

The Lens

**Scholarly and patent literature as
a public good to inform
problem-solving in Africa**

**An open platform to improve social
impact of science and technology**



The Lens: Scholarly and patent literature as a public good to inform problem-solving in Africa

Agenda:

- Introduction to The Lens
 - Background
 - PIDs and data coverage
- Demonstration of Lens.org Features
 - Collections, Saved Queries, Dashboards
 - Lens Profiles for updating ORCID
- Use Cases and Examples
 - Research output from countries and individual institutions
 - Impact of research from Africa on approved pharmaceuticals in the US
- Q&A

Objectives:

- Knowledge to accelerate innovation: Using Lens.org to discover and share
- Lens Collections to create your own open literature reviews and technology landscapes
- Accelerating innovation in Africa through linked PIDs
- Use Lens Profiles to support ORCID management



BACKGROUND

The Lens and Cambia

- Cambia, founded in 1991, started Patent Lens in 2001, the precursor of lens.org, the world's first free and open full text patent search capability.
- In 2006, launched the world's first public patent-disclosed sequence search capability for United States patent applications, which by 2013, Lens.org had become the world's leading open resource for patent sequences.
- In 2011, with seed money from USPTO, Cambia began extracting and resolving non-patent literature strings in collaboration with NIH-NCBI and Crossref, ultimately creating [PatCite](#) and [In4M](#) metric
- In 2017 Cambia expanded its focus, in substantial collaboration with Microsoft Academic, NCBI PubMed and CrossRef to host and serve global academic research holdings and metadata.
- The Lens is now the world's leading integrated innovation knowledge platform, using open and FAIRE data to merge patents, scholarly, legal and other key data in a single award-winning User Experience
- The Lens ensures privacy and confidentiality and its data is fully open, shareable and reusable, is free to every human on earth and has been up 24/7 for over 22 years.

Scholarly Meta Record Overview

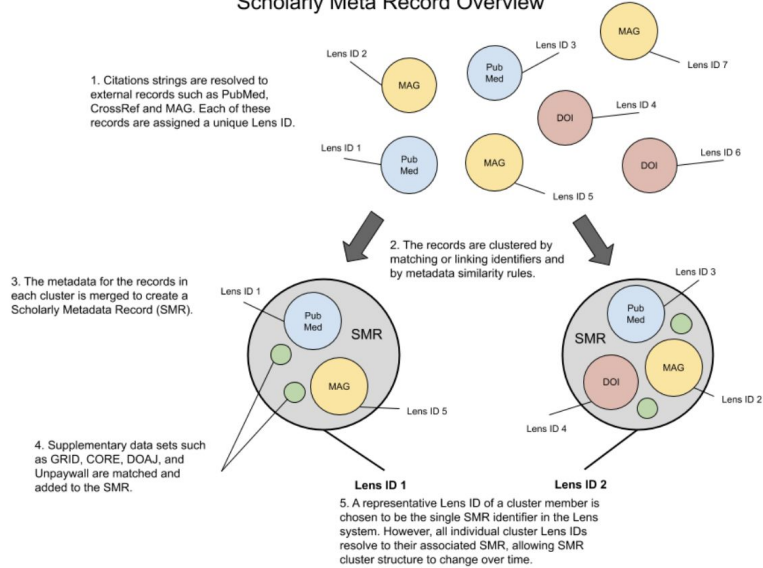


Figure 2. The Lens Scholarly Meta-Record (SMR) modeller.

THE LENS

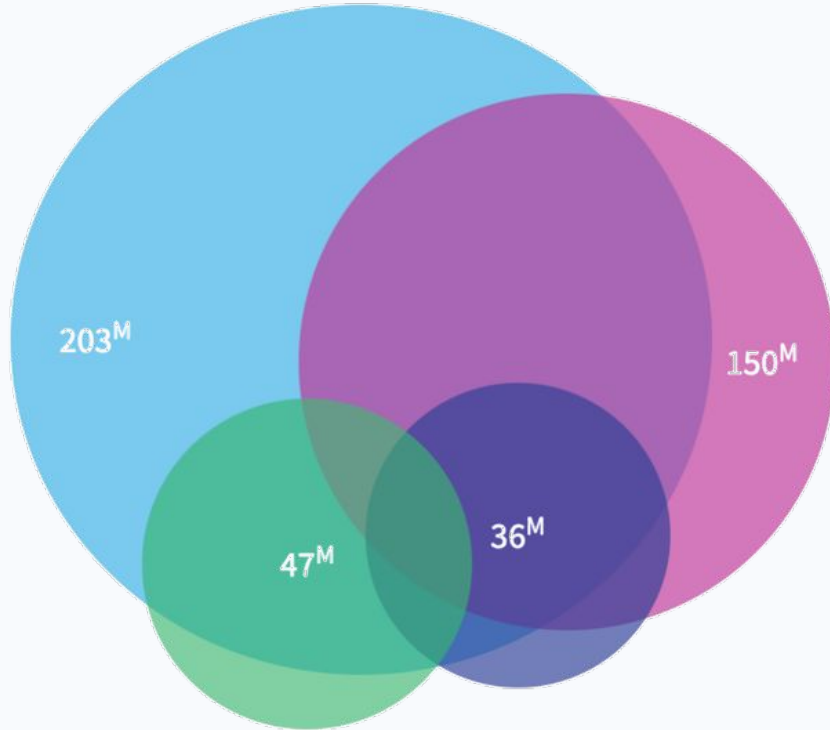
Meta Record Strategy

Lens use a “Meta Record” concept as a core element of our facility. We use a 15 digit open and persistent identifier, LensID, to expose credible variants, sources and context of knowledge artifacts, such as scholarly works or patents, while maintaining provenance, and allowing aggregation, normalization, and quality-control of diverse metadata.

<https://osf.io/preprints/lissa/t56yh/>

SEPTEMBER 2023

Lens **Scholarly Data**



● Microsoft Academic ● CrossRef ● PubMed ● OpenAlex

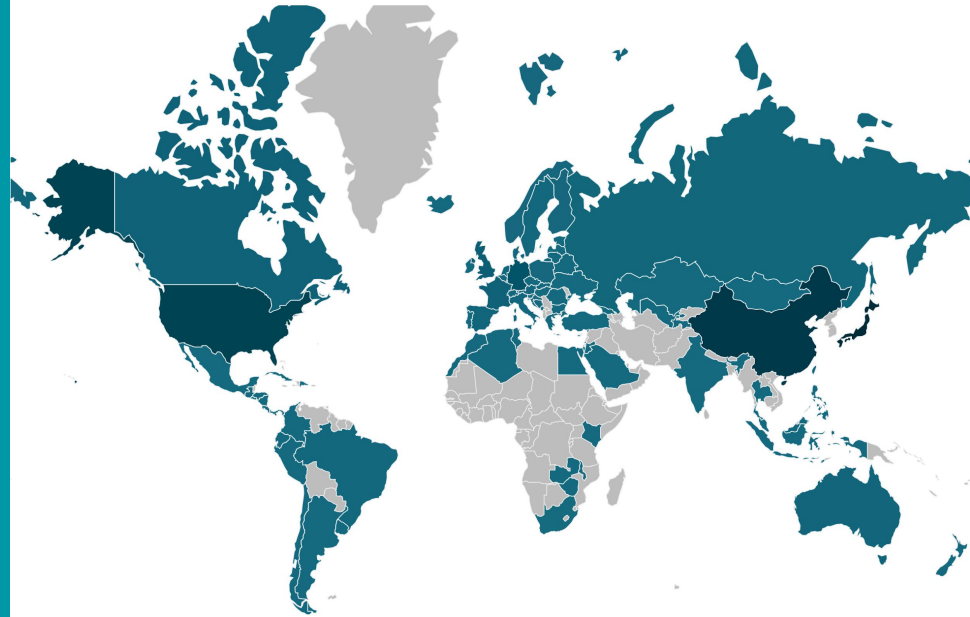
- **265M** Scholarly works records:
- **129M** Journal articles
- **27M** Books and book chapters
- **7.9M** Conference proceedings
- **5.2M** Works cited in patents
- **89M** Works cited by other scholarly works
- **2.1B** Scholarly citations
- **11.5M** Springer Nature Full Text discovery index



SEPTEMBER 2023

Lens Patent Data

- **151** Million Patent Records
- **106** Jurisdictions
- **87M** Simple Patent Families
- **83M** Extended Patent Families
- **889K** Biological Patents
- **457M** Biological Sequences

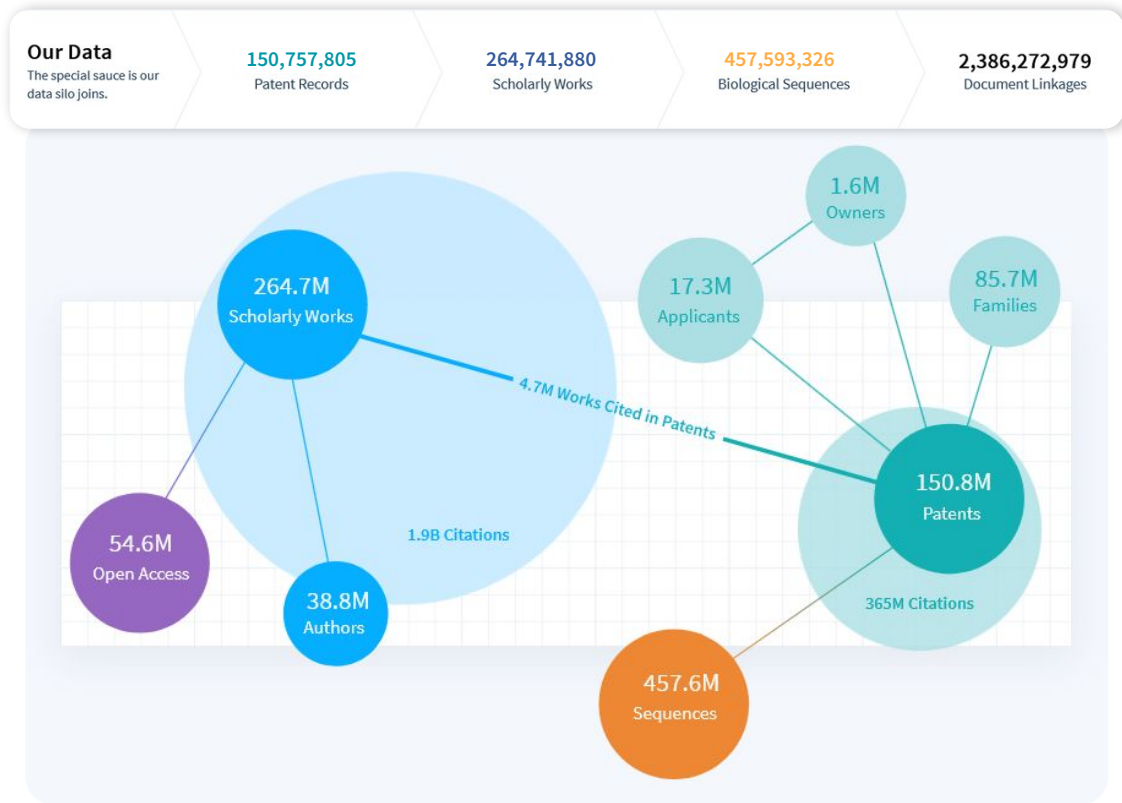




DATA SILO LINKAGES

Our Special Sauce

- 151M** Patent Records
 - 85M** Patent Families
 - 17M** Applicants
 - 1.6M** Owners
- 265M** Scholarly Works
 - 39M** Authors
 - 25k** Research Institutions
 - 5.2M** Works cited in patents
 - 2.1B** Scholarly citations
- 457M** Bio Sequences
 - 2.4B** Document Linkages





CURRENT OFFERINGS

Discovery, Analytics, And Management Tools

API & Data Facility

Scholarly API, PatSeq
bulk data, Patent API

Reports

Assemble your saved
queries and collections
with other knowledge in
a dynamic and
interactive report*

Workspaces

Create dynamic
collections, saved queries
alerts, analysis
dashboards and manage
you Lens Profiles.

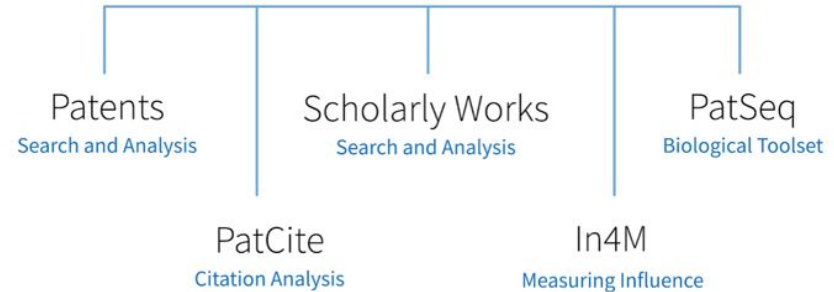
In4M

International Industry &
Innovation Influence
Mapping



LENS.ORG

Solving The Problem Of Problem Solving™



LENS.ORG English Our Apps Pricing About Work Area Signed in as deniz Support

888 Scholarly Works Ivermectin AND Cancer Search

Scholar Search Results

Scholarly Works (808) = Ivermectin AND Cancer

Filters: No filters applied

Scholarly Works	Works Cited by Patents	Citing Patents	Patent Citations	Works Cited by Scholarly	Scholarly Citations
808	91	299	330	668	37,065

Scholarly Works Citing Patents Table List IM Analysis

Expanded Customise List Save as Query Save as Collection Share Export Hide Analysis Sort by Relevance

The Anti-Cancer Effects of Anti-Parasite Drug Ivermectin in Ovarian Cancer

Book Chapter Open Access Ovarian Cancer: Updates in Tumour Biology and Therapeutics [Working Title], Jan 13, 2021

Authors: Jianqiang Zhou, Jia Li

Citing Patents: 0 Citing Scholarly Works: 0 Reference Count: 23 [DOI:10.5772/intechopen.95556](#) [WorldCat](#)

Additional Info: [Open Access](#) [Full Text](#)

Integrated analysis reveals FOXA1 and Ku70/Ku80 as direct targets of ivermectin in prostate cancer

Preprint Open Access Jan 23, 2022

Authors: Shidong Lv, Ziyao Wu, Mayao Luo, Yifan Zhang, Jianqiang Zhang, Laura E Pascual, Zhou Wang, Qiang Wei

Citing Patents: 0 Citing Scholarly Works: 0 Reference Count: 44 [DOI:10.1101/2022.01.19.476934](#) [WorldCat](#)

Additional Info: [Open Access](#)

Progress in Understanding the Molecular Mechanisms Underlying the Antitumour Effects of Ivermectin

Journal Article Open Access Drug design, development and therapy, Volume: 14, Pages: 285-296, Jan 21, 2020

Authors: Jian Lu, Kun Zhang, Lin Chang, Zhuo, Tsunemi Yu

Citing Patents: 0 Citing Scholarly Works: 16 Reference Count: 67 [DOI:10.56555-635-632-52X](#) [WorldCat](#)

Additional Info: [Open Access](#) [Substance](#) [References](#) [Full Text](#)

Ivermectin induces PKA1-mediated cytostatic activity in breast cancer

Journal Article Open Access Anticancer drugs, Volume: 12, Issue: 12, Pages: 2459-2469, Nov 1, 2016

Authors: Kui Wang, Wei Gao, Qianhui Dou, Hui-Rong Chen, Qi Li, Edward C Nizer, Canhua Huang

Citing Patents: 0 Citing Scholarly Works: 32 Reference Count: 0 [DOI:10.1080/15584827.2016.1231404](#) [WorldCat](#)

Additional Info: [Open Access](#) [Substance](#) [References](#) [Full Text](#)

Ivermectin Augments the In Vitro and In Vivo Efficacy of Cisplatin in Epithelial Ovarian Cancer by Suppressing Akt/mTOR Signaling

Journal Article The American journal of the medical sciences, Volume: 359, Issue: 2, Pages: 123-129, Nov 9, 2019

Authors: Xiaohong Zhang, Tingting Qin, Dongyan Zhu, Fan Hong, Yong Xu, Xiongjie Zhang, Xiaohong Xu, Ajaping Ma

Citing Patents: 0 Citing Scholarly Works: 12 Reference Count: 23 [DOI:10.1038/sj.amjms.2019.11.001](#) [WorldCat](#)

Additional Info: [Substance](#) [Funding](#) [References](#) [Full Text](#)

Antitumor effects of ivermectin at clinically feasible concentrations support its clinical development as a repurposed cancer drug.

Journal Article Cancer chemotherapy and pharmacology, Volume: 85, Issue: 6, Pages: 1153-1163, May 30, 2020

Authors: Mandy Juarez, Alejandro Schoelich Cabrera, Guadalupe Dominguez-Gomez, Alma Chavez-Blanco, José Díaz Chávez, Alfonso Dueñas-González

Citing Patents: 0 Citing Scholarly Works: 4 Reference Count: 37 [DOI:10.1007/s00280-020-04041-4](#) [WorldCat](#)

Additional Info: [Substance](#) [References](#) [Full Text](#)

The multitargeted drug ivermectin: from an antiparasitic agent to a repurposed cancer drug.

Journal Article Open Access American journal of cancer research, Volume: 8, Issue: 2, Pages: 117-131, Feb 1, 2018

Authors: Mandy Juarez, Alejandro Schoelich Cabrera, Alfonso Dueñas-González

Citing Patents: 0 Citing Scholarly Works: 86 Reference Count: 64 [DOI:10.5836/ajcr.2018.0802.001](#) [WorldCat](#)

Additional Info: [Open Access](#) [References](#) [Full Text](#)

Abstract 206: Antitumor effects of the antiparasitic agent ivermectin in inhibition of uve-associated

Institution Name

Book Chapter Open Access Ovarian Cancer: Updates in Tumour Biology and Therapeutics [Working Title], Jan 13, 2021

Authors: Jianqiang Zhou, Jia Li

Citing Patents: 0 Citing Scholarly Works: 0 Reference Count: 23 [DOI:10.5772/intechopen.95556](#) [WorldCat](#)

Additional Info: [Open Access](#) [Full Text](#)

Integrated analysis reveals FOXA1 and Ku70/Ku80 as direct targets of ivermectin in prostate cancer

Preprint Open Access Jan 23, 2022

Authors: Shidong Lv, Ziyao Wu, Mayao Luo, Yifan Zhang, Jianqiang Zhang, Laura E Pascual, Zhou Wang, Qiang Wei

Citing Patents: 0 Citing Scholarly Works: 0 Reference Count: 44 [DOI:10.1101/2022.01.19.476934](#) [WorldCat](#)

Additional Info: [Open Access](#)

Progress in Understanding the Molecular Mechanisms Underlying the Antitumour Effects of Ivermectin

Journal Article Open Access Drug design, development and therapy, Volume: 14, Pages: 285-296, Jan 21, 2020

Authors: Jian Lu, Kun Zhang, Lin Chang, Zhuo, Tsunemi Yu

Citing Patents: 0 Citing Scholarly Works: 16 Reference Count: 67 [DOI:10.56555-635-632-52X](#) [WorldCat](#)

Additional Info: [Open Access](#) [Substance](#) [References](#) [Full Text](#)

Ivermectin induces PKA1-mediated cytostatic activity in breast cancer

Journal Article Open Access Anticancer drugs, Volume: 12, Issue: 12, Pages: 2459-2469, Nov 1, 2016

Authors: Kui Wang, Wei Gao, Qianhui Dou, Hui-Rong Chen, Qi Li, Edward C Nizer, Canhua Huang

Citing Patents: 0 Citing Scholarly Works: 32 Reference Count: 0 [DOI:10.1080/15584827.2016.1231404](#) [WorldCat](#)

Additional Info: [Open Access](#) [Substance](#) [References](#) [Full Text](#)

Ivermectin Augments the In Vitro and In Vivo Efficacy of Cisplatin in Epithelial Ovarian Cancer by Suppressing Akt/mTOR Signaling

Journal Article The American journal of the medical sciences, Volume: 359, Issue: 2, Pages: 123-129, Nov 9, 2019

Authors: Xiaohong Zhang, Tingting Qin, Dongyan Zhu, Fan Hong, Yong Xu, Xiongjie Zhang, Xiaohong Xu, Ajaping Ma

Citing Patents: 0 Citing Scholarly Works: 12 Reference Count: 23 [DOI:10.1038/sj.amjms.2019.11.001](#) [WorldCat](#)

Additional Info: [Substance](#) [Funding](#) [References](#) [Full Text](#)

Antitumor effects of ivermectin at clinically feasible concentrations support its clinical development as a repurposed cancer drug.

Journal Article Cancer chemotherapy and pharmacology, Volume: 85, Issue: 6, Pages: 1153-1163, May 30, 2020

Authors: Mandy Juarez, Alejandro Schoelich Cabrera, Guadalupe Dominguez-Gomez, Alma Chavez-Blanco, José Díaz Chávez, Alfonso Dueñas-González

Citing Patents: 0 Citing Scholarly Works: 4 Reference Count: 37 [DOI:10.1007/s00280-020-04041-4](#) [WorldCat](#)

Additional Info: [Substance](#) [References](#) [Full Text](#)

The multitargeted drug ivermectin: from an antiparasitic agent to a repurposed cancer drug.

Journal Article Open Access American journal of cancer research, Volume: 8, Issue: 2, Pages: 117-131, Feb 1, 2018

Authors: Mandy Juarez, Alejandro Schoelich Cabrera, Alfonso Dueñas-González

Citing Patents: 0 Citing Scholarly Works: 86 Reference Count: 64 [DOI:10.5836/ajcr.2018.0802.001](#) [WorldCat](#)

Additional Info: [Open Access](#) [References](#) [Full Text](#)

Abstract 206: Antitumor effects of the antiparasitic agent ivermectin in inhibition of uve-associated

Institution Name

Publications over time

Prominent Author Profiles

Institution Country/Region

Author Display Name



SCHOLARLY WORKS

Explore, Search, Discover, Analyse

Lens serves over 260+ million scholarly records, compiled and harmonised from Microsoft Academic, PubMed, Crossref, OpenAlex and others, enhanced with UnPaywall open access information, OpenCitations, full text and links to ORCID and ROR.

Discover the influence of scholarship on both academia and industry and share your findings with anyone. The full scholarly and patent x scholarly citation graphs are provided for the first time as an open public resource.



PATENTS

Explore, Search, Discover and Analyse

Our patent search capabilities offer advanced boolean functions, structured search, biological search, classification search, filtering and sorting options to find the most relevant and important patents.

Use advanced search options to find the most relevant and important patents; understand their families and timelines; explore the richness of classifications. Explore the linkages with non-patent literature. Use facets and analytics to obtain new insights.

The screenshot displays the LENS.ORG patent search results page for the query "Ivermectin AND Cancer". The interface includes a top navigation bar with language and account options, a search bar, and a sidebar with user profile and navigation menus. The main content area shows a summary of search results and a list of patent entries.

Patent Search Results
Ivermectin AND Cancer

Patents (5,000) • Ivermectin AND Cancer

Filters: No filters applied

Patent Records	Simple Families	Extended Families	Cites Patents	Cited by Patents	Patent Citations
5,000	1,709	1,506	3,230	2,988	63,645

Patents: Cited Works

Use of Ivermectin and its derivative

Legal Status: Active

Application No: 201310324876 Filed: Oct 19, 2012 Published: Oct 23, 2013 Earliest Priority: Oct 19, 2012 Granted: Jun 1, 2016

Owners: Lygiva Liver Diseases Study Ltd.

Applicants: Univ Xiamen

Inventors: Li Hong, Jin Lihua, Feng Xuhui

Cited Works: 1 Cited by: 1 Cites: 0

Abstract match: The invention relates to an ivermectin, and especially relates to a use of ivermectin and its ... derivative. The ivermectin is a derivative of macrocyclic ivermectin generated by Streptomyces ..., and the use is an application of the ivermectin and its derivative in the preparation of medicines

Synergistic Combination Comprising Avermectins and a NSAID for Tumor Inhibition

Legal Status: Active

Application No: 201214346604 Filed: Dec 20, 2012 Published: Dec 18, 2014 Earliest Priority: Dec 20, 2011 Granted: Oct 20, 2017

Owners: Ectin Research AB

Applicants: Ectin Res AB

Inventors: Edlund Chelider, Falk Peter, Larsson Marie-Lois

Cited Works: 0 Cited by: 4 Cites: 2

Abstract match: The invention relates to a pharmaceutical composition for treating pancreatic cancer ... acceptable analogues or derivatives of the botulinus toxin, and/or ivermectin or pharmaceutically ... acceptable analogues or derivatives of ivermectin. The invention further discloses an application

Pharmaceutical composition for treating pancreatic cancer

Legal Status: Pending

Application No: 201805044850 Filed: May 31, 2018 Published: Dec 16, 2019 Earliest Priority: May 31, 2018

Applicants: Ent Enyau Nanjing Biotechnology Co Ltd

Inventors: Chen Duan, Zhuo Chuanqi

Cited Works: 0 Cited by: 0 Cites: 0

Abstract match: The invention relates to a pharmaceutical composition for treating pancreatic cancer ... acceptable analogues or derivatives of the botulinus toxin, and/or ivermectin or pharmaceutically ... acceptable analogues or derivatives of ivermectin. The invention further discloses an application

Synergistic Combination Comprising Avermectins and a Nsaid for Tumor Inhibition

Legal Status: Active

Application No: 12816147 Filed: Dec 20, 2012 Published: Oct 19, 2016 Earliest Priority: Dec 20, 2011 Granted: Oct 10, 2016

Applicants: Ectin Res AB

Inventors: Edlund Chelider, Falk Peter, Larsson Marie-Lois

Cited Works: 0 Cited by: 0 Cites: 0

Abstract match: The invention relates to a pharmaceutical composition for treating pancreatic cancer ... acceptable analogues or derivatives of the botulinus toxin, and/or ivermectin or pharmaceutically ... acceptable analogues or derivatives of ivermectin. The invention further discloses an application

Ivermectin and application of derivative thereof

Legal Status: Active

Application No: 201210403320 Filed: Oct 19, 2012 Published: Jan 16, 2013 Earliest Priority: Oct 19, 2012 Granted: Jul 2, 2014

Owners: Lygiva Liver Diseases Study Ltd.

Applicants: Univ Xiamen

Inventors: Li Hong, Jin Lihua, Feng Xuhui

Cited Works: 0 Cited by: 0 Cites: 1

Applicants: MIT, UNIVERSITY OF CALIFORNIA, BWH, Brigham & Women's Hospital, Allogan Inc, Moderna Therapeutics, Celity Pharm, Infliximab LTD

Publications over time: A bar chart showing the number of publications from 1995 to 2020. The count increases steadily over time, reaching approximately 1,000 publications by 2020.

Legal Status: A horizontal bar chart showing the distribution of patent legal statuses. The most common status is 'Active', followed by 'Pending', 'Withdrawn', 'Expired', 'Inactive', and 'Patented'.

Jurisdictions: A world map highlighting various countries where patents are registered, including the USA, Canada, Europe, and Asia.

Inventors: A bar chart showing the number of patents associated with various inventors. The top inventors have significantly more patents than others.



PATSEQ

Explore Biological Sequences in Patents

Freedom to innovate needs freedom to operate

DNA, RNA and proteins in patents are crucial to deliver new science as outcomes - products and practice changes - for health, agriculture and the environment.

Lens hosts the world's largest publicly available database and toolkit for biological patents, with data source transparency, with many sequences uniquely in this dataset.

The screenshot shows the LENS[PATSEQ] website interface. At the top, there's a navigation bar with 'LENS.ORG', language options, and user account information. The main content area features a search results page for a patent titled 'Detecting Bacteria Species Nucleic Acid in a Sample'. The patent details include the title, publication date (2013), and a list of inventors. Below this, there's a section for 'Displaying SEQ ID NO: 64 Nucleotide Sequence' with options to view the sequence in different formats (FASTA, GenBank, etc.). A 'Data obtained from' section lists various databases. The interface also includes a 'Watch Video' and 'Bulk Downloads' button. A statistics section shows 'Free, Open and Secure' with a count of 421,172,282 Biological Sequences. Below that, there's a 'PatSeq Bulk Data' section with a 'Bulk Downloads' button. The 'PatSeq Data' section includes a map of the United States and a bar chart showing documents disclosing sequences from 1970 to 2018. At the bottom, there's a 'PatSeq Explorer' section with a grid of genomic maps and a 'GRANTS, IN CLAIMS' section showing 10,781 sequences.



SEPTEMBER 2023

Lens PatSeq Data

- 889K Patents with biological sequences
- 457M Sequences disclosed in patents
- 628K Patent applications with sequences
- 367M Sequences disclosed in applications
- 199K Granted patents with sequences
- 90M Sequences disclosed in granted patents

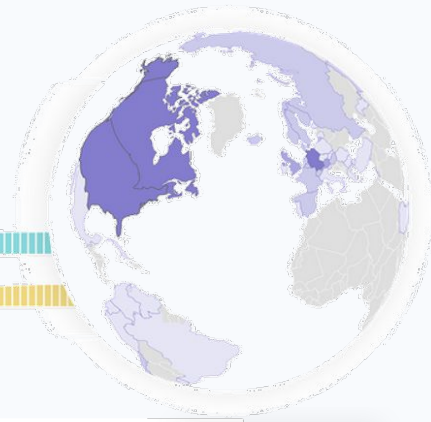


 **United States of America**
EXPLORE ALL RELATED BIOLOGICAL PATENTS IN THE LENS

Documents disclosing sequences 1970 - 2019

Applications

Grants



Results

Query: GTATCAATGAGATGTCGACG (Length: 21bp)

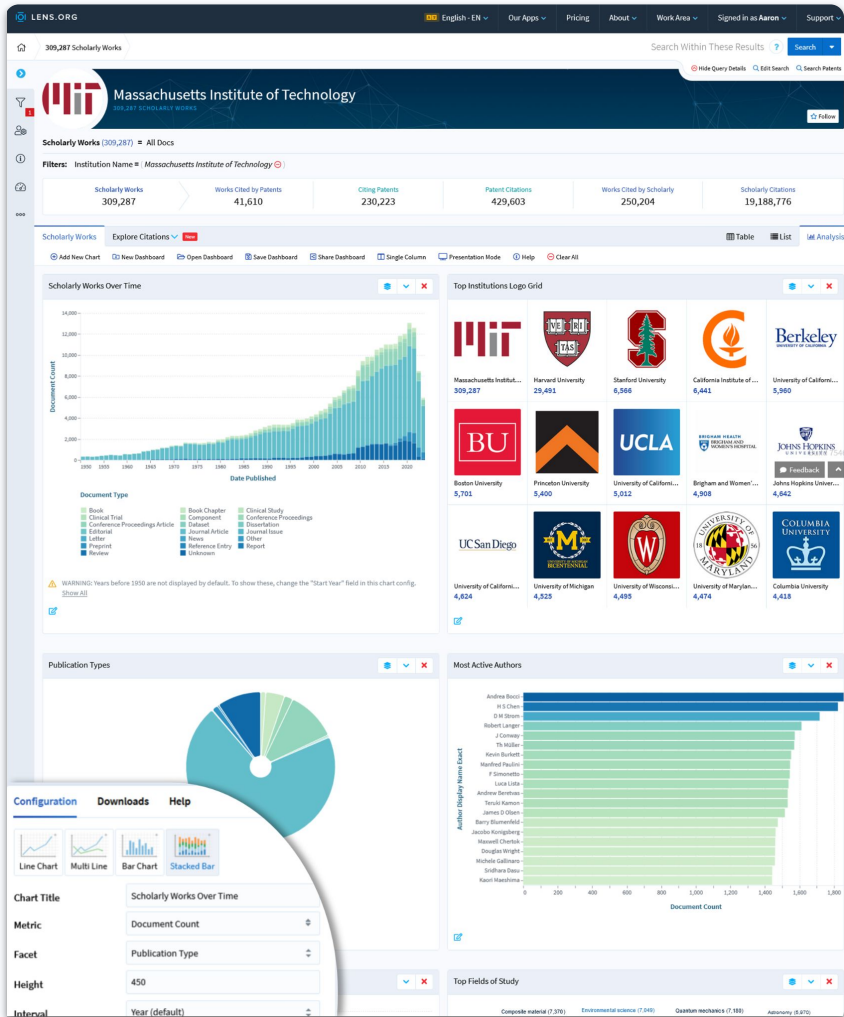
Location in document: Grants, in Grants (10) Grants (170) Applications, in Grants (1) Applications (194)

Sequence	Coverage	Similarity	Alignment length	E-value	BLAST score	Patent number
SEQ ID NO 284K03848 A2 Deposition length: 220,059bp ONCOGENES USEFUL FOR THE IDENTIFICATION OF URINARY BLADDER CANCER US, Published Feb 5, 2014, Filed Jul 21, 2010 Applicant: THERMOCOIL SCIENCES INC, CORNELL PETEC, THERMOCOIL SARILA, SHAYER GUYER, SARTON WORLDWIDE, NEMENKO JAMES Organism: Homo sapiens	83.4%	100%	110p	3.30	22.30 bits	WO 2014/010848 A2
SEQ ID NO 5 US 7758487 B2 Deposition length: 181bp Nucleic acid-related nucleic acids and microRNA	47.0%	100%	30bp	1.38E+1	20.32 bits	US 7758487 B2
SEQ ID NO 16 US 2010020228 A1 Deposition length: 1,407bp Modified hyaluronidases and uses in treating hyaluronan-associated diseases and conditions US, Published Jan 7, 2010, Filed Apr 14, 2009 Applicant: HESSE GENETHERA, LAMCO PHC, THERMOCOIL SCIENCES INC Organism: Homo sapiens	47.0%	100%	30bp	1.38E+1	20.32 bits	US 2010/020228 A1
SEQ ID NO 1 US 2010020228 A1 Deposition length: 1,407bp Modified hyaluronidases and uses in treating hyaluronan-associated diseases and conditions US, Published Jan 7, 2010, Filed Apr 14, 2009 Applicant: HESSE GENETHERA, LAMCO PHC, THERMOCOIL SCIENCES INC Organism: Homo sapiens	33.3%	100%	7bp	6.05E+2	14.37	24
	33.3%	100%	7bp	6.05E+2	14.37	24
	33.3%	100%	7bp	6.05E+2	14.37	44

2210 alignments were found:

Alignment 1
E-VALUE 3.50 LENGTH 110bp
Query: S S 100%
Hit: C 52.4%

Alignment 2
E-VALUE 3.50 LENGTH 110bp
Query: S S 100%
Hit: C 52.4%



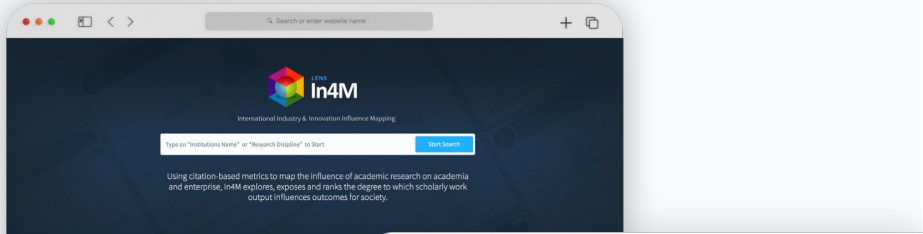
WORKSPACES

Analysis Dashboards

Our suite of analysis and visualisation tools enable real-time discovery and analysis.

Create dashboards on a query or a dynamic collection to keep your dashboards current based on the latest data.

Dashboards can be saved, presented and shared via LinkedIn, Twitter, Facebook or email.



Mapping Influence of Scholarship

The International Industry & Innovation Influence Mapping (In4M) uses citation-based metrics to map the influence of academic research on research and education. In4M explores, exposes and ranks the degree to which scholarly work output influences outcomes for society.

Institutions (1,234,567) • All Institutions

Filters: Research Discipline • Solar Energy

Journals	Citing Patent Applicants	Citing Publications	Top Fields of Use	Top Field of Study	Fielded Scholarly Works
1,234,567	1,234,567	1,234,567	1,234,567	1,234,567	1,234,567

Solar Energy, The Official Journal of International Solar Energy Society

Publisher: The American Society of Mechanical Engineers(ASME)
Coverage: 1985-2022 | **ISSN:** 1528-9233, 1528-9396
Issue: 1.0
OID: 1,234,567

Address: 1,234,567 | Citing Patent Applicants: 1,234,567 | Citing Publications: 1,234,567 | Top Fields of Use: 1,234,567 | Top Field of Study: 1,234,567 | Fielded Scholarly Works: 1,234,567

Filters: Research Discipline • Solar Energy

Journals by Document Count

Solar Energy Mat.	Journal Name	Renewable Energy	Energy
31,849	27,094	25,649	22,462
			21,127

Top Citing Patent Applicants

SEI	GE	QUALCOMM	LG Chem
Semiconductor I.	Samung Electron.	Gen Electric	Qualcomm Inc.
5,114	4,871	2,985	2,709

Top Fields of Use by Document Count

35,525	63,296	28,260	32,911	45,000
Autonomy	Autophysics	Chemical engineering	Chemistry	Comp
19,527	21,024	66,782	75,997	143
Electrical engineering	Energy conversion efficiency	Engineering	Energy storage	Material
20,188	27,014	22,956	50,703	66
Neurobiology	Nanotechnology	Optics	Optoelectronics	Physics
115,560	50,184	28,375	73,563	19
Physical	Renewable energy	Solar cell	Solar energy	Therm

Citation Comparison of Top 20 Source Title

Bar chart comparing citation counts for various journals and source titles.

Top Field of Study by Journal/Source Title

Horizontal bar chart showing the top field of study for various journals and source titles.

University of Massachusetts Lowell

Issue 1 | Release: 01/2012 | ARWV: 17 | London: 017
ISSN: 0193-090X, 1518-4224 | Registered: 01/2012
Institution Type: Private University | WE, USA
Scholarly Works: 12,345 | Scholarly Citations: 12,345 | Patent Citations: 12,345

Overview: The University of Massachusetts Lowell is a private, non-profit, medical research facility focusing on research and education. Founded in 1862 in Lowell, Massachusetts, United States with a mission to serve and benefit the community and the world through research, education, and service. [Read More](#)

Rockefeller University

Issue 2 | Release: 01/2012 | ARWV: 17 | London: 017
ISSN: 0193-090X, 1518-4224 | Registered: 01/2012
Institution Type: Private University | WE, USA
Scholarly Works: 12,345 | Scholarly Citations: 12,345 | Patent Citations: 12,345

Overview: The Rockefeller University is a private research university, established in 1901 as the Rockefeller Institute for Medical Research in the Upper East Side of Manhattan, New York with a mission to carry out and disseminate medical science research, and... [Read More](#)

Massachusetts Institute of Technology

Issue 3 | Release: 01/2012 | Thomson: 2 | ARWV: 17 | London: 017
ISSN: 0193-090X, 1518-4224 | Registered: 01/2012
Institution Type: Private University | WE, USA
Scholarly Works: 12,345 | Scholarly Citations: 12,345 | Patent Citations: 12,345

Overview: The Massachusetts Institute of Technology (MIT) is a private research university established in 1861 in Cambridge, Massachusetts, United States with a mission to advance knowledge and educate students in science, technology, and other areas. [Read More](#)

University of Massachusetts Lowell

Issue 4 | Release: 01/2012 | ARWV: 17 | London: 017
ISSN: 0193-090X, 1518-4224 | Registered: 01/2012
Institution Type: Private University | WE, USA
Scholarly Works: 12,345 | Scholarly Citations: 12,345 | Patent Citations: 12,345

Overview: University of Massachusetts Lowell is a public school established in Lowell, Massachusetts, United States in 1862 with a mission to improve the health and well-being of people in the country and the world through research, education, and service. [Read More](#)

University of Texas Southwestern Medical Center

Issue 5 | Release: 01/2012 | ARWV: 17 | London: 017
ISSN: 0193-090X, 1518-4224 | Registered: 01/2012
Institution Type: Private University | WE, USA
Scholarly Works: 12,345 | Scholarly Citations: 12,345 | Patent Citations: 12,345

Overview: The University of Texas Southwestern Medical Center is a public research institution, established in Dallas, Texas in United States in 1942 with a mission to improve health care to local and global communities through innovation and research. [Read More](#)

Weizmann Institute of Science

Issue 6 | Release: 01/2012 | ARWV: 17 | London: 017
ISSN: 0193-090X, 1518-4224 | Registered: 01/2012
Institution Type: Private University | WE, USA
Scholarly Works: 12,345 | Scholarly Citations: 12,345 | Patent Citations: 12,345

Overview: Weizmann Institute of Science is a public research university established in Rehovot, Israel in 1934 with the mission of conducting pure, disciplinary research and advancing science to benefit society, producing scientific leadership, and... [Read More](#)

National Institutes of Health

Issue 7 | Release: 01/2012 | ARWV: 17 | London: 017
ISSN: 0193-090X, 1518-4224 | Registered: 01/2012
Institution Type: Government Research | WE, USA
Scholarly Works: 12,345 | Scholarly Citations: 12,345 | Patent Citations: 12,345

Overview: National Institutes of Health is the major agency of the United States Government responsible for health and biomedical research and a headquarters in Bethesda, Maryland, United States and was established in 1887 with the mission of... [Read More](#)

Rockefeller University

Issue 8 | Release: 01/2012 | ARWV: 17 | London: 017
ISSN: 0193-090X, 1518-4224 | Registered: 01/2012
Institution Type: Private University | WE, USA
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In4M

Mission-aligned Metrics Measure what matters

No more proprietary, closed and irrelevant metrics that create perverse incentives and neither recognize nor value the impact we need from knowledge.

Using rich, open and FAIRE metadata, and comprehensive linked data sets, users can create customized metrics that align with the missions of their institutions.



In4M

International Industry & Innovation **Influence Mapping**

In4M uses rich patent citations to both scholarly work and patents and scholarly citations to map the influence of scholarship on academia, innovation and industry.

In4M explores, exposes and ranks the degree to which researchers' works, or those of groups or entire institutions influence outcomes for society.



In4M

International Industry & Innovation Influence Mapping

PATCITE

Open Influence Mapping Facility

Use open persistent identifiers (Lens Ids, PMIDs or DOIs) to discover which scholarly articles have influenced what patents and who is using scholarly work to build products.

Explore who is citing your scholarly work(s) and map the influence on industry by visualising and exploring the network of linkages.

LENS[PATCITE]

The screenshot displays the LENS.ORG PatCite interface. At the top, there's a navigation bar with 'LENS.ORG', language options, and user information. The main content area is titled 'Search Results "Scholar Search"'. It shows a search query for 'Scholar Search' with 28 QNPL found. The interface is divided into several sections: 'Query articles cited in patent literature (QNPL)', 'Citing patents/families distribution', and 'Top Cited Articles based on patent family counts'. The 'Top Cited Articles' section lists several articles with their respective citation counts and titles. Below this, there's a 'Cited articles' section showing a list of articles with their earliest priority dates and citation counts. A large network graph is visible on the right side, showing connections between patent families. At the bottom, there's a treemap visualization showing the classification of patent families. The footer contains 'About / Support / News / Privacy / Contact / Donate' and 'An 8.4.9 "2 Made in Australia Copyright © 2022 License CC-BY-NC'.

LENS.ORG English | EN | Our Apps | Pricing | About | Work Area | Signed In As Admin | Support

Explore Science, Technology & Innovation... Search

API & Bulk Data

API & Data Home Scholarly API & Data Patent API & Data PatSeq Bulk Data Subscriptions

APIs & Bulk Data are now available in The Lens

The Lens API & Data facility provides additional options for accessing Lens data.

The versioned APIs provide programmatic access to Lens scholarly works and patent records, while options for bulk data downloads provide access to the genetic sequences in patents, as well as the corpus of scholarly works and patents. The open data is aggregated from diverse primary sources, with persistent identifiers from the original data sources provided for transparency and easier interoperability for integration and combination with other data.

Lens Scholarly Works

27,046,784
Books and Book Chapters

Scholarly API & Data

- Open & FAIR data
- Aggregated data sources
- Interoperable with persistent identifiers (Lens ID, DOI, ORCID, OpenID)
- 70+ metadata fields

View API & Data Details

Lens Patent Records

68,739,763
Patent Applications

Patent API & Data

- Simple and extended family data
- 195 Jurisdictions
- Interoperable with Lens IDs, patent number with hierarchy of class codes
- 120+ metadata fields

View API & Data Details

Sequence Data in Patents

18,487,874
Grants, Publications

PatSeq Bulk Data

- 17 Jurisdictions
- Sequences in patent applications and grants
- Sequences referenced in the claims
- Nucleic acids and protein datasets enriched with patent attributes

View API & Data Details

APIs & Links

Guaranteed Access for All
Through The Lens Open Access Program (LOAP), The Lens offers that no one will be disadvantaged by lack of access to lens.org platform or tools. Support the Collective Action Project and help create inclusive, equitable access to innovative knowledge for all and keep The Lens serving society. [Read More](#)

Need Support?
Have you a question for us? Tell us and we can advise which plan best suits your needs and answer on further questions. [Contact Us](#)

Feedback

GET STARTED

How to Access APIs & Data

- Applying**

Step 1: After signing in, select the type of API or bulk data you are interested in and click Request Access to access the online application form.

Step 2: Apply by completing the online application. Make sure to provide accurate information about your use case, affiliation and organization.

Step 3: Upon submission you will receive a confirmation email that your application is now being processed.
- Evaluation**

Step 4: Your application is received by the Lens team and will be evaluated based on the use-case, commercial or non-commercial use, affiliation or organization size/type. We may contact you for additional information to help in the evaluation.

N.B. All API users are entitled to a 14-day free trial to explore the data and assess its suitability. For PatSeq data, sample datasets are provided for each purpose.
- Processing**

Step 5: If your application is approved, you will receive another confirmation email that will include instructions on how to access your API token to obtain the data.

Step 6: If your application is pending, you will receive notification on how to improve it or meet with one of the Lens business team to discuss in more detail.

If you would like to discuss your use case ahead of submission, please [contact us](#).

Creating something with our data?

Show your work and your datasets with the Lens Labs. Lens Labs is a state collaborative for open innovation data and related analytics, tools, and metrics.

[Visit Lens Labs](#)

COLLECTIVE ACTION

Lens for Institutions

The Lens launches its institutional services through [Lens Institutional Toolkits](#)

These are a collection of tools that will advance the Institution's mission, increase the visibility of its capabilities, and help guide their optimal decision making. The toolkit is available for licensing under a range of tiered pricing. Once you or your institution becomes a subscriber, the following benefits may be available to you:

Secure Institutional Account

Receive access to additional tools and services allowing you to manage, collect, markup, promote and customize institutional knowledge events.

No-wait Emails (Permalinks Use)

Unrestricted email services for the use of the Lens platform with extended confidential Lens accounts to all staff for professional use associated with their employment.

Scholarly API Access

Access to the Lens Scholarly API provides programmatic access to the full corpus of Lens Scholarly MetadataRecords using the flexibility and convenience of a REST API.

Patent API Access

Access to the Lens Patent API provides programmatic access to the full corpus of Lens Patent MetadataRecords using the flexibility and convenience of a REST API.

FAIR Datasets

Finding, Accessible, Interoperable, Reusable and open patent and scholarly datasets with permission to embed or integrate and expose patent and scholarly metadata, metrics and analytics.

Equitable Access

The Lens affirms that no public good institution will ever be disadvantaged by lack of access to lens.org institutional tools. If an institution legitimately needs these tools and can't afford it, The Lens commits to finding a way to provide access.

This website is a service of Cambridge, an independent not-for-profit organisation.

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API & DATA

Lens APIs & Bulk Data

The Lens API & Data facility provides additional programmatic options for accessing Patent, Scholarly Works and Biological Sequences data.

The versioned APIs provide programmatic access to Lens scholarly works and patent records, while options for bulk data downloads provide access to the genetic sequences in patents, as well as the FULL corpus of scholarly works and patents. The open data is aggregated from diverse primary sources, with persistent identifiers from the original data sources provided for transparency and easier interoperability for integration and combination with other data.



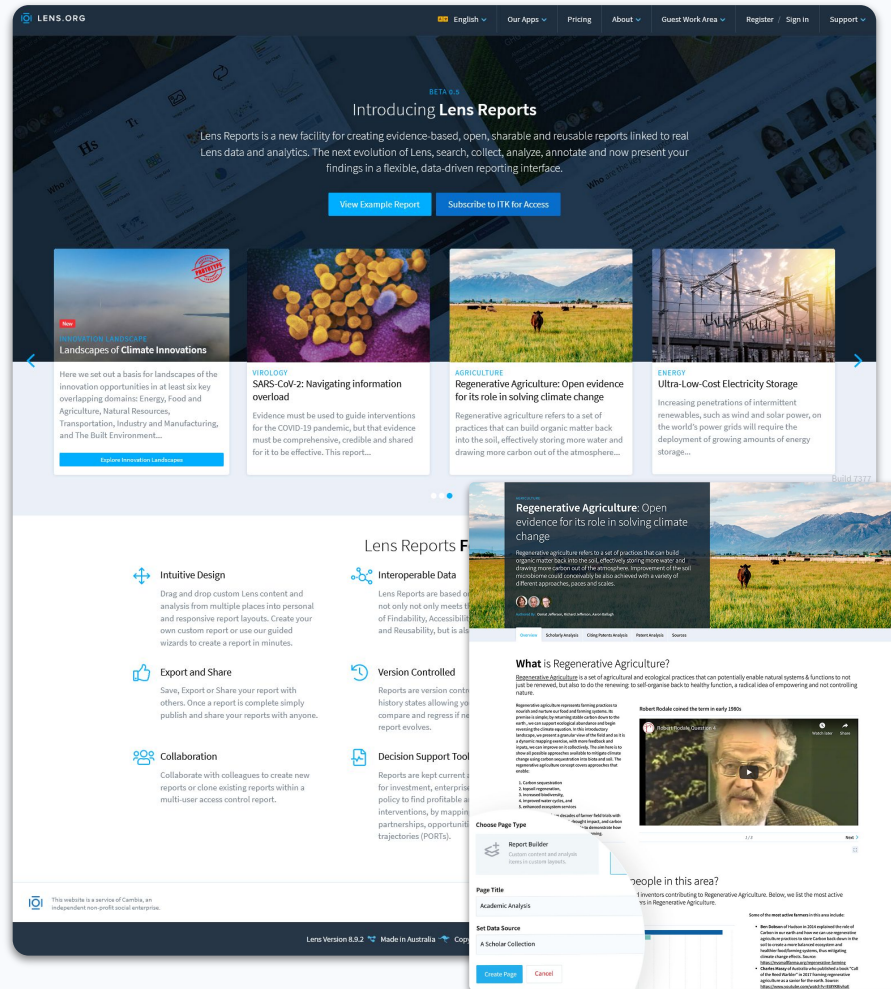
REPORTS

Lens Reports

Lens Reports is a new prototype facility for creating evidence-based, open, sharable and reusable reports persistently linked to real-time Lens data and analytics.

Search, collect, analyze, annotate and now present your findings in a flexible, data-driven reporting interface.

Understand the actors and the actions in any institution or groups of institutions, any field of study or innovation, any geographical location.





COLLECTIVE ACTION

Collective Action Project

The Lens Collective Action Project (CAP) levels the playing field with universal and equitable access to open innovation knowledge for inclusive problem solving.

CAP provides a number of different activities for all stakeholders to participate in collective problem solving, categories of participation include:

- Institutional Toolkits & Professional Workspaces
- Lens Labs
- Open Content Initiatives
- Community App Portal
- Sponsorships & Donations



COLLECTIVE ACTION

Collective Action needs Connected Actors

Community Adoption:

- Open Metrics
- Open Literature Reviews
- Attested Collections
- Lens Reports
- Open Apps

Impact:

- Nudge (or 'shove') an ecosystem
- Transition to open for outcomes
- Knowledge as open infrastructure



LENSI

Lens for Institutions

The Lens extends its offering from individual use to institutional use through global access and use of open innovation knowledge, and to provide an open and affordable alternative service to the restrictive, expensive and closed commercial services.

[Explore the Tools](#) [View Pricing](#)

The Lens Institutional Toolkit

The Lens builds on open data to create and provide a unique set of tools - the toolkit - for institutions to enhance their innovation capabilities and engage more effectively in the problem-solving process.

Enabled by funding from the Bill & Melinda Gates Foundation, the Bill & Melinda Gates Foundation, the Rockefeller Foundation, Amazon, the Services, and supported by the community, The Lens now offers a package of value-added tools and services that enrich the available public good and commercial institutions at the broadest possible price. Based on open, verifiable, and shareable data, the Toolkit allows the aggregation of innovation knowledge, facilitates informed decision-making, fosters partnerships across disciplines, skills, and bodies in the collective action required to solve society's crises.

[View the Institutional Toolkit Pricing](#)

What is an Institutional Toolkit

The Institutional Toolkit (ITK) is a model for an enhanced collection of Lens tools and features that will help institutions discover, analyze and manage innovation knowledge.

The toolkit will also increase the visibility of institutions to potential collaborators and partners, enabling new partnerships to be formed based on open and shared evidence. Subscribing institutions will be granted exclusive and secure institutional Lens access to manage, collect, make-up, and promote institutional knowledge assets.

How we've modified our toolkit

The Lens aggregation metadata and full-text, combining unique content sets (scholarly works, patents and biological sequences) with management tools as a core offering. The Lens core supports the four primary functions of ITKs, which are to discover, analyze, manage and share knowledge. With the addition of an Institutional Toolkit, we've developed additional tools and services across seven key areas for institutional subscribers that are built around the Lens core (highlighted here in various colours). These are described in more detail below.

Institutional Tools Include

- Patent & Scholarly API Access**: The Lens aggregation metadata and full-text provides programmatic access to full and partial data for open access and scholarly to support equipment internal and external.
- License and Permissions**: Licensed to institutional users with real world, open and private use by any legal entity by each institution to public good, where that use advances the public good mission of the institution.
- Attested Portfolios**: Licensed to members, with data and portfolio authorities, facilitate collections of institutional work products, both individual works and groups. These can be used for internal management or external promotion.
- Management Tools**: Lens offers a large digital collection site and report tools for core and public (open) knowledge. Manage the institutional work area and collaborate with other institutional users.
- Lens Reports**: A custom Institutional Report Builder produces health to existing content, user insights and insights reports linked to live data, with no constraints on data sharing.
- Institutional Profiles**: A dedicated space for institutions to register and showcase their individual and collective property portfolios, allowing institutions to promote their capabilities.
- Support**: Access the new Lens Support Center & Knowledge Base, report issues, track issues, and get general feature news to discover all the features Lens has to offer.
- Embedded Widgets**: Institutions can embed widgets and content widgets, including collections, distributions and charts, into institutional web applications.

See the Toolkit

See the toolkit that that are currently available to join or checkout the development roadmap to see what new tools are coming in the development pipeline.

[View the Toolkit](#) [View Pricing](#)

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COLLECTIVE ACTION

Institutional Toolkits

The Lens builds on open data to provide a unique set of tools for institutions to enhance their innovation capabilities and engage more effectively in the problem-solving process.

Institutional Toolkits provide an open and affordable alternative service to the restrictive, expensive and closed commercial services and include:

- License & Permissions (No seat limits)
- Patent & Scholarly API Access
- Attested Portfolios
- Management Tools
- Lens Reports
- More ITK tools under development including Institutional Profiles



COLLECTIVE ACTION

Open Apps & Data

The Lens supports open, third-party apps and tools developed by the community. Apps include:

Network Visualization:

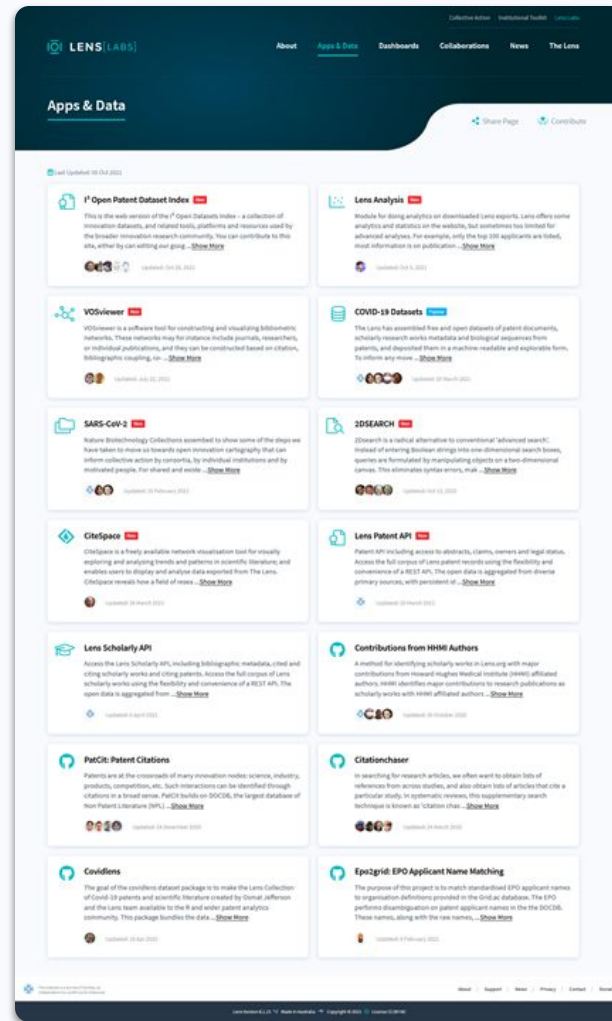
- [VOSviewer](#)
- [CiteSpace](#)

Systematic Reviews:

- [CitationChaser](#)
- [SpiderCite](#)

Visual Search:

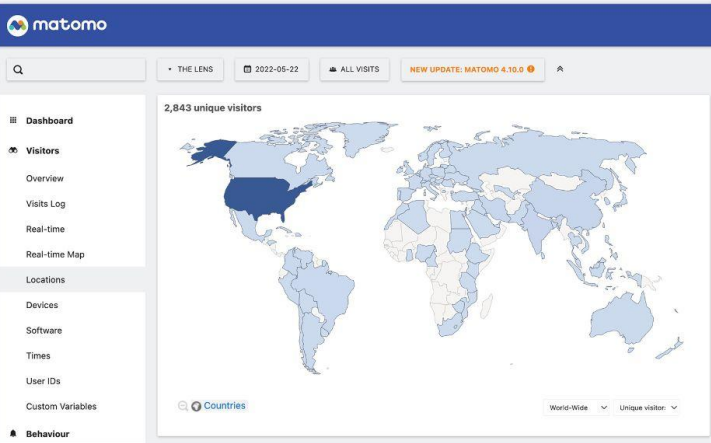
- [2D Search](#)



Lens Equitable Access Program (LEAP)



Source: Based on the number of Lens scholarly works 2015-2020 by institution country/region (N.B. only institutions with a matched GRID record have country data available), Population data provided by The Global Social Change Research Project.



COLLECTIVE ACTION

Lens **Equitable Access** Program (LEAP)

The Lens Equitable Access Program guarantees access to innovation knowledge and tools and ensures The Lens remains universally available as a community-supported public-good.

Any institution worldwide that needs or wants any of the tools or services in the Institutional Toolkit will have access based on low, fair, tiered pricing.

All fees go towards keeping knowledge universally available as a community-supported public-good.

EQUITABLE ACCESS

Professional Workspaces

The Lens provides all registered users a Personal Account with a Professional Workspace, providing access to tools and features on the Lens.org platform to support many use cases and use types across industry and the research and innovation sectors.

The Lens offers a free Professional Workspace to individuals users for public-good and non-profit uses, and a workspace with a commercial use license to users who use The Lens in their professional work or business.

LENS.ORG English Our Apps Pricing About Guest Work Area Register / Sign In Support

ACCOUNT TYPES

Professional Workspaces and Institutional Toolkits

The Lens offers all registered users a Personal Account with a Professional Workspace, providing access to tools and features on the Lens.org platform to support many use cases and use types across industry and the research and innovation sectors. Institutional Accounts are available as part of the Institutional Toolkit (ITK), providing access to institution-specific tools and features, as well as Professional Workspaces for all institutional users.

PERSONAL ACCOUNT
Professional Workspaces

Open Public Access

\$0

Individuals wanting to search and analyse patents, and scholarly works.

See More Details

Start Searching

Non-Profit Use

\$0 / Month

Individuals wanting to search, analyse and manage patents, and scholarly works.

See More Details

Register Account

Commercial Use

\$1,000 / P Annum

Individual professionals wanting to use Lens features and metadata in a commercial setting.

See More Details

Subscribe

INSTITUTIONAL ACCOUNT
Toolkits

Non-Profit Institutional

From **\$0**

Public-good institutions wanting to manage, markup, and promote knowledge assets.

See More Details

Pricing

Commercial Enterprise

From **\$5,000**

Commercial institutions wanting to analyse, manage and markup knowledge assets.

See More Details

Enquire

Features and Functionality	Personal Non-Profit	Personal Commercial	Non-Profit Institutional	Commercial Enterprise
Patent, Scholarly Works and PatSeq Search and Analysis	✓	✓	✓	✓
Create and Manage Collections	✓ (50k limit)	✓ (50k limit)	✓ (200k limit)	✓ (500k limit)
Record Search History	✓	✓	✓	✓
Save Queries	✓	✓	✓	✓
Alerts and Notifications	✓	✓	✓	✓
Save and share Analysis Dashboards	✓	✓	✓	✓
Notes, Annotations & Tags	✓	✓	✓	✓
Export Records	✓ (50k limit)	✓ (50k limit)	✓ (50k limit)	✓ (50k limit)
Lens Profile	✓	✓	✗	✗
Institutional Profile	✗	✗	✓	✓
Institutional Work Area	✗	✗	✓	✓
Attested Portfolios	✗	✗	✓	✓
Management Tools	✗	✗	✓	✓
Embeddable Widgets	✗	✗	✓	✓
Lens Reports	+	+	✓	✓
Patent API Access	+	+	✓	+
Scholarly API Access	+	+	✓	+
Bulk Data	+	+	+	+
Permitted Use Type	🟡 Non-commercial	🟡 Commercial	🟡 Institutional	🟡 Commercial

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LENS.ORG

Solving The Problem Of Problem Solving™

To learn more, check out these sources:

[Richard Jefferson speaking at the Skoll World Forum for Social Entrepreneurship](#)

[Richard Jefferson interview with Data4Good](#)

Support and tips for using Lens.org:
<https://support.lens.org/>