WIPO COVID-19 related information resources

Amy Dietterich, Director, Global Challenges Division
Christophe Mazenc, Director, Global Databases Division
Georges Ghandour, Senior Counsellor, Development Agenda Coordination Division
WIPO COVID-19 response package
WIPO COVID-19 response package

- In October 2021, WIPO Member States approved a package of support measures as part of [WIPO’s Program of Work and Budget 2022/23](#).

- WIPO resources for COVID-related activities in 2022/23: 3 million CHF.

- The implementation of the package will require a ‘whole of WIPO’ approach.

- The [WIPO COVID-19 Focal Point](#) will coordinate the implementation of the package, working closely with the Regional and National Development Sector and other Lead Sectors, ensuring a timely and effective response WIPO Member State requests.

- WIPO’s trilateral cooperation with the WHO and WTO is led by the Global Challenges and Partnerships Sector.

- WIPO will engage in a continuous dialogue with Member States to ensure that the package meets their needs and priorities.
**Expected Results:**

- More effective **communication and engagement** world-wide to raise awareness of and increase knowledge about the potential of IP to improve the lives of everyone, everywhere (ER1.1)

- **WIPO brings the international community together** to proactively address emerging issues and policy challenges at the global level relating to IP, innovation and creativity (ER2.2)

- Effective **interaction and partnerships** with the UN, IGOs and NGOs in support of global goals to which IP can contribute (ER2.4)

- Wider and more effective use of **WIPO’s global IP systems, services and knowledge and data** (ER3.1)

- **Knowledge transfer and technology adaptation** is facilitated through WIPO’s IP-based platforms and tools to address global challenges (ER3.3)

- Increased **IP knowledge and skills** in all Member States (ER4.3)

- More innovators, creators, SMEs, universities, research institutions and communities **leverage IP successfully** (ER4.4)

**Activities include:**

- **IP legislative and policy advice** relating to the COVID-19 pandemic

- New Services by **WIPO Arbitration and Mediation Centre** incl. launch of WIPO ADR Guidance Document for the Life Sciences Sector

- **Platforms and structures to accelerate knowledge and technology transfer**, incl. through **TISCs**

- **Digitalization of knowledge resources**, incl. education materials in LDCs

- New **Patent Landscape Report** (March, 2022) and **PATENTSCOPE** portal

- **Capacity building**, incl. through **IPTIs**
Upcoming WIPO Patent Landscape Report
COVID-19-related vaccines and therapeutics

• First observations on patenting activity from January 2020 to September 2021
• The report will be available as of March 10, 2022
• Save the date: March 10, 2022 – 2pm – 4pm CET
PATENTSCOPE and COVID-19
PATENTSCOPE: an introduction

• Free public patent search engine developed by WIPO with the assistance of it’s member states: patentscope.wipo.int

• Powerful latest generation search engine (including for chemistry)

• Comprehensive coverage:
  • PCT applications and regional and national patent collections
  • 72 different data sources, more than 100 million patent records

• Focus on full text and multilinguism

=> you can use PATENTSCOPE to get access to patent information in all languages related to the fight against COVID-19
PATENTSCOPE: how does it look?

**SIMPLE SEARCH**

Using PATENTSCOPE you can search 101 million patent documents including 4.3 million published international patent applications (PCT). Detailed coverage information.

PCT publication 06/2022 (10.02.2022) is now available [here](#). The next PCT publication 07/2022 is scheduled for 17.02.2022. [More]

Check out the [new PATENTSCOPE features]: CPC, NPL, Families ...

Search Facility to Support COVID-19 Innovation Efforts

Field

Front Page

Search terms...

Query Examples
1. WO/2021/238147

**B-CORONAVIRUS ANTIGEN, B-CORONAVIRUS BIVALENT VACCINE, PREPARATION METHODS THEREOF, AND APPLICATIONS THEREOF**

Int.Class: A61K 39/715

Appl.No: PCT/CH2021/097489

Applicant: INSTITUTE OF MICROBIOLOGY, CHINESE ACADEMY OF SCIENCES

Inventor: GAO, Fu

The present invention relates to a B-coronavirus antigen, a B-coronavirus bivalent vaccine, preparation methods thereof, and applications thereof. The amino acid sequence of the B-coronavirus antigen comprises, according to a sequence from an N to an C, an amino acid sequence arranged according to a [A+B+C-A-B] style or an amino acid sequence arranged according to a [A-B+C-A-B] style, wherein A-B represents part of the amino acid sequence or all of the amino acid sequence derived from a receptor binding domain of a surface spike protein of a B-coronavirus. A-B represents part of the amino acid sequence or all of the amino acid sequence derived from a receptor binding domain of a surface spike protein of another B-coronavirus. C represents connection of the amino acid sequences, and the B-coronavirus antigen is of a single-chain heterodimer structure. By using the B-coronavirus antigen, the B-coronavirus bivalent vaccine is obtained, and the bivalent vaccine can stimulate a mouse to produce a strong antibody response.

2. WO/2021/155922

**COMPOSITIONS AND METHODS FOR PREVENTING AND TREATING CORONAVIRUS INFECTION-SARS-CoV-2 VACCINES**

Int.Class: D01K 14/055

Appl.No: PCT/US2021/015948

Applicant: BETH ISRAEL DEACONESS MEDICAL CENTER, INC.

Inventor: BAROUCH, Dan, H.

The invention relates to immunogenic compositions and vaccines containing a coronavirus e.g., Wuhan coronavirus [2019-nCoV, also referred to as SARS-CoV-2] protein or a polynucleotide encoding a coronavirus e.g., Wuhan coronavirus [2019-nCoV, SARS-CoV-2] protein and uses thereof. The invention also provides methods of treating and/or preventing a coronavirus e.g., Wuhan coronavirus [2019-nCoV, SARS-CoV-2] infection by administering an immunogenic composition or vaccine to a subject e.g., a human. The invention also provides methods of detecting and/or monitoring a protective anti-coronavirus e.g., Wuhan coronavirus [2019-nCoV, SARS-CoV-2] antibody response e.g., anti-coronavirus antibody response, e.g., anti-2019-nCoV antibody response, e.g., anti-Spike antibody response, e.g., anti-Spike neutralizing antibody response. The present invention relates to isolated nucleic acid encoding a coronavirus S protein, in particular SARS-CoV-2 S protein, and to the coronavirus S proteins, as well as to the use of the nucleic acids and/or proteins thereof in vaccines.

3. WO/2021/225344

**PEPTIDE FOR SUPPRESSING CORONAVIRUS AND USE THEREOF**

Int.Class: D07K 2/08

Appl.No: PCT/KR2021/005663

Applicant: INDUSTRY ACADEMIC COOPERATION FOUNDATION, HALLYM UNIVERSITY

Inventor: KIM, Hyung,lee

The present invention relates to a therapeutic composition for coronavirus comprising, as an active ingredient, one peptide selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 6, and SEQ ID NO: 8 that binds to a coronavirus N-protein, a coronavirus-derived spike protein, or a fragment of the spike protein, and a composition that binds to a coronavirus N-protein comprising, as an active ingredient, the coronavirus-derived spike protein or the fragment of the spike protein. It is suggested that the peptides of the present invention, based on the understanding and targeting of the interaction of the coronavirus S protein and N protein of the present invention, have an effect that can be helpful in the treatment of coronaviruses including HIV-1, SARS-CoV-2, SARS-CoV, and nCoV-2019.

4. WO/2021/189278

**USE OF ALBIFORIN IN TREATMENT OF CORONAVIRUS PNEUMONIA**

Int.Class: A61K 37/1948

Appl.No: PCT/KR2020/117638

Applicant: ZHANG, Zuo,ju

Inventor: ZHANG, Zuo,ju

The present invention relates to the use of albilorin in the treatment of coronavirus pneumonia.
1. WO2021239147 - B-CORONAVIRUS ANTIGEN, B-CORONAVIRUS BIVALENT VACCINE, PREPARATION METHODS THEREOF, AND APPLICATIONS THEREOF

Publication Number
WO/2021/239147

Publication Date
02.12.2021

International Application No.
PCT/CH2021/001463

International Filing Date
31.03.2021

IPC
A61K 39/215 2006.1
A61P 31/04 2006.1
A61P 10/00 2006.1

CPC
A61K 39/0456
A61K 39/039
A61P 31/04
A61P 10/00
C21C 27/00 2003

Applicants
INSTITUTE OF MICROBIOLOGY, CHINESE ACADEMY OF SCIENCES

Abstract
The present invention relates to a B-Coronavirus antigen, a B-Coronavirus bivalent vaccine, preparation methods thereof, and applications thereof. The amino acid sequences of the B-Coronavirus antigen and the B-Coronavirus bivalent vaccine are shown in the figure...
PATENT Searching is not an easy task:

• You need to know the good keywords to search, with all their synonyms, in all the languages

AND/OR

• You need to know the patent classification codes related to your search

AND

• You need to know the fields of the search engines you are using, as well as the search operators
The WIPO COVID-19 Search Facility of PATENTSCOPE will provide scientists, engineers, public health policymakers, industry actors and members of the general public with an easily accessible source of intelligence for improving the detection, prevention, and treatment of diseases such as the novel coronavirus.

"Given the drastic impact of the COVID-19 crisis on human health and welfare, the world needs easy access to every bit of information available for the successful innovation in the pursuit of vaccines, treatments and cures. Patent documents are rich sources of technological know-how acquired by humans over the centuries," said WIPO Director General Francis Gurry. "I am pleased that WIPO's new patent-searching tool helps disseminate information on technologies that others may build upon for the global fight against COVID-19."

At the time of release, the new PATENTSCOPE search facility provides dozens of search queries specially curated by patent information experts who have identified technological areas relevant to the detection, prevention and treatment of COVID-19.

PATENTSCOPE contains over 83 million patent and related documents, provides comprehensive searching of patent information with multi-lingual search capabilities and an automatic translation system that uses Artificial Intelligence (AI) technologies for highly accurate results.

Via the new COVID-19 functionality, thousands of documents deemed of potential use to innovators working on COVID-19 mitigation efforts would be returned.

Full press release

<table>
<thead>
<tr>
<th>IPC Symbol(s)</th>
<th>Title</th>
<th>Query</th>
<th>+Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>A61K 31/00</td>
<td>Medicinal preparations containing organic active ingredients</td>
<td>EN</td>
<td>EN</td>
</tr>
<tr>
<td>A61K 33/00</td>
<td>Medicinal preparations containing inorganic active ingredients</td>
<td>EN</td>
<td>EN</td>
</tr>
<tr>
<td>A61K 38/00</td>
<td>Medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof, e.g. traditional herbal medicines</td>
<td>EN</td>
<td>EN</td>
</tr>
</tbody>
</table>
IC: A61K31/00 AND EN_ALLTXT.(coronavirus OR coronaviruses OR coronaviridae OR coronavirinae OR orthocoronavirus OR orthocoronaviruses OR orthocoronaviridae OR orthocoronavirus)
Searching chemistry in patents is even more complex:

• Chemical compounds can be represented in many different ways, with different names, technical representations and embedded drawings

AND

• Chemical compounds can even be in the scope of protection of a patent, while not been directly cited in the patent text, using «recipes» to describe sets of related chemical compounds: these are called Markush structures
CHEMICAL COMPOUNDS SEARCH

Convert structure  Upload structure

Structure editor

Found compounds  Found Markush Formulas

Search type

Compound name

Type an accepted name, commercial name, CAS name, IUPAC name

Ivermectin

☐ Search for scaffold

☐ Include enumerated Markush structures

Offices

All

Reset  Show in editor  Exact Structure Search
1. **SOLUBILISATION DE L’IVERMECTINE DANS L’EAU**
   
   Int.Class: B01J22/34  
   Appl.No: 83382345  
   Applicant: MERCK & CO, INC.  
   Inventor: LAKE, JONATHAN R.

   Ivermectin, an antiparasitic agent which is insoluble and unstable in water, is solubilized by the formation of colloidal particles, called micelles, with surface-active agents as solubilizers and stabilized by using water-miscible organic cosolvents and/or appropriate substrates in the aqueous formulation. The liquid formulations are suitable for use as parenteral or oral administration for the treatment of parasitic infections.

2. **DERIVATIVES OF C-076 COMPOUNDS**
   
   Int.Class: A01N40/00  
   Appl.No: 83883922  
   Applicant: MERCK & CO, INC.  
   Inventor: SAEED, RALPH

   There are disclosed certain new derivatives of C-076 compounds which have been isolated from the livers of animals that had been administered ivermectin and the in vitro incubation of such compounds with animal liver preparations. The compounds retain the basic ivermectin structure, however, 24-methyl group has been oxidized to a hydroxymethyl group and, in some of the new compounds the disaccharide substituent of the starting materials has been cleaved to a monosaccharide moiety. The new compounds have been found to retain the biological activity of the parent C-076 compounds. The compounds are thus potent antiparasitic agents and compositions and methods for such uses are also disclosed.

3. **PROCEDURE FOR ELIMINATION OF METALLIC CATALYSTS IN LIQUEURS**
   
   Int.Class: B07H17/06  
   Appl.No: 92302926  
   Applicant: MERCK & CO, INC.  
   Inventor: ROBERTS, F. EDWARD

4. **DERIVATIVES OF C-076**
   
   Int.Class: A01N40/00  
   Appl.No: 83900375  
   Applicant: MERCK & CO, INC.  
   Inventor: BUHLMANN, RUDOLF

   Certain new derivatives of C-076 compounds have been isolated from the livers of animals that had been administered ivermectin and the in vitro incubation of such compounds with animal liver preparations. The compounds have the formula: ... in which R1 is ... R2 is methyl or ethyl and the 22.22 bond is saturated (but only when R2 is ethyl) or unsaturated, or R is hydrogen, R2 is methyl or ethyl and the 22.22 bond is saturated. The new compounds have been found to retain the biological activity of the parent C-076 compounds. The compounds are thus potent antiparasitic agents and compositions and methods for such uses are also disclosed.

5. **SOLUBILIZATION OF IVERMECTIN IN WATER**
   
   Int.Class: A01K31/34  
   Appl.No: 83904214  
   Applicant: MERCK & CO, INC.  
   Inventor: LUO, PAK-HAN A.

   Ivermectin, an antiparasitic agent which is insoluble and unstable in water, is solubilized by the formation of colloidal particles, called micelles, with surface active agents as solubilizers and stabilized by using cosolvents and/or appropriate substrates in the aqueous formulation. The liquid formulations are suitable for use as parenteral or oral administration for the treatment of parasitic infections.
<table>
<thead>
<tr>
<th>IPC code</th>
<th>Applicants</th>
<th>Inventors</th>
<th>Publication Dates</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>A01N</td>
<td>BAYER CROPSCIENCE AG</td>
<td>FISCHER REINER</td>
<td>1982</td>
<td>United States of America</td>
</tr>
<tr>
<td></td>
<td>SYNGENTA PARTICIPATIONS AG</td>
<td>ERDELEN CHRISTOPH</td>
<td>1983</td>
<td>PCT</td>
</tr>
<tr>
<td>A51K</td>
<td>BAYER AG</td>
<td>WACHENDORFF-NEUMANN</td>
<td>1984</td>
<td>China</td>
</tr>
<tr>
<td></td>
<td>DOW AGROSCIENCES LLC</td>
<td>ULRIKE</td>
<td>1985</td>
<td>Japan</td>
</tr>
<tr>
<td>C07D</td>
<td>BASF SE</td>
<td>MALSAM OLGA</td>
<td>1986</td>
<td>European Patent Office</td>
</tr>
<tr>
<td></td>
<td>ISHIHARA SANGYO KAISHA LTD</td>
<td>DAHMEN PETER</td>
<td>1987</td>
<td>Republic of Korea</td>
</tr>
<tr>
<td>A51P</td>
<td>WACHENDORFF NEUMANN ULRIKE</td>
<td>WACHENDORFF-NEUMANN</td>
<td>1988</td>
<td>Russian Federation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ULRIKE</td>
<td></td>
<td>Eurasian Patent Organization</td>
</tr>
</tbody>
</table>
Georges Ghandour

Development Agenda Coordination Division,
Regional and National Development Sector
Database on Flexibilities in the Intellectual Property System

At the 6th session of the CDIP, Member States agreed to establish the Database on Flexibilities in the Intellectual Property (IP) System.

How does the Database work?

Users can conduct searches by type of flexibilities and national / regional jurisdictions.

Visit the Database on Flexibilities at:
Database on Flexibilities in the Intellectual Property System

Who can benefit from the Database?

The Database can be useful for policy and law makers, IP experts, academicians and researchers.

What is the Updating Mechanism of the Database?

As decided by the CDIP, Member States can provide updates on their national provisions related to the flexibilities included in this database.
Development Agenda Portal: Technology Transfer and Open Collaboration

The DA portal of Technology Transfer and Open Collaboration is a digital repository of materials prepared in the context of three DA projects on technology transfer and open collaboration, namely:

- **Innovation and Technology Transfer Support Structure for National Institutions;**

- **Intellectual Property and Technology Transfer: “Common Challenges – Building Solutions”;**

- **Open Collaborative Projects and IP-Based Models**

The DA Portal incorporates a dedicated web forum for comments and feedback.
Thank you!

george.ghandour@wipo.int