00 A01G7/00 A01G13/00 A01G25/00 A01G31/02

Also seen by CA and US examiners

US20070376748		US2006257213 A1 - 16 November 2006	
US20070376748		US2006257213 A1 - 16 November 2006	
EP20070828221	X	EP1695615 A1 (UNIV LAVAL [CA]) - 30 August 2006 * paragraph [0011] - paragraph [0013]; figure - *	1
US20070376748		CA2498077 A1 (UNIV LAVAL [CA]) - 23 August 2006	
US20070376748		CA2498070 A1 (SOLENO TEXTILES TECH INC [CA]) - 23 August 2006	

comparing citations in CCD

Explanations for substantial differences

- Examiners may have applied **different prior art**
 - Different prior art searches, i.e. prior art documents
 - Different priority dates applied
- Differences in **national legislation** (exclusions) or **case law**
- Individual examiner's views/experience
- Patents do not belong to same simple family, i.e. applicants have sought protection for different subject matter (e.g. continuations/divisions); descriptions most likely differ

Reasons for additional citations/searches

- Lack of trust in other work product, e.g. if
 - ISR with only category A documents
 - ISR including citations of only one single jurisdiction
- Claims amended before or with national phase entry (e.g., if ISRs with X citations)
- Claims amended during national phase examination
- Language skills of examiners
- Familiarity/expertise of examiner with relevant documentation
- Strict prior art disclosure requirement, for example in the US

Reasons for additional citations/searches

- ISRs by USPTO are outsourced
 - US examiner in national phase is different from ISR expert
 - For example [PCT/US2014/030776](#)
 - ISR expert: Lee W. Yung (only A documents in ISR)
 - National phase examiner: Albert M Navarro
- Prior art disclosure requirement of USPTO
 - A lot of prior art known to applicant may be added at national phase
- EPO establishes Supplementary European Search Report (published as EP-A4) whenever EPO was not ISA

CONCLUSIONS

- ISR and WO may be very **useful for applicants** to assess potential success of application before investing in national phase entries
- ISR and WO may be of **limited utility for examiners**, in particular, when claims are amended for national phase entry, and additional prior art searches often appear to be needed in national phases.

Family table for PCT NPEs sample cases

Case studies BH, LK, MY, TH, BT, PH, KH, LA workshops															
Status: Aug 17, 2016															
Simple Family															
National Application Numbers	PCT Member of Family	Size of Inpadoc Family	Number of Simple Families in Inpadoc Family	Grants	Withdrawn or Lapsed or Abandoned	Refused or Rejected	Pending	Earliest priority/first/latest grant dates	Pending range	Grants but in Extended Family	Observations A?	Observations ISR (only national reports)	Observations lack of unity (in ISR, or national reports)	Supplementary prior art searches in national phases (e.g. EP-A4)	main claims available in English (different, equivalent, equal to WO-A1? To grants in other jurisdictions?)
BH 20080018 MY 149627A PH 1-2008-502595 TH ?	PCT/KR2007/00247 3 stable composition	24	1	AU, CA, EA, EP, US, JP, CN, 2xKR, UA, MY, MA, MX, NZ, UA, (CR, SV, GT), PH			BH	2006-05-22 KR(2); 2009-09-18 KR; 2016-01-06 EP	3-10		only A ISA=KR	no, 2 KR grants are the 2 priorities	EP-A4 JP more than ISR AU more than ISR US more than ISR	MY equal to WO-A1 AU-B different to WO-A1: one substantial difference ('lyophilizing') EP-B a bit narrower US-B only method (a bit narrower than AU) PH has US main claim as composition	
BH 20090030 LA 96 MY 147396A PH 1-2009-500273 TH ?	PCT/JP2007/06757 2 plant cultivation	34	7	AP, AU, 2xCN, US, NZ, CA, KR, EA, JP, MA, MX, MY, TW, UA, E(12g), PH			EP, BH	2006-09-20 JP(2); 2008-09-03 JP; 2014-04-01 TW	2-8+	JP	only A, only JP ISA=JP		EP-A4 CA, US more than ISR add prior art by CA seen also by US;	AU, JP, MY equal to WO-A1; CA is narrower; US narrower than CA PH mc equal to US mc	
BH ? KH 2012/0150 MY 1556895A PH 1-2013-501448 TH ?	PCT/JP2012/00023 7 solid liquid separation	16	1	AU, CA, CN, EP, JP, KR, MY, RU,				2011-01-24 JP(2); 2012-02-08 JP;	1-5		only A ISA=EP		JP, KR, US more than ISR	AU, CA, mc equal to WO-A1	
BH 20080005 MY 150185A PH none TH ?	PCT/EP2007/05301 5 energy conversion	19													
BH 20090006 MY 153238A PH 1-2009-500135 TH ?	PCT/EP2007/05738 0 cryogenic engine	24													
BH 20090047 MY 151581A PH 1-2009-501523 TH ?	PCT/FR2008/05010 3 insulated tank	30													
BH 20090066 MY 150324A PH none TH ?	PCT/US2008/00119 remote control	7													
BH 20090019 MY 151783A PH 1-2009-500417 TH ?	PCT/EP2007/05918 compressed air engine	25													
BH 20090028 MY 148768A PH 1-2009-500495	PCT/US2007/07432 7 secure transaction	21	1	AU, US, NZ, TW, GB, EA, MX, MY, UA,	US, PH	EP, KR, JP business method	BH	2006-09-18 US, EP, GB; 2009-01-07 GB; 2014-09-21 TW	3-8		Y, A; only US ISA=US		JP, US more than ISR AU only ISR	AU and US equal and different from WO GB different from AU and US MY appears 2b equal to GB CA, EP and AU different from WO-A1; subtle differences of EP and AU re catalyst layer details; CA and AU very similar but no	
BH 20080024 MY 150103A PH none TH ?	PCT/JP2007/050357 polyolefin	15	1	AU, CN, CA, KR, JP, EP, MX, MY, RU, FI			BH	2006-06-14 FI; 2010-11-15 FI; 2015-08-05 EP	4-9		X,Y ISA=EP		EP-A4 add EP prior art not seen by others AU only ISR		

- Systematic analysis of samples of pending cases at workshops with
 - Smaller IPOs: Bahrain, Sri Lanka, Laos, Cambodia, Qatar, Bhutan, Oman, Mongolia, Papua New Guinea, Pakistan, Iran
 - Medium IPOs: Malaysia, Thailand, Philippines, Viet Nam, Indonesia
- What work products are available for other PCT national phase entries in other jurisdictions, and how useful are they?
- How to implement systematic passive work-sharing to make examination more efficient?
 - Mostly older applications
 - > more likely that national phase examination is completed

Evidence & conclusions derived from sample set

- Large patent families: **10++ members**
 - Many work products from many other national phases can be utilized
- Large fraction of families with grants: **>95%**
 - **Most likely a patent can be granted; but which claims from which country are best?**
 - The first foreign grant (PPH; e.g. for the sake of speediness)?
- Wide range of pendencies: **3-10 years** after priority filing
 - What is backlog? How long to wait?
- **Granted claims substantially different** from claims granted in other jurisdictions: **>60%**
 - **Careful selection of suitable claim sets**
- Granted claims different from WO-A1/2 claims: **>90%**
- **Additional prior art searches in national phases: >90%**
 - Take into account for claim selection or decision to await further results
 - **Do not solely rely on ISR**
- Grants in some, rejections and withdrawals on other jurisdiction: **20%**
 - Carefully analyze reasons for rejections/substantial withdrawals

What are the implications of transparency?

- Examination work products are **easily visible**, after application is published, for
 - Examiners
 - Third parties
- Foreign examination work products are **usable** for
 - Examiners in national phase
 - Managers to monitor examination quality
 - Third parties to monitor prosecution, examination quality, prepare oppositions,
....
- **Available** foreign examination work products **cannot be ignored** for national phase examination
 - Even examination of PPH requests need to include a check if other work products from further national phases have become available, in particular relevant prior art.

Observations/Conclusions

- Duplication/repetition of work is not a bad thing as such
 - Improves the overall quality of patents
 - For PCT NPEs, examiners should never exclusively rely only on ISR/WO
 - However, work products become only gradually available and visible
 - Awaiting results from other national phases may be an option to enhance quality and efficiency, particularly in under-resourced Offices
 - Most recent or last grant is potentially of best quality
 - What does this mean for PPH?
- Currently examination of PCT NPEs starts in many jurisdictions at almost the same time; no coordination
- Cooperative examination would be the ideal way for improving
 - Quality of all patents of a family, and not just those ones granted last, and
 - Efficiency of procedures overall

Observations/Conclusions

- Sharing of application and legal status data (including NPE) still needs to improve, e.g. for regional cooperation
- Family building needs to be expanded, in particular with a view to IPOs in emerging and developing economies
- Patent families are global: Only platforms for work-sharing with global coverage make work-sharing efficient
 - regional solutions are not really useful
- Which work-products from other nation phases to use?
 - 'Trusted' Offices?

Thank you

lutz.mailander@wipo.int

Sample case PCT/US2014/030776

■ SYNTHETIC IMMUNOGENS FOR PROPHYLAXIS OR TREATMENT OF TUBERCULOSIS

■ 1. A **composition** comprising selected from the group consisting of:

a) a combination of a **nucleic acid molecule comprising esxV, esxS and esxW coding sequences**, a nucleic acid molecule comprising esxD, esxQ and esxE coding sequences, a nucleic acid molecule comprising esxH, esxA and esxT coding sequences, a nucleic acid molecule comprising esxB, esxC and esxU coding sequences, and a nucleic acid molecule comprising esxO, esxR and esxF coding sequences;

b) a combination of a **nucleic acid molecule comprising SEQ ID NO: 19 or SEQ ID NO: I**, a nucleic acid molecule comprising SEQ ID NO:21 or SEQ ID NO:3, a nucleic acid molecule comprising SEQ ID NO:23 or SEQ ID NO:5, a nucleic acid molecule comprising SEQ ID NO:25 or SEQ ID NO:7, and a nucleic acid molecule comprising SEQ ID NO:27 or SEQ ID NO:9;

c) a combination of a nucleic acid molecule comprising SEQ ID NO: 19, a nucleic acid molecule comprising SEQ ID NO:21, a nucleic acid molecule comprising SEQ ID NO:23, a nucleic acid molecule comprising SEQ ID NO:25, and a nucleic acid molecule comprising SEQ ID NO:27;

d) a combination of a nucleic acid molecule that encodes SEQ ID NO:20, a nucleic acid molecule that encodes SEQ ID NO:22, a nucleic acid molecule that encodes SEQ ID NO:24, a nucleic acid molecule that encodes SEQ ID NO:26, and a nucleic acid molecule that encodes SEQ ID NO:28;

e) one or more nucleic molecules selected for the group consisting of: a nucleic acid molecule that comprises SEQ ID NO: I, a nucleic acid molecule that comprises SEQ ID NO:3, a nucleic acid molecule that comprises SEQ ID NO:5, a nucleic acid molecule that comprises SEQ ID NO:7, a nucleic acid molecule that comprises SEQ ID NO:9, a nucleic acid molecule that comprises SEQ ID NO: I 1, a nucleic acid molecule that comprises SEQ ID NO: 13, a nucleic acid molecule that comprises SEQ ID NO: 15, a nucleic acid molecule that comprises SEQ ID NO: 17, a nucleic acid molecule that comprises SEQ ID NO: 19, a nucleic acid molecule that comprises SEQ ID NO:21, a nucleic acid molecule that comprises SEQ ID NO:23, a nucleic acid molecule that comprises SEQ ID NO:25, a nucleic acid molecule that comprises SEQ ID NO:27 fragments thereof having at least 90% of full length, homologous sequences having at least 95% homology, and fragments of homologous sequences having at least 95% homology, said fragment of homologous sequences having at least 95% homology having at least 90% of full length; and f) one or more nucleic molecules that encodes an amino acid sequences selected for the group consisting of: SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO:14, SEQ ID NO: 16, SEQ ID NO: 18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:28 fragments thereof having at least 90%) of full length, **homologous sequences having at least 95% homology**, and fragments of homologous sequences having at least 95% homology, said fragment of homologous sequences having at least 95% homology having at least 90% of full length.

Sample case PCT/US2014/030776

- Sequence listings as separate [annex](#) in [Patentscope](#) (nucleotides and amino acids)
- Sequence listings as part of [drawings](#), for example [WO2012161564](#)
- Sequence listings as part of description
 - To comply with the standard provided for in Annex C of the Administrative Instructions

Sample case PCT/US2014/030776

■ PCT family

- [Espacenet](#): AU, CA, CN, EP, **HK**, JP, KR, **2xUS** (NPE & divisional)
- [US Global Dossier](#): same as Espacenet
- [Patentscope](#): AU, CA, CN, EP, US (NPE only)
- [WIPO CASE](#): AU, CN, EP, **IN**, JP, KR, US (NPE only)

■ Status

- AU grant published on **2016-05-19**
- CA [pending](#) (examination requested on 2019-03-08)
- CN grant published on **2019-02-19**
- EP [pending](#) (amended claims on 1.04.2019)
- JP pending
- KR [pending](#) (examination requested on 28.01.2019)
- US grant (NPE) published on **2017-10-17**; pending (divisional)

Indian "Form 3" (patent family disclosure)

FORM 3
THE PATENTS ACT, 1970
(39 of 1970)
&
The Patents Rules, 2003
STATEMENT AND UNDERTAKING UNDER SECTION 8
(See section 8, rule 12)

We, THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA, 3160 Chestnut Street, Suite 200 Philadelphia, PA 19104, USA, US hereby declare:

that we, who have made this application No. 8136/DELNP/2015 filed on September 9, 2015 alone made for the same/substantially same invention, application(s) for patent in the other countries, the particulars of which are given below:

Name of the Country	Date of application	Application No.	Status of the application	Date of Publication	Date of Grant
AU	17.03.2014	2014232335	Granted		01.09.2016
CA	17.03.2014	2,898,131	Pending		
CN	17.03.2014	2014800124958	Published		
EP	17.03.2014	14763920.7	Published		
HK	17.03.2014	16104666.7	Published		
JP	17.03.2014	2016-503460	Published		
KR	17.03.2014	10-2015-7022241	Pending		
US	10.09.2015	14/774,339	Granted		17.10.2017
US	26.09.2017	15/715,300	Pending		
WO	17.03.2014	PCT/US2014/030776	NAT PHASE		

Sample case PCT/US2014/030776

Lack of unity

- No objection in ISR or WO (USPTO as ISR)
- AU: no objection (essentially granted WO-A1 claims)
- US: [objection](#) led to division
 - Public on: 11.08.2016
- EP: partial supplementary European search report includes objection
 - [Public](#) on: 23.06.2016
- JP: no objection
- KR: examination started only recently
- CN: [objection](#)
 - Public on: 03.03.2017

Sample case PCT/US2014/030776

Prior art (citations)

- Overview/summary in [CCD](#)
- ISR: USPTO as ISR; only A documents (search strategy [available](#))
- AU: no additional citations
- US: additional citations by examiner in national phase (NPE and divisional)
 - [Public](#) on: 11.08.2016, 28.10.2016, 30.03.2017 (search strategies [available](#))
- EP: supplementary search report ([EP-A4](#)) with additional citations also seen by US examiner
 - [Public](#) on: 23.06.2016
- JP: additional citations (seen only by US examiner)
 - [Public](#) on: 09.01.2018
- KR: examination started only recently
- CN: additional citations (category A)
 - Public on:

ISR by USPTO

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 14/30776

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61K 39/00, 39/02; C12N 1/20, 15/00 (2014.01)

USPC - 424/184.1, 190.1; 435/253.1, 320.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

USPC: 424/184.1, 190.1; 435/253.1, 320.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC: 424/184.1, 190.1; 435/253.1, 320.1; 514/44R; 536/23.7 (text search)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Electronic data bases: PatBase, Google Scholar, Google Patents, GenCore sequence search (NT, AA)

Search terms: Esx gene family of TB antigens, Esx-1 secretion system, ESAT-6 secretion system, ESAT-6 like protein, Mycobacterium tuberculosis H37Rv, vaccine, nucleic acid vaccine, esxV, esxW, esxW, esxD, esxQ, esxE, esxH, esxA, esxT, esxB, esxC, esxU,

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2012/0039925 A1 (DIETRICH et al.) 16 February 2012 (16.02.2012). Especially para [0016], [0018]	1-13
A	BRODIN et al. ESAT-6 proteins: protective antigens and virulence factors? Trends Microbiol November 2004 Vol 12 No 11 Pages 500-508. Especially pg 503 table 1.	1-13
A	ZVI et al. Whole genome identification of Mycobacterium tuberculosis vaccine candidates by comprehensive data mining and bioinformatic analyses. BMC Medical Genomics 28 May 2008 Vol 1 No 18 Pages 1-25. Especially pg 13 table 3.	1-13
A	US 2010/0129391A1 (REED et al.) 27 May 2010 (27.05.2010). SEQ ID NOs: 217, 226.	1-13
A	US 2003/0147897 A1 (ANDERSEN et al.) 7 August 2003 (07.08.2003). SEQ ID NO: 176, 177.	1-13

Databases searched:
GenCore for
 sequences

Sequences found in
 patent documents

Additional prior art for EP NPE (EP-A4)

10 EP

Application N° EP20140763920 (EP14763920.7) - 17 March 2014

National Search Report

Y	WO2010121618 A1 (STATENS SERUMINSTITUT [DK], et al) - 28 October 2010 * See e.g. the section bridging pages 3 and 4. *	1-13
I Y	<i>Differential protective efficacy of DNA vaccines expressing secreted proteins of Mycobacterium tuberculosis</i> Authors: KAMATH ARUN T, ET AL Publication data: INFECTION AND IMMUNITY, 19990401 American Society for Microbiology, US Source info: Vol: 67, Nr: 4, Page(s): 1702 - 1707 * See e.g. the abstract *	1-13 1-13
Y	<i>TB subunit vaccines-putting the pieces together</i> Authors: Andersen P, Doherty T M Publication data: MICROBES AND INFECTION, 20050501 ELSEVIER, PARIS, FR Source info: Vol: 7, Nr: 5-6, Page(s): 911 - 921 * See e.g. the abstract or section bridging pages 914 and 915 *	1-13
T	<i>Multivalent TB vaccines targeting the esx gene family generate potent and broad cell-mediated immune responses superior to BCG</i> Authors: Daniel O Villarreal, Jewell Walters, Dominick J Laddy, Jian Yan, David B Weiner Publication data: HUMAN VACCINES AND IMMUNOTHERAPEUTICS, 20140801 Taylor & Francis, US Source info: Vol: 10, Nr: 8, Page(s): 2188 - 2198 * the whole document *	1-13

Additional prior art for JP NPE

CCD Viewer				Export ▾
Citations only view		Compact view	Sort by country	Filter ▾
				Classifications & fields searched
#	CC	Cat.	Citation details	Claims
			2011.	
2	HK		Application N° HK20160104666 (HK16104666.7) - 22 April 2016	
3	JP		Application N° JP20160503460 (JP2016503460) - 17 March 2014	
			Cited by the examiner (Search/Examination)	
	Y		CN101912605 A (SHANGHAI PUBLIC HEALTH CLINICAL CT) - 15 December 2010 * Claims1 - 11, Examples1 - 7 *	1,6-7,9-13
	Y		JP2012524733 A (スタテンス セールム インスティトゥート) - 18 October 2012 * Claims1 - 2, Paragraph0005, Figure6 *	1,6-7,9-13
	Y		CN101805397 A (SHANGHAI PUBLIC HEALTH CLINICAL CT) - 18 August 2010 * Example1 *	1,6-7,9-13
	Y		JP2002510494 A - 9 April 2002 * Paragraphs0001, 0005, Example *	1,6-7,9-13
	A		Non-patent literature - Human Vaccines & Immunotherapeutics, (201408), vol. 10, no. 8, pages 2188 - 2198 * Whole Document *	-
4	US		Application N° US201414774399 (US14774399) - 17 March 2014	
			National Search Report	
			US2003054338 A1 (DAHLBERG JAMES E, , et al) - 20 March 2003	

Additional prior art for JP NPE

CCD Viewer

Citations only view Compact view Sort by country Filter ▼

#	CC	Cat.	Citation details		
2	HK		Application N° HK20160104666 (2011.)		
3	JP		Application N° JP20160503460 (Cited by the examiner (Search/Examination))		
	Y		CN101912605 A (SHANGHAI PUBLIC HEALTH CLINICAL CT) - 15 December 2010 * Claims1 - 11, Examples1 - 7 *	1,6-7,9-13	
	Y		JP2012524733 A (スタテンス セールム インステイトウート) - 18 October 2012 * Claims1 - 2, Paragraph0005, Figure6 *	1,6-7,9-13	
	Y		CN101805397 A (SHANGHAI PUBLIC HEALTH CLINICAL CT) - 18 August 2010 * Example1 *	1,6-7,9-13	
	Y		JP2002510494 A - 9 April 2002 * Paragraphs0001, 0005, Example *	1,6-7,9-13	
	A		Non-patent literature - Human Vaccines & Immunotherapeutics, (201408), vol. 10, no. 8, pages 2188 - 2198 * Whole Document *	-	
4	US		Applicat National Se US20030		
			US201715715300		
			US201414774399		
			US2003054338 A1 (DAHLBERG JAMES E, , et al) - 20 March 2003		
			US2003054338 A1 (DAHLBERG JAMES E, , et al) - 20 March 2003		
			JP20160503460	Y	JP2002510494 A - 9 April 2002 * Paragraphs0001, 0005, Example *
			US201715715300		WO9951748 A2 (CORIXA CORP [US]) - 14 October 1999
			CN20148012495	A	CN1105236 A (CONG FANZI [CN]) - 19 July 1995 * 全文 *

EP20140763920 Y WO2010121618 A1 (STATENS SERUMINSTITUT [DK], et al) - 28 October 2010
* See e.g. the section bridging pages 3 and 4. *

US201715715300 CN101912605 A (SHANGHAI PUBLIC HEALTH CLINICAL CT) - 15 December 2010

JP20160503460 Y CN101912605 A (SHANGHAI PUBLIC HEALTH CLINICAL CT) - 15 December 2010
* Claims1 - 11, Examples1 - 7 *

US201715715300 CN101805397 A (SHANGHAI PUBLIC HEALTH CLINICAL CT) - 18 August 2010

comparing citations in CCD
Citations seen only by JP and US examiner

CN citations

(19)中华人民共和国国家知识产权局



(12)发明专利



(10)授权公告号 CN 105025921 B

(45)授权公告日 2019.02.19

(21)申请号 201480012495.8

(22)申请日 2014.03.17

(65)同一申请的已公布的文献号
申请公布号 CN 105025921 A

(43)申请公布日 2015.11.04

(30)优先权数据
61/800,375 2013.03.15 US

(85)PCT国际申请进入国家阶段日
2015.09.06

(86)PCT国际申请的申请数据
PCT/US2014/030776 2014.03.17

(87)PCT国际申请的公布数据
W02014/145923 EN 2014.09.18

(73)专利权人 宾夕法尼亚大学理事会
地址 美国宾夕法尼亚州

(72)发明人 大卫·B·韦纳
丹尼尔·维拉里尔

(74)专利代理机构 北京康信知识产权代理有限
责任公司 11240

代理人 张英 宫传芝

(51)Int.Cl.
A61K 39/00(2006.01)
A61K 39/02(2006.01)
C12N 1/20(2006.01)
C12N 15/00(2006.01)

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序列表25页 附图18页

(54)发明名称
用于结核病的预防或治疗的合成免疫原

Sequence search records in ISR

■ PCT/MY2015/050081

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X	-& DATABASE EMBL [Online] 1 July 2014 (2014-07-01), "Elaeis guineensis virescens R2R3-MYB gene, complete cds.", XP002750380, retrieved from EBI accession no. EM STD:KJ789862 Database accession no. KJ789862 sequence	13,15

INTERNATIONAL SEARCH REPORT

International application No.

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X	US 2005/0037344 A1 (STUHLMULLER et al.) 17 February 2005 [0039]-[0072]; claim 1; SEQ ID NOs: 2 & 517, 100% identical to SEQ ID NO: 13; SEQ ID NOs: 63 & 577, 96.92% identical to SEQ ID NO: 32; SEQ ID NOs: 71 & 585, 96.69% identical to SEQ ID NO: 32; SEQ ID NOs: 290 & 804, 73.66% identical to SEQ ID NO: 10	1-20
X	US 7939282 B2 (FAST et al.) 10 May 2011 column 12, lines 35-62; claims 1-18; SEQ ID NO: 1, encoded by SEQ ID NO: 2, 96.83% identical to SEQ ID NO: 37	1-20
X	US 2009/0075831 A1 (RUSSWURM et al.) 19 March 2009 table 3; claims 28, 40; SEQ ID NOs: 762 & 1091, 96.92% & 74.75% identical to SEQ ID NOs: 32 & 10, respectively	1-20
A	US 2009/0208933 A1 (PACHOT et al.) 20 August 2009 example 1; table 3; claims 3, 10, 13; SEQ ID NO: 5, identical to SEQ ID NO: 13	

Other examples with additional citations

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- CN with additional X document (seen only by CN)