



**Università
di Genova**

SBA

Sistema Bibliotecario di Ateneo

Biblioteca del Polo Biomedico

<https://biblioteca.polobiomedico.unige.it>

PubMed

June 11, 2025



U.S. National Library of Medicine
National Network of Libraries of Medicine

giorgia.franchi@unige.it

Search

Advanced

PubMed® comprises more than 38 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full text content from PubMed Central and publisher web sites.



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- About PubMed
- FAQs & User Guide
- Finding Full Text



Find

- Advanced Search
- Clinical Queries
- Single Citation Matcher



Download

- E-utilities API
- FTP
- Batch Citation Matcher



Explore

- MeSH Database
- Journals

PubMed is a NLM free and public database on the Internet



However, further library facilities for UniGE institutional users are available

To make full use of the subscription-based services is recommended to reach PubMed from the menu «Find Databases» available on the Library website



Cosa stai cercando?

- Consultazione e prestito
- Prestito PC portatili
- Prestito digitale
- Prestito interbibliotecario
- Assistenza bibliografica
- UnigePrint
- Aule studio serali e week end
- Accedere da casa**
- Antiplagio di Ateneo
- Library Mobile, la app di SBA



Tutti i servizi



Tutte le risorse



REMOTE ACCESS



PROSSIMI EVENTI

https://biblioteche.unige.it/accedere_da_casa

Accedere da casa

Per accedere, anche da casa, a full text e risorse elettroniche in abbonamento messe a disposizione agli studenti e al personale puoi:

- Impostare sul tuo browser il [proxy.pac](#)
- [Accedere alle risorse tramite autenticazione federata con UnigePass](#) (per gli editori che lo consentono, vedi elenco)

Ultimo aggiornamento 4 Febbraio 2025



https://biblioteche.unige.it/accedere_da_casa

<https://biblioteca.polobiomedico.unige.it>

The screenshot shows the top section of the BPB website. On the left, the logo of the University of Genova is displayed next to the text "Università di Genova" and "BPB Biblioteca del Polo Biomedico". On the right, there is a search icon and language options "IT | EN". Below this, a horizontal navigation bar contains the following items: "SBA", "About / Contact us", "Opening Hours", "Services", "Resources", "Find", "Services report", "Projects", and "News". The "Find" menu is open, showing a list of options: "Discovery tool UnoPerTutto", "Find Databases" (highlighted in yellow), "Find e-journals", "Find UniGe Research Products (IRIS)", "Find UniGe treasures (Digital library DOGE)", and "UniGe Dissertation Archive". A large white banner with the text "Welcome to the L" is overlaid on the background image of a library interior.



Database Search

pubmed



PubMed Central (PMC)

MedLine (PubMed)

Databases by category

- Architecture & Design
- Arts & Humanities
- Biology Environmental & Natural Sciences
- Chemistry & Pharmacology

FIND THE SBA UniGe DATABASES!

To search for databases you can:

- start to digit 3 database title characters and choose from the list
- browse databases by category

Cerca database

MedLine (PubMed)



Identificati per completare i risultati e richiedere le copie



Autenticati



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1-2 su 2 Risultati

Avanza

Per categoria

Design

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1

PubMed Central (PMC)

National library of medicine :

Bethesda, Maryland : National Library of Medicine

PubMed Central® (PMC) is a free full-text archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health's National Library of Medicine (NIH/NLM)

[Accesso online](#)



2

MedLine (PubMed)

National library of medicine :

Bethesda, MD : National Library of Medicine

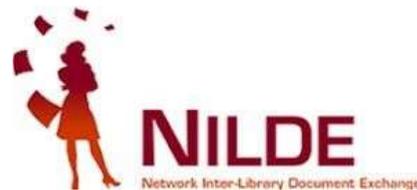
[Accesso online](#)



PubMed is a bibliographic (= literature citation) database

Accessing from the Library website allows you to get all customization for institutional users:

1. each bibliographic record is complete with external links to the publisher website with full text, when available
2. when not available you will find the link to **NILDE** (Network for Inter-Library Document Exchange): a web-based software for free document delivery service



<https://nilde.bo.cnr.it>

1. Register as a new institutional user
2. Access to PubMed from Unopertutto -> Find Databases
3. From the record in PubMed click on NILDE button
4. The citation will be automatically added in NILDE form complete with all bibliographic data needed
5. Send the request to the Library

Within max 2 days you will receive a NILDE feedback and an e-mail from the Library with the pdf attached file. In very rare cases the publication could be impossible to retrieve → you will be notified about the negative outcome

UN
per tutto

Database Search

pubmed



PubMed Central (PMC)

MedLine (PubMed)

Databases by category

- Architecture & Design
- Arts & Humanities
- Biology Environmental & Natural Sciences
- Chemistry & Pharmacology

FIND THE SBA UniGe DATABASES!

To search for databases you can:

- start to digit 3 database title characters and choose from the list
- browse databases by category

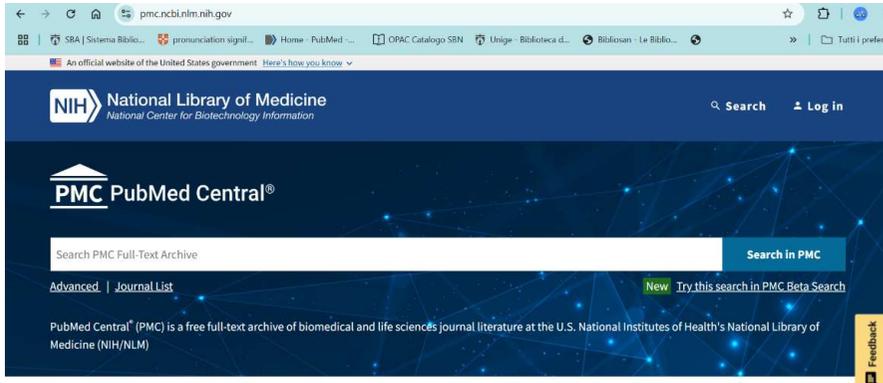
Cerca database MedLine (PubMed) ✕ 🔍

Identificati per completare i risultati e richiedere le copie [Autenticati](#) ✕ IGNORA

1-2 su 2 Risultati ▾

1 **PubMed Central (PMC)** ✉ 🖨️ 📌 ⋮
National library of medicine :
Bethesda, Maryland : National Library of Medicine
PubMed Central® (PMC) is a free full-text archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health's National Library of Medicine (NIH/NLM)
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2 **MedLine (PubMed)** ✉ 🖨️ 📌 ⋮
National library of medicine :
Bethesda, MD : National Library of Medicine
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PubMed Central (PMC) is a free full text archive of biomedical and life sciences journal literature

What's in PubMed Central (PMC)?

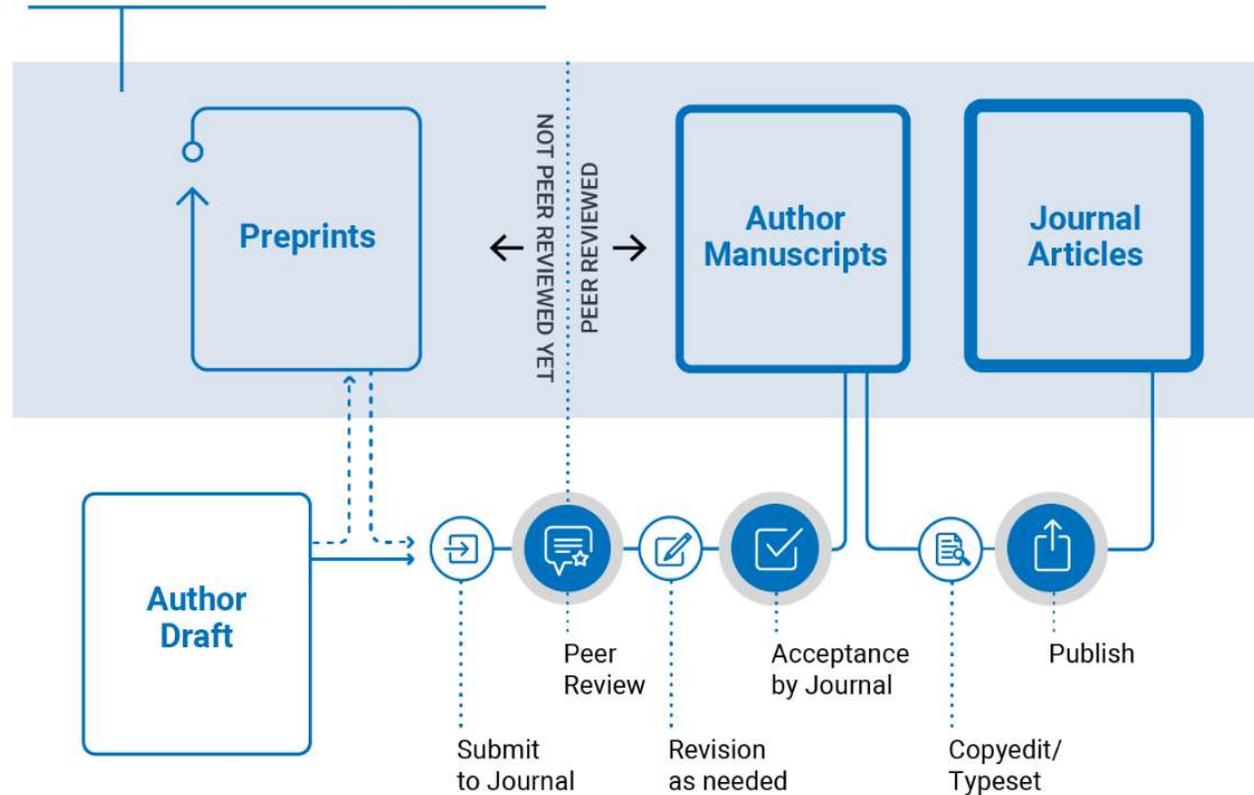


Image source: <https://pmc.ncbi.nlm.nih.gov/about/intro>

<https://pmc.ncbi.nlm.nih.gov/about/intro>

PubMed

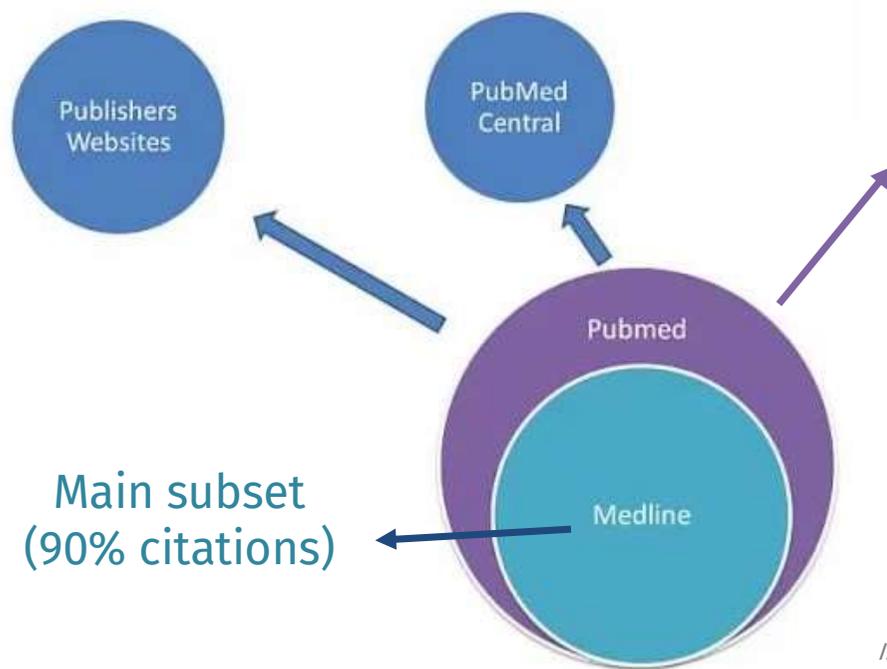
- Features and contents
- Tools and research strategies
- Managing the results → [My NCBI](#)
- Retrieving full text
- Document Delivery via NILDE



Features and contents

- PubMed has been available since 1996
- Content: more than 4600 scientific journals and more than 37 million references and abstracts of *peer-reviewed* biomedical publications
- Topics: medicine, nursing, dentistry, health organization, pre-clinical sciences, life sciences
- Edited and daily updated by the National Library of Medicine (NLM)

<https://pubmed.ncbi.nlm.nih.gov/about>



In addition TO Medline in PubMed more contents are provided, including ebooks (NCBI Bookshelf) and other types of biomedical publications

Image source: <https://pmc.ncbi.nlm.nih.gov>

MEDLINE, PubMed, and PMC: how are they different?

<https://www.nlm.nih.gov/bsd/difference.html>

PubMed = bibliographic database → provides citations (= bibliographic records)

- A bibliographic record is the description of a document and provides all information needed to identify and retrieve a publication
- Each record is composed of different fields
- Each field constitutes an access to the record
- Each field is characterised by *tags*, which are essential for retrieving accurate information. To limit your search to only the specified fields of the citations you can type field tags in the search bar within square brackets: *[ti]*, *[au]*, *[ta]*, *[pmid]*, *[issn]*, *[mh]* ...

Simple search

- Type one or more natural language words
- Autocomplete feature suggests terms that contain your input. This algorithm provides search-term predictions based on previous searches
- Words are automatically associated with AND
- Terms are searched in all fields of the record - unless you use fields tags
- Automatic Term Mapping happens in background
(v. Search Details in Advanced Search)

ATM (Automatic Term Mapping)

- ATM is a process that happens in the background of most PubMed searches
- The database takes the terms that you have entered into the search box and attempts to interpret them and map them to the appropriate MeSH Terms – if a corresponding heading is available
- In most everyday or casual searches, the ATM feature will help your search by not requiring you to put as many terms into the search box or build more complex search queries
- However, sometimes the ATM process can go in an unexpected or undesired direction → it is important to understand how the database is interpreting your search and always carefully check the search details

ATM (Automatic Term Mapping) in practice

When you enter a search, PubMed checks for that term its "Translation Tables" running the search not just in all fields of the record but also in some specific indexes (journal titles, author names, MeSH)

To see how your terms are being mapped, you can view:

[Advanced Search](#) → [Search History](#)
→ [Search Details](#)

The screenshot displays the PubMed Advanced Search Builder interface. At the top, the title "PubMed Advanced Search Builder" is highlighted in yellow. The PubMed logo and "User Guide" link are in the top right. Below the title, there is a section "Add terms to the query box" with a dropdown menu set to "All Fields" and a text input field containing the search query "metabolic dysfunction associated fatty liver disease". To the right of the input field are "ADD" and "Show Index" buttons. Below this is a "Query box" with the placeholder text "Enter / edit your search query here" and a "Search" button. At the bottom, the "History and Search Details" section is highlighted in yellow. It includes "Download" and "Delete" icons. A table below shows the search history:

Search	Actions	Details	Query	Results	Time
#1	...	▼	Search: metabolic dysfunction associated fatty liver disease ("metabolic"[All Fields] OR "metabolical"[All Fields] OR "metabolically"[All Fields] OR "metabolics"[All Fields] OR "metabolism"[MeSH Terms] OR	7,824	03:00:50

History and Search Details

You can:

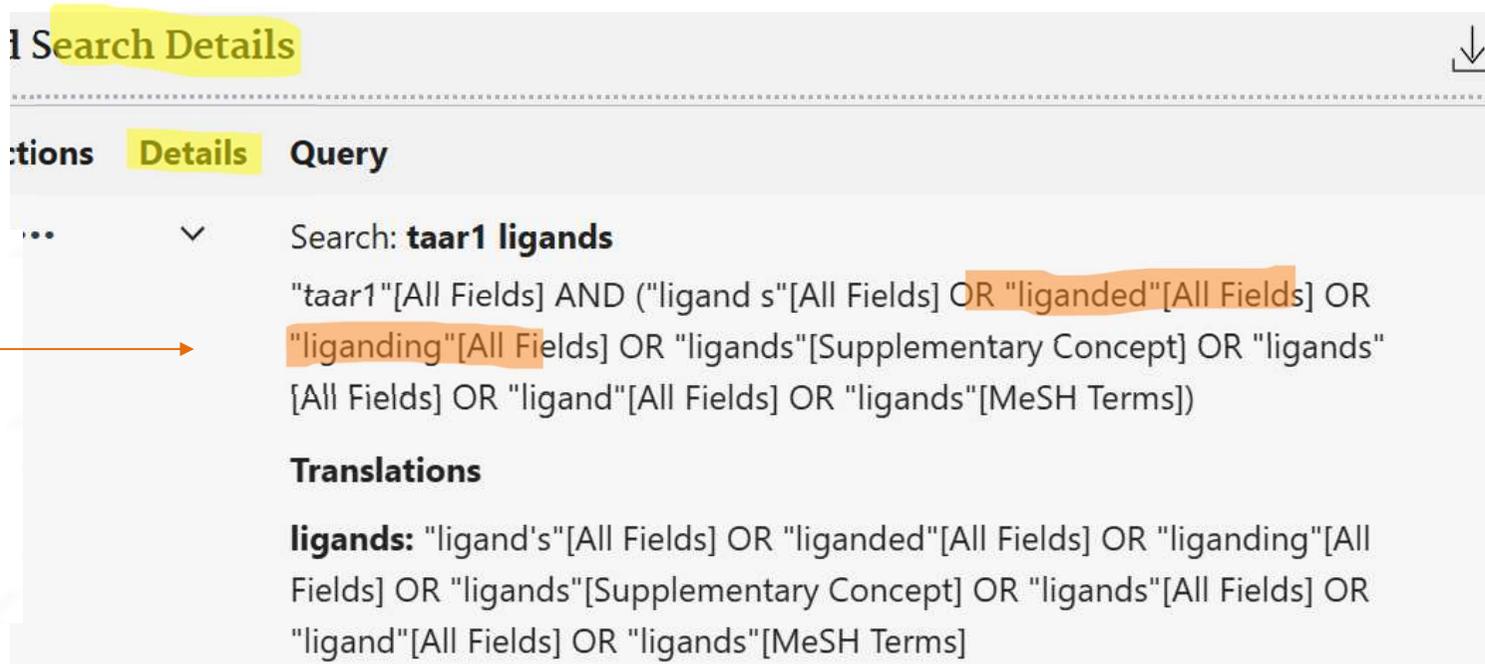
- Display and manage performed searches and related results
- Display search terms you entered and the full search that was actually run by the database with all of the individual term translations that took place (ATM)

Search	Actions	Details	Query	Results
#5	...	⌵	Search: taar1 ligands "taar1"[All Fields] AND ("ligand s"[All Fields] OR "liganded"[All Fields] OR "liganding"[All Fields] OR "ligands"[Supplementary Concept] OR "ligands"[All Fields] OR "ligand"[All Fields] OR "ligands"[MeSH Terms]) Translations ligands: "ligand's"[All Fields] OR "liganded"[All Fields] OR "liganding"[All Fields] OR "ligands"[Supplementary Concept] OR "ligands"[All Fields] OR "ligand"[All Fields] OR "ligands"[MeSH Terms]	86
#4	...	>	Search: Androstenediol	732
#1	...	>	Search: 17beta-hydroxysteroid dehydrogenase	1,958

Showing 1 to 3 of 3 entries

Actions	Details	Query
...	⌵	Search: taar1 ligands "taar1"[All Fields] AND ("ligand s"[All Fields] OR "liganded"[All Fields] OR "liganding"[All Fields] OR "ligands"[Supplementary Concept] OR "ligands"[All Fields] OR "ligand"[All Fields] OR "ligands"[MeSH Terms]) Translations ligands: "ligand's"[All Fields] OR "liganded"[All Fields] OR "liganding"[All Fields] OR "ligands"[Supplementary Concept] OR "ligands"[All Fields] OR "ligand"[All Fields] OR "ligands"[MeSH Terms]

Sometimes ATM process can go in an unexpected or uncorrected direction →
Always check carefully the automatic search details! Are all terms relevant to your search?



The screenshot shows a search results interface. At the top, the title "Search Details" is highlighted in yellow. Below it, there are tabs for "Conditions", "Details", and "Query", with "Details" selected. The main content area shows a search for "taar1 ligands". The search string is: "taar1"[All Fields] AND ("ligand s"[All Fields] OR "liganded"[All Fields] OR "liganding"[All Fields] OR "ligands"[Supplementary Concept] OR "ligands"[All Fields] OR "ligand"[All Fields] OR "ligands"[MeSH Terms]). The terms "liganded" and "liganding" are highlighted in orange. Below the search string, there is a section for "Translations" with the following text: "ligands: "ligand's"[All Fields] OR "liganded"[All Fields] OR "liganding"[All Fields] OR "ligands"[Supplementary Concept] OR "ligands"[All Fields] OR "ligand"[All Fields] OR "ligands"[MeSH Terms]". To the left of the screenshot, a cartoon character with a red body and a large head is sitting on the ground, looking confused. It has two thought bubbles above its head, one containing "???" and the other containing "?". An orange arrow points from the character towards the search details window. To the right of the screenshot, there is a large orange question mark.

You can delete terms not relevant → copy and paste the query details in the query box above → modify the search string (when modifying the search mind the brackets and boolean operators between terms)

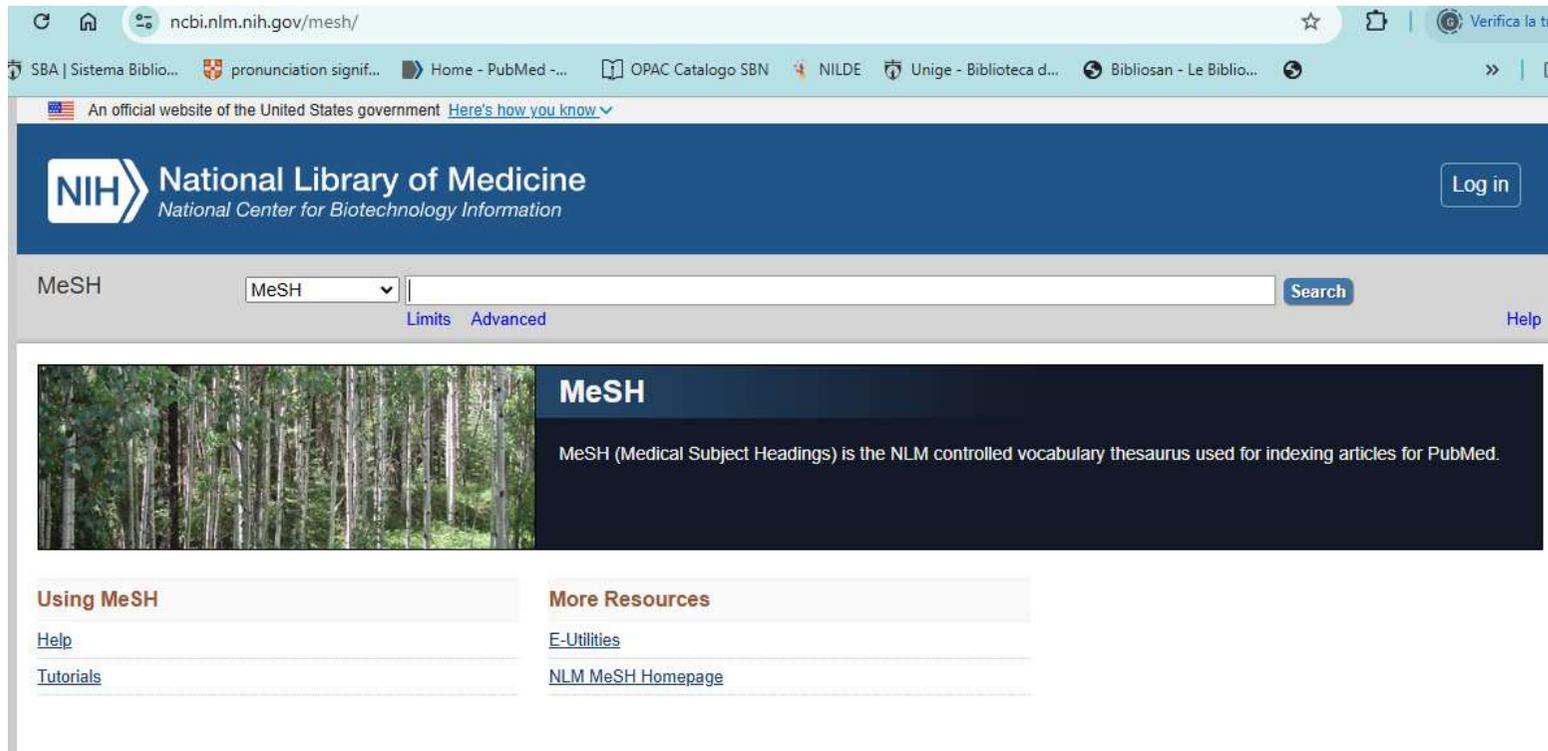
Turning ATM off

- You can also decide that you do not want PubMed to interpret your search terms, maybe because you may be running a more structured search where you would likely want to have more control over the search terms
- If you do not want PubMed to interpret your search terms you can turn the ATM feature off by using one of the following methods:
 1. Putting the term into quotation marks (“...”)
 2. Using truncation (*)
 3. Using field tags [...]

MeSH - Medical Subject Headings

- When you search PubMed, ATM automatically identifies and includes relevant MeSH terms associated with your keywords
- MeSH = Medical Subject Headings → specific terms used by the National Library of Medicine to index citations of articles that are added to MEDLINE/PubMed and describe the topic of the articles
- Subject Headings more generally are the official terms of a thesaurus that a specific database uses to describe the content of items that are in it.
- Each database uses its own controlled vocabulary to describe its contents, and so MeSH is specific to MEDLINE/PubMed

MeSH = controlled and hierarchically-organized vocabulary produced by the NLM



The screenshot shows the MeSH website homepage. At the top, there is a navigation bar with the NIH logo and the text "National Library of Medicine National Center for Biotechnology Information". Below this is a search bar with "MeSH" selected in a dropdown menu and a "Search" button. The main content area features a large image of a forest on the left and a dark blue box on the right with the text "MeSH (Medical Subject Headings) is the NLM controlled vocabulary thesaurus used for indexing articles for PubMed." Below this, there are two columns of links: "Using MeSH" with links for "Help" and "Tutorials", and "More Resources" with links for "E-Utilities" and "NLM MeSH Homepage".

https://www.nlm.nih.gov/mesh/intro_record_types.html



MeSH [Limits](#) [Advanced](#)

Full ▾

Liver Neoplasms
 Tumors or cancer of the LIVER.
 Date introduced: January 1, 1999
 PubMed search builder options
[Subheadings:](#)

<input type="checkbox"/> blood	<input type="checkbox"/> embryology	<input type="checkbox"/> pathology
<input type="checkbox"/> blood supply	<input type="checkbox"/> enzymology	<input type="checkbox"/> physiopathology
<input type="checkbox"/> cerebrospinal fluid	<input type="checkbox"/> epidemiology	<input type="checkbox"/> prevention and control
<input type="checkbox"/> chemically induced	<input type="checkbox"/> ethnology	<input type="checkbox"/> psychology
<input type="checkbox"/> chemistry	<input type="checkbox"/> etiology	<input type="checkbox"/> radiotherapy
<input type="checkbox"/> classification	<input type="checkbox"/> genetics	<input type="checkbox"/> rehabilitation
<input type="checkbox"/> complications	<input type="checkbox"/> history	<input type="checkbox"/> secondary
<input type="checkbox"/> congenital	<input type="checkbox"/> immunology	<input type="checkbox"/> surgery
<input type="checkbox"/> diagnosis	<input type="checkbox"/> metabolism	<input type="checkbox"/> therapy
<input type="checkbox"/> diagnostic imaging	<input type="checkbox"/> microbiology	<input type="checkbox"/> ultrastructure
<input type="checkbox"/> diet therapy	<input type="checkbox"/> mortality	<input type="checkbox"/> urine
<input type="checkbox"/> drug therapy	<input type="checkbox"/> nursing	<input type="checkbox"/> veterinary
<input type="checkbox"/> economics	<input type="checkbox"/> parasitology	<input type="checkbox"/> virology

Restrict to MeSH Major Topic.
 Do not include MeSH terms found below this term in the MeSH hierarchy.

Tree Number(s): C04.588.274.623, C06.301.623, C06.552.697
 MeSH Unique ID: D008113

Entry Terms:

- Hepatic Neoplasms
- Hepatic Neoplasm
- Neoplasm, Hepatic
- Neoplasms, Hepatic
- Neoplasms, Liver
- Liver Neoplasm
- Neoplasm, Liver

Entry Terms: terms considered to be a synonym for the MeSH term
 These can be useful to find other keyword synonyms to try
 These also play an important role in the Automatic Term Mapping (ATM) process

MeSH [Limits](#) [Advanced](#)

Full ▾

Trace amine-associated receptor 1 [Supplementary Concept]

potential direct targets for drugs of abuse; binds beta-phenylethylamine and TYRAMINE

Date introduced: September 14, 2001

MeSH Unique ID: C434723

Registry Number: XMC8VP6RI2

Heading Mapped to:

- [Receptors, G-Protein-Coupled](#)

Entry Terms:

- TA1 amine receptor
- Trace amine receptor 1
- TAAR1 protein, human
- TAR-1 protein, human
- TAR1 protein, human
- trace amine associated receptor 1, human
- TRAR1 protein, human
- Taar1 protein, mouse
- trace amine-associated receptor 1, mouse
- Taar1 protein, rat
- trace-amine-associated receptor 1, rat



Date Introduced: when a particular term was added to the MeSH vocabulary.

In fact, TAAR1 was discovered in 2001

MeSH is updated once a year to reflect changes in the medical literature and terminology

MeSH is organized into a tree structure from least specific to most specific.

You can explore the branch that a given term is in by clicking on the links in the MeSH tree to find the best term(s) for your search

- Hepatic Cancers

[All MeSH Categories](#)

[Diseases Category](#)

[Neoplasms](#)

[Neoplasms by Site](#)

[Digestive System Neoplasms](#)

Liver Neoplasms

[Adenoma, Liver Cell](#)

[Carcinoma, Hepatocellular](#)

[Liver Neoplasms, Experimental](#)



If a lot of other terms are underneath your term in the MeSH Hierarchy this can impact how the MeSH Explosion works



<https://hslguides.osu.edu/pubmed/explosion>

MeSH Limits Advanced

Full ▾

Liver Neoplasms

Tumors or cancer of the LIVER.
Date introduced: January 1, 1999

PubMed search builder options

[Subheadings:](#)

- | | | |
|--|---------------------------------------|---|
| <input type="checkbox"/> blood | <input type="checkbox"/> embryology | <input type="checkbox"/> pathology |
| <input type="checkbox"/> blood supply | <input type="checkbox"/> enzymology | <input type="checkbox"/> physiopathology |
| <input type="checkbox"/> cerebrospinal fluid | <input type="checkbox"/> epidemiology | <input type="checkbox"/> prevention and control |
| <input type="checkbox"/> chemically induced | <input type="checkbox"/> ethnology | <input type="checkbox"/> psychology |
| <input type="checkbox"/> chemistry | <input type="checkbox"/> etiology | <input type="checkbox"/> radiotherapy |
| <input type="checkbox"/> classification | <input type="checkbox"/> genetics | <input type="checkbox"/> rehabilitation |
| <input type="checkbox"/> complications | <input type="checkbox"/> history | <input type="checkbox"/> secondary |
| <input type="checkbox"/> congenital | <input type="checkbox"/> immunology | <input type="checkbox"/> surgery |
| <input type="checkbox"/> diagnosis | <input type="checkbox"/> metabolism | <input type="checkbox"/> therapy |
| <input type="checkbox"/> diagnostic imaging | <input type="checkbox"/> microbiology | <input type="checkbox"/> ultrastructure |
| <input type="checkbox"/> diet therapy | <input type="checkbox"/> mortality | <input type="checkbox"/> urine |
| <input type="checkbox"/> drug therapy | <input type="checkbox"/> nursing | <input type="checkbox"/> veterinary |
| <input type="checkbox"/> economics | <input type="checkbox"/> parasitology | <input type="checkbox"/> virology |

- Restrict to MeSH Major Topic.
 Do not include MeSH terms found below this term in the MeSH hierarchy.

Tree Number(s): C04.588.274.623, C06.301.623, C06.552.697
MeSH Unique ID: D008113

Restrict to MeSH major topic: it ensures your search retrieves only articles where the MeSH term is a major topic discussed, rather than a secondary focus

Do not include MeSH terms found below this term in MeSH hierarchy: your search will only include the specific MeSH term you selected and not its more specific sub-terms within the hierarchy

Trace amine-associated receptor 1 [Supplementary Concept]

potential direct targets for drugs of abuse; binds beta-phenylethylamine and TYRAMINE

Date introduced: September 14, 2001

MeSH Unique ID: C434723

Registry Number: XMC8VP6RI2

Heading Mapped to:

- [Receptors, G-Protein-Coupled](#)

Entry Terms:

- TA1 amine receptor
- Trace amine receptor 1
- TAAR1 protein, human
- TAR-1 protein, human
- TAR1 protein, human
- [trace amine associated receptor 1](#), human
- TRAR1 protein, human
- Taar1 protein, mouse
- [trace amine-associated receptor 1](#), mouse
- Taar1 protein, rat
- [trace-amine-associated receptor 1](#), rat

Previous Indexing:

- [RECEPTORS, CELL SURFACE \(2001-2003\)](#)



Previous Indexing: if articles on a given concept used to be indexed with a different term, you might find an alternative term listed here. This is especially important for newer terms to help find older or historical literature

Trace amine-associated receptor 1 [Supplementary Concept]

potential direct targets for drugs of abuse; binds beta-phenylethylamine and TYRAMINE

Date introduced: September 14, 2001

MeSH Unique ID: C434723

Registry Number: XMC8VP6RI2

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Entry Terms:

- TA1 amine receptor
- Trace amine receptor 1
- TAAR1 protein, human
- TAR-1 protein, human
- TAR1 protein, human
- [trace amine associated receptor 1](#), human
- TRAR1 protein, human
- Taar1 protein, mouse
- [trace amine-associated receptor 1](#), mouse
- Taar1 protein, rat
- [trace-amine-associated receptor 1](#), rat

Previous Indexing:

- [RECEPTORS, CELL SURFACE \(2001-2003\)](#)

Keyword search term is automatically linked to a MeSH term. This mapping is done to improve the search by accounting for variations in language and ensuring a more comprehensive search by including relevant MeSH terms

Supplementary Concept Records (SCRs):

Terms in a separate thesaurus from MeSH, they are updated daily to allow for rapid addition of new concepts outside of the annual MeSH review process.

These records are primarily for substances like proteins, drugs, and chemicals, but can also include treatment protocols, organisms, and rare diseases

<https://www.nlm.nih.gov/oet/ed/pubmed/mesh/mod01/03-400.html>

Pharmacologic Actions

MeSH

MeSH

"Pharmacologic Actions"[MeSH Terms]

Search

[Create alert](#) [Limits](#) [Advanced](#)

[Help](#)

Full

Send to:

Pharmacologic Actions

A broad category of chemical actions and uses that result in the prevention, treatment, cure or diagnosis of disease. Included here are drugs and chemicals that act by altering normal body functions, such as the REPRODUCTIVE CONTROL AGENTS and ANESTHETICS. Effects of chemicals on the environment are also included.

Year introduced: 2004(1999)

Date introduced: June 10, 1998

PubMed search builder options

- Restrict to MeSH Major Topic.
- Do not include MeSH terms found below this term in the MeSH hierarchy.

Tree Number(s): D27.505

MeSH Unique ID: D020228

Entry Terms:

- Actions, Pharmacologic
- Pharmacologic Action
- Action, Pharmacologic
- Chemical Actions
- Actions, Chemical
- Chemical Action
- Action, Chemical

PubMed Search Builder

Add to search builder AND

Search PubMed

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[PubMed - Major Topic](#)

[Clinical Queries](#)

[NLM MeSH Browser](#)

[PubChem Compound](#)

Recent Activity

[Turn Off](#) [Clear](#)

MeSH [Create alert](#) [Limits](#) [Advanced](#)

Full ▾

Non-alcoholic Fatty Liver Disease

Fatty liver finding without excessive ALCOHOL CONSUMPTION.

Year introduced: 2015

Date introduced: June 26, 2014

PubMed search builder options

[Subheadings:](#)

<input type="checkbox"/> blood	<input type="checkbox"/> enzymology	<input type="checkbox"/> pathology
<input type="checkbox"/> cerebrospinal fluid	<input type="checkbox"/> epidemiology	<input type="checkbox"/> physiopathology
<input type="checkbox"/> chemically induced	<input type="checkbox"/> ethnology	<input type="checkbox"/> prevention and control
<input type="checkbox"/> classification	<input type="checkbox"/> etiology	<input type="checkbox"/> psychology
<input type="checkbox"/> complications	<input type="checkbox"/> genetics	<input type="checkbox"/> radiotherapy
<input type="checkbox"/> congenital	<input type="checkbox"/> history	<input type="checkbox"/> rehabilitation
<input type="checkbox"/> diagnosis	<input type="checkbox"/> immunology	<input type="checkbox"/> surgery
<input type="checkbox"/> diagnostic imaging	<input type="checkbox"/> metabolism	<input type="checkbox"/> therapy
<input type="checkbox"/> diet therapy	<input type="checkbox"/> microbiology	<input type="checkbox"/> urine
<input type="checkbox"/> drug therapy	<input type="checkbox"/> mortality	<input type="checkbox"/> veterinary
<input type="checkbox"/> economics	<input type="checkbox"/> nursing	<input type="checkbox"/> virology
<input type="checkbox"/> embryology	<input type="checkbox"/> parasitology	

Restrict to MeSH Major Topic.

Do not include MeSH terms found below this term in the MeSH hierarchy.

- Subheadings (qualifiers): all the different specialized terms that could potentially be combined with a specific MeSH

MeSH terms

- > 17-Hydroxysteroid Dehydrogenases / genetics
- > Animals
- > Hepatocytes / metabolism
- > Liver / metabolism
- > Mice
- > Non-alcoholic Fatty Liver Disease* / drug therapy
- > Non-alcoholic Fatty Liver Disease* / genetics
- > Non-alcoholic Fatty Liver Disease* / metabolism
- > Phosphorylation
- > Serine / metabolism

MeSH terms: how does indexing work?

- **Manual Indexing:** before 2022
- **Automatic Indexing:**
 - 2022-2024: **MTIA (Medical Text Indexer-Automated) algorithm** = complex system based on a dictionary of MeSH terms, synonyms and other phrases with rules created and refined by humans over the course of many years.
 - After 2024: **MTIX (Medical Text Indexer-NeXt Generation) algorithm** = a machine learning model known as a neural network (AI): MTIX was trained on millions of MEDLINE citations published between 2007 and 2022. From those examples, MTIX learns how the citation title, abstract, publication year, indexing year, and journal name relate to the indexed terms on that article. Once trained, MTIX can apply the knowledge it developed during training to new citations, determining which MeSH terms are statistically likely to be appropriate indexing for that new article.

Quality Assurance

Semi-automatic indexing (MTIA + human check) → human curators continue to play a significant role in quality assurance for MTIX

Roughly one-third of articles indexed via automation will also receive human curation, with focus on specific types of publications such as systematic reviews or clinical trials and citations that involve genes or proteins, some of the most frequent search topics in PubMed

Summary ▾ 20 per page ▾

Send to: ▾

Search results

Items: 1 to 20 of 335

<< First < Prev Page 1 of 17 Next > Last >>

⚠ The following terms were not found in MeSH: HSD13, 17beta-HSD13.

[17beta-hydroxysteroid dehydrogenase type 3 \[Supplementary Concept\]](#)

1. expressed in microsomal fraction of testes; deficiency associated with pseudohermaphroditism; catalyzes conversion of 4-androstene-3,17-dione to testosterone
Date introduced: August 7, 2014

[estradiol-17 beta-3-methyl ether \[Supplementary Concept\]](#)

2. RN given refers to (17beta)-isomer
Date introduced: June 26, 1980

[dipyrandium \[Supplementary Concept\]](#)

3. RN given is from CA online & refers to (3beta,17beta)-isomer; structure
Date introduced: January 1, 1970

[16-fluoroestradiol \[Supplementary Concept\]](#)

PubMed Search Builder

 AND ▾[YouTube Tutorial](#)

Find related data

Database: ▾

Search details

17beta[All Fields]

[Search results](#)

> [Endocrinology](#). 2025 Apr 22;166(6):bqaf078. doi: 10.1210/endo/bqaf078.

Functional Analysis of HSD17B3-Deficient Male Mice Reveals Roles for HSD17B7 and HSD17B12 in Testosterone Biosynthesis

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Affiliations — collapse

Affiliations

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FULL TEXT LINKS



ACTIONS

SHARE

MeSH terms

- > 17-Hydroxysteroid Dehydrogenases* / genetics
- > 17-Hydroxysteroid Dehydrogenases* / metabolism
- > Androstenedione / metabolism
- > Animals
- > Humans
- > Male
- > Mice
- > Mice, Knockout
- > Testis / metabolism
- > Testosterone* / biosynthesis

Substances

- > Testosterone
- > 17-Hydroxysteroid Dehydrogenases
- > 17beta-hydroxysteroid dehydrogenase type 3
- > Androstenedione

Related information

MedGen

PubChem Compound (MeSH Keyword)

PubChem provides detailed chemical information → chemical substances, their properties and bioactivities



The image shows the 'Explore Chemistry' search page from PubChem. At the top, the title 'Explore Chemistry' is displayed in large white font on a dark blue background. Below the title, the subtitle 'Quickly find chemical information from authoritative sources' is shown in a smaller white font. A large white search bar is centered on the page, with a magnifying glass icon on the right side. Below the search bar, there are several search suggestions: 'Try aspirin', 'EGFR', 'C9H8O4', '57-27-2', 'C1=CC=C(C=C1)C=O', and 'InChI=1S/C3H6O/c1-3(2)4/h1-2H3'. At the bottom of the search bar area, there are four radio button options: 'Use Entrez' (unchecked), 'Compounds' (checked), 'Substances' (unchecked), and 'BioAssays' (unchecked).

<https://pubchem.ncbi.nlm.nih.gov>

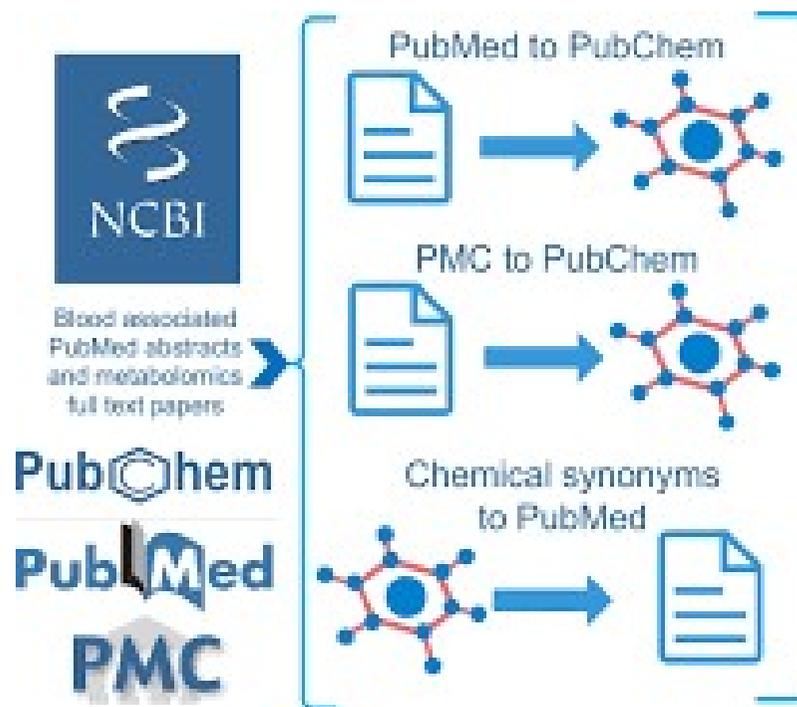


Image source: <https://ehp.niehs.nih.gov>

PubMed and PubChem are linked →

- PubMed records can contain PubChem IDs and PubChem records often link to relevant PubMed articles
- Many PubChem records include links to relevant PubMed articles that discuss the chemical, and this enables researchers to seamlessly navigate between chemical information and scientific publications

Cross-referencing is used to establish links between NCBI/NLM databases

Search tips

You can search by natural language words
(Google-like search):

The screenshot shows the PubMed search interface. The search bar contains the text "metabolic dysfunction associated fatty liver disease". Below the search bar, there are options for "Advanced", "Create alert", and "Create RSS". The search results are displayed on page 1 of 783, with 7,821 results. A list of filters is shown on the left, including "All (7,821)", "English (7,700)", and "Full text (7,640)". The first result is titled "EASL-EASD-EASO Clinical Practice Guidelines on the management of metabolic dysfunction-associated steatotic liver disease (MASLD)". The citation information includes "J Hepatol. 2024 Sep;81(3):492-542. doi: 10.1016/j.jhep.2024.04.031. Epub 2024 Jun 7. PMID: 38851997 Free article." The abstract text is "Metabolic dysfunction-associated steatotic liver disease (MASLD), previously termed non-alcoholic".

History and Search Details

The screenshot shows the "Automatic Term Mapping" section of the search details. The search query is "metabolic dysfunction associated fatty liver disease" with 7,821 results. The mapping text is as follows:

Search: **metabolic dysfunction associated fatty liver disease** ("metabolic"[All Fields] OR "metabolical"[All Fields] OR "metabolically"[All Fields] OR "metabolics"[All Fields] OR "metabolism"[MeSH Terms] OR "metabolism"[All Fields] OR "metabolisms"[All Fields] OR "metabolism"[MeSH Subheading] OR "metabolities"[All Fields] OR "metabolization"[All Fields] OR "metabolize"[All Fields] OR "metabolized"[All Fields] OR "metabolizer"[All Fields] OR "metabolizers"[All Fields] OR "metabolizes"[All Fields] OR "metabolizing"[All Fields]) AND ("dysfunctional"[All Fields] OR "dysfunctionals"[All Fields] OR "dysfunctioning"[All Fields] OR "dysfunctions"[All Fields] OR "physiopathology"[MeSH Subheading] OR "physiopathology"[All Fields] OR "dysfunction"[All Fields]) AND ("associate"[All Fields] OR "associated"[All Fields] OR "associates"[All Fields] OR "associating"[All Fields] OR "association"[MeSH Terms] OR "association"[All Fields] OR "associations"[All Fields]) AND ("non alcoholic fatty liver disease"[MeSH Terms] OR ("non alcoholic"[All Fields] AND "fatty"[All Fields] AND "liver"[All Fields] AND "disease"[All Fields]) OR "non alcoholic fatty liver disease"[All Fields] OR ("fatty"[All Fields] AND "liver"[All Fields] AND "disease"[All Fields]) OR "fatty liver disease"[All Fields])

Search tips

If you want that the words must appear as an exact phrase you have to surround your search terms with quotation marks (“...”):

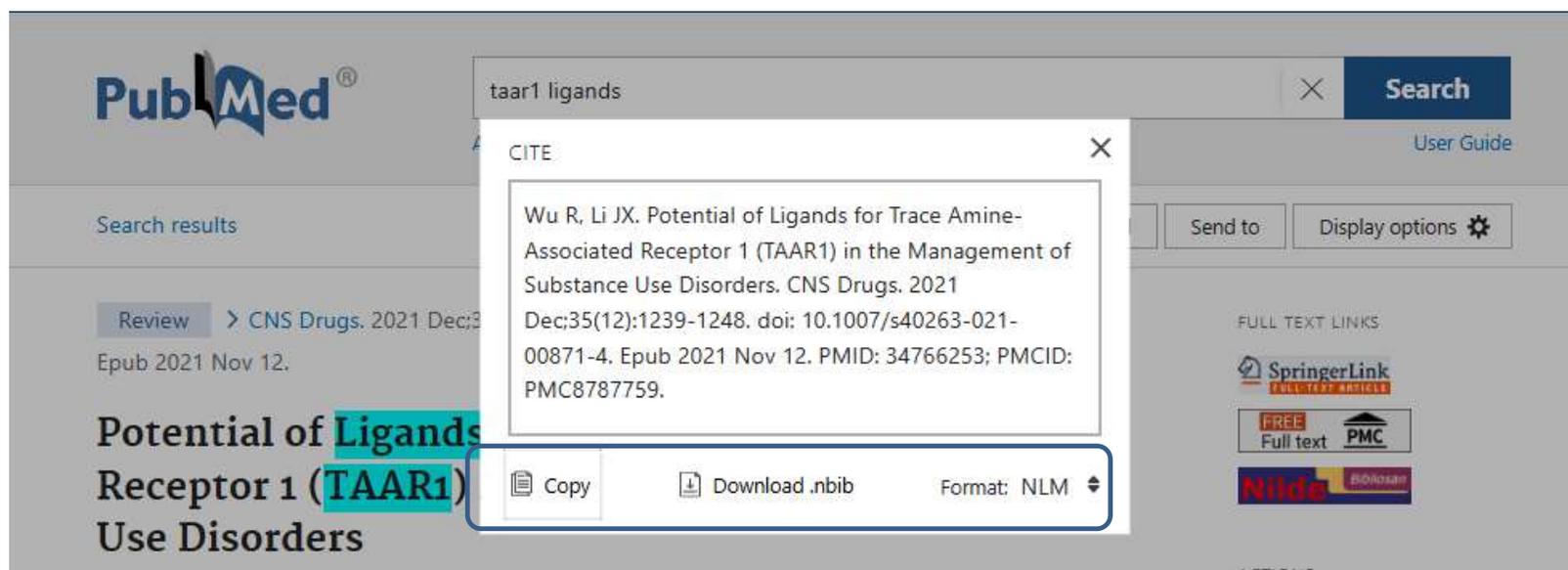
The screenshot shows the PubMed search interface. The search bar contains the query "metabolic dysfunction associated fatty liver disease" in quotes. The search results show 1,464 results. A filter for "All (1,464)" is selected. The results list includes an update in "Metabolic Dysfunction-Associated Fatty Liver Disease (MAFLD) in Children" by Rupasinghe K, Hind J, Hegarty R, published in J Pediatr Gastroenterol Nutr. 2023 Nov 1;77(5):583-591. doi: 10.1097/MPG.0000000000003919. Epub 2023 Aug 18. PMID: 37592398. The abstract snippet reads: "NAFLD has become the most frequent cause of chronic liver disease in adults and children worldwide."

History and Search Details

The screenshot shows the search details for the query "metabolic dysfunction associated fatty liver disease". The details section is titled "NO Automatic Term Mapping". The search query is displayed as "Search: 'metabolic dysfunction associated fatty liver disease'" and "metabolic dysfunction associated fatty liver disease"[All Fields]. The results count is 1,464.

Cite

For each record different citation styles (AMA, MLA, APA e NLM) are shown



The screenshot shows the PubMed search results page for the query "taar1 ligands". A citation popup window is open, displaying the following information:

CITE

Wu R, Li JX. Potential of Ligands for Trace Amine-Associated Receptor 1 (TAAR1) in the Management of Substance Use Disorders. *CNS Drugs*. 2021 Dec;35(12):1239-1248. doi: 10.1007/s40263-021-00871-4. Epub 2021 Nov 12. PMID: 34766253; PMCID: PMC8787759.

Below the citation text, there are three buttons: "Copy", "Download .nbib", and "Format: NLM".

The background shows the PubMed search results page with the title "Potential of Ligands for Trace Amine-Associated Receptor 1 (TAAR1) in the Management of Substance Use Disorders" and the journal "CNS Drugs".

You can download the citation in **.nbib**: this file format is designed for importing citations into Reference Management Software like EndNote, Zotero and other citation management software.

Save, Email, Send to

giorgia.franchi@gma...

XSearch

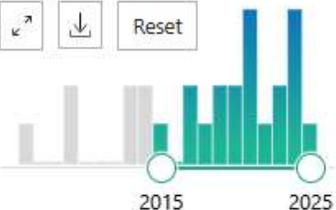
Advanced Create alert Create RSS User Guide

Save Email Send to Sort by: Best match ↓ Display options ⚙

MY CUSTOM FILTERS 

All (16)
[English \(16\)](#)
[Full text \(16\)](#)

RESULTS BY YEAR



2015 2025

16 results << < Page 1 of 2 > >>

Filters applied: in the last 10 years, Clinical Trial, Review. [Clear all](#)

Potential of **Ligands** for Trace Amine-Associated Receptor 1 (**TAAR1**) in the Management of Substance Use Disorders.

1

Cite Wu R, Li JX.
CNS Drugs. 2021 Dec;35(12):1239-1248. doi: 10.1007/s40263-021-00871-4. Epub 2021 Nov 12.

Share PMID: 34766253 [Free PMC article](#). [Review](#).

Selective and potent engineered **TAAR1 ligands**, including full (RO5166017 and RO5256390) and partial (RO5203648, RO5263397 and RO5073012) agonists and the antagonist EPPTB (N-(3-ethoxyphenyl)-4-(1-pyrrolidinyl)-3-(trifluoromethyl) benzamide, RO5212773), serve as inva ...

Save

PubMed logo, search bar containing 'taar1 ligands', Search button, Advanced, Create alert, Create RSS, User Guide, Save (highlighted), Email, Send to, Sort by: Best match, Display options

Save citations to file

Selection: All results on this page
Format: Summary (text)
Create file Cancel

You can choose the format between:

- Summary
- PubMed
- PMID List
- Abstract
- CSV

Format: Summary (text) (dropdown menu open showing: Summary (text), PubMed, PMID, Abstract (text), CSV)
16 results

Email

Save, Email (highlighted), Send to, Sort by: Best match

Email citations

On or after July 28, sending email will require My NCBI login. [Learn more about this and other changes coming to the email feature.](#)

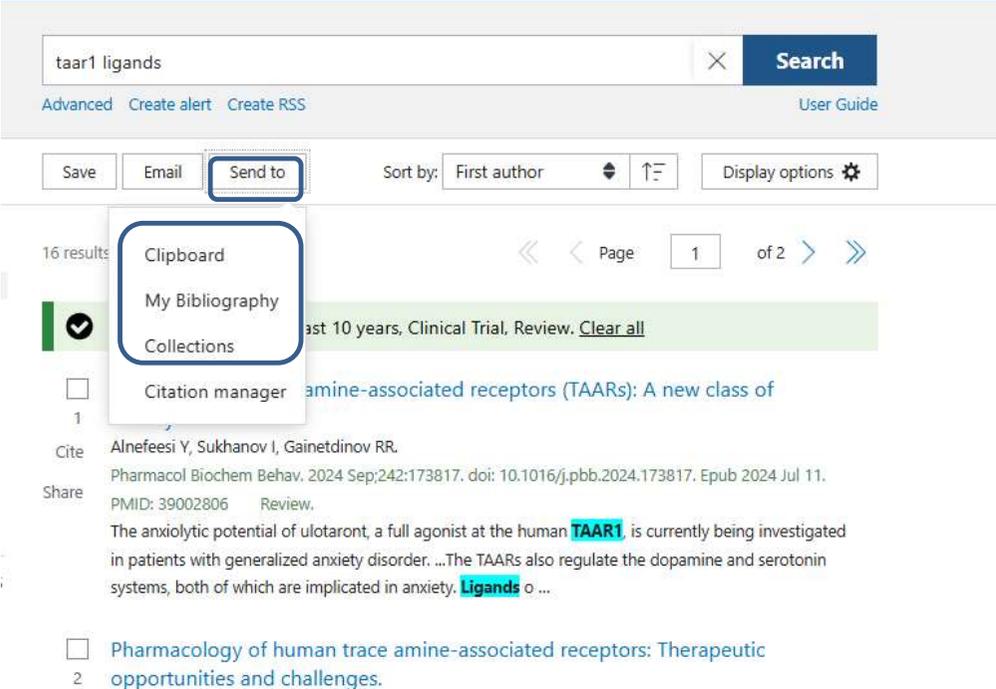
Subject: taar1 ligands Filters: in the last 10 years, Clinical Trial, Review - PubMed
* To: giorgia.franchi@unige.it
From: giorgia.franchi@unige.it
Selection: All results on this page
Format: Summary
Send email Cancel

Send to

Clipboard → provides a place to collect up to 500 items from one or more searches. Items saved to the Clipboard will expire after 8 hour

My Bibliography → in My NCBI account

Collections → in My NCBI account



The screenshot shows a search for "taar1 ligands" on the NCBI website. The search bar is at the top with a "Search" button. Below the search bar, there are options for "Advanced", "Create alert", and "Create RSS". The search results are displayed in a list format. The first result is highlighted in green. A "Send to" button is highlighted with a red box, and a dropdown menu is open, showing options: "Clipboard", "My Bibliography", "Collections", and "Citation manager". The "Clipboard" option is also highlighted with a red box. The search results list includes the following information:

- 16 results
- Page 1 of 2
- Sort by: First author
- Display options
- Clipboard
- My Bibliography
- Collections
- Citation manager
- 1
- Alnefeesi Y, Sukhanov I, Gainetdinov RR. Pharmacol Biochem Behav. 2024 Sep;242:173817. doi: 10.1016/j.pbb.2024.173817. Epub 2024 Jul 11. PMID: 39002806 Review.
- The anxiolytic potential of ulotaront, a full agonist at the human **TAAR1**, is currently being investigated in patients with generalized anxiety disorder. ...The TAARs also regulate the dopamine and serotonin systems, both of which are implicated in anxiety. **Ligands** o ...
- 2 Pharmacology of human trace amine-associated receptors: Therapeutic opportunities and challenges.

Send to

Citation manager → exports citations in .nbib (= a NLM proprietary format designed to contain specific fields of Medline records and used for importing citations into Reference Management Software like Zotero, EndNote, Mendeley, RefWorks)
.nbib format could be easily converted to .ris (research information systems)

The screenshot shows a PubMed search results page for the query "taar1 ligands". The search bar at the top contains the query and a "Search" button. Below the search bar are links for "Advanced", "Create alert", "Create RSS", and "User Guide". The results are sorted by "First author" and displayed in a list format. A dropdown menu is open over the "Send to" button, showing options: "Clipboard", "My Bibliography", "Collections", and "Citation manager". The "Citation manager" option is highlighted with a blue box. The first result is a review article titled "Dopamine-associated receptors (TAARs): A new class of..." by Alnefeesi Y, Sukhanov I, Gainetdinov RR. The abstract mentions that TAARs regulate the dopamine and serotonin systems.

Within PubMed you can create a personalized account called a MyNCBI Account

The image shows a screenshot of the PubMed website. At the top, the browser address bar displays the URL: `pubmed.ncbi.nlm.nih.gov/?otool=itnilde&holding=iitustgelib`. The main header features the NIH logo and the text "National Library of Medicine National Center for Biotechnology Information". Below this is the PubMed logo and a search bar with a green "Search" button. A "Log in" button is located in the top right corner of the main content area. On the right side, there is a vertical sidebar titled "Log in" containing several login options: eRA Commons, Google Account, ORCID, Login.gov, Microsoft, NIH Account, and NCBI Account. At the bottom of the sidebar is a button labeled "more login options". Below the search bar, the text "Advanced" is visible, followed by a paragraph: "PubMed® comprises more than 38 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full text content from PubMed Central and publisher web sites."

My NCBI

A MyNCBI Account includes the following main features:

- Creating collections of articles
- Saving search strategies
- Setting up email search alerts
- Building your My Bibliography
- Choosing personalized display settings and limiters

The screenshot shows the MyNCBI interface. At the top left, the text "y of Medicine" and "hology Information" is visible. A search bar contains the text "nafld". Below the search bar are links for "Advanced", "Create alert", and "Create RSS". There are buttons for "Save", "Email", and "Send to", and a "Sort by:" dropdown menu set to "Best mat". A search results summary shows "22,961 results" and "Page 1 of 2,297". A green banner indicates "Filters applied: in the last 10 years, Humans. [Clear all](#)". Below this, a search result is shown with a checkbox, the title "MAFLD: How is it different from **NAFLD**?", and the authors "1 Gofton C, Upendran Y, Zhenaq MH, Georae J."

My NCBI

[Customize this page](#) | [NCBI Site Preferences](#) | [Video Overview](#) | [Help](#)

My Bibliography

Your bibliography contains [9 items](#).
Your bibliography is **private**.

[Manage My Bibliography »](#)

Recent Activity

Time	Database	Type	Term
Yesterday 10:41 AM	MeSH	record	Receptors, G-Protein-Coupled
Yesterday 10:41 AM	MeSH	record	Trace amine-associated receptor 1 [...]
Yesterday 10:40 AM	MeSH	search	taar1 protein, human
Yesterday 10:40 AM	MeSH	search	taar 1
Yesterday 10:29 AM	MeSH	search	supplementary concept
Yesterday 09:47 AM	MeSH	record	Pharmacologic Actions
Yesterday 09:47 AM	MeSH	search	"Pharmacologic Actions"[MeSH Terms]
Yesterday 09:44 AM	MeSH	record	4-(3,4-dichlorophenyl)-4,5-dihydroo...
Yesterday 09:44 AM	MeSH	record	Oxazoles
Yesterday 09:43 AM	MeSH	search	taar1

Saved Searches

Search Name	What's New	Last Searched
PubMed Searches		
(Clostridium Infectionsdrug therapy[Mesh]) AND ...	 0	4 months ago
clostridium difficile treatment MONOCLONAL ANTI...	 0	4 months ago

[Manage Saved Searches »](#)



pubmed.ai/home

SBA | Sistema Biblio... pronunciation signif... Home - PubMed -... OPAC Catalogo SBN NILDE Unige - Biblioteca d... Bibliosan - Le Biblio... Tutti i prefer

BETA **PubMed AI-powered Search**
Unlocking insights from biomedical literature with the power of AI

AI-Powered Search Original Search

DeepChat Powered Search

PubMed.AI is an innovative retrieval tool that harnesses the power of artificial intelligence to help you find and understand relevant biomedical literature. PubMed.AI makes it easy to search for literature, filter results, and extract key insights.

What are the effects of exercise therapy on patients with diabetes? Q

How effective is aspirin in preventing heart disease? Q

How do EGFR mutations relate to non-small cell lung cancer? Q

What is the effectiveness of immunotherapy for melanoma? Q

Try an example research

Useful Links

<https://hslguides.osu.edu/pubmed>

https://www.nlm.nih.gov/medline/medline_overview.html

<https://pubmed.ncbi.nlm.nih.gov/help>

<https://pmc.ncbi.nlm.nih.gov/about/intro>

<https://pubchem.ncbi.nlm.nih.gov>

<https://www.ncbi.nlm.nih.gov/gene>

<https://www.ncbi.nlm.nih.gov/protein>

<https://meshb.nlm.nih.gov>

MeSH 2025

<https://www.nlm.nih.gov/oet/ed/pubmed/mesh/mod01/index.html>



Thank You!