

Bioinformatics: Life Sciences on Your Computer

PubMed

This is supplemental reading for the video on PubMed.

PubMed search tags

[AD] – Affiliation (company or school)
[ALL] – All fields (eliminates defaults)
[AU] or [AUTH] – Author
[1AU] – First author
[ECNO] – Enzyme Commission Numbers
[EDAT] – Entry date (YYYY/MM/DD)
[ISS] - Issue # of journal
[JOUR] - Journal (Title, Abbreviation , ISSN)
[LA] – Language
[PDAT] – Publication date (YYYY/MM/DD)
[PT] – Publication type
[SUBS] – Substance name
[TIAB] – Title/Abstract
[TW] – Text words
[UID] – Unique identifiers (primary keys)
[VOL] or [VI] – Volume of journal

Here is a [more complete list](#).

Affiliation [AD]

The [AD] tag limits to department name and institution on the address line. It often includes the institution and email address of the corresponding author. Note that only one affiliation is listed, usually of corresponding author. The person you seek may be collaborator at different institution.

Exercise/Discussion topic: List number of PubMed records:

smith j

smith j AND hopkins [AD]

smith j AND ohio [AD] AND state [AD]

What field does [AD] limit to? What might you miss by using this limit?

Author name [AU] or [AUTH]

This tag limits searches to the author field. Use last name followed by one or two initials. Do **not** use punctuation e.g. harding t; jordan mj

It does not distinguish first authors--use [1AU] for that.

Exercise/Discussion topic: List number of PubMed records:

smith j

“smith j”

smith j [au]

“smith j” [au]

Why does “smith j” [au] bring up fewer papers? What happens with the single initial search?

Date fields [EDAT] & [PDAT]

Entry date is [EDAT] and Publication date is [PDAT] The broadest search is by year (YYYY), e.g. 2013, 1998. The search can be limited by month (YYYY/MM) e.g. 2013/06. The exact date is the most limited (YYYY/MM/DD), e.g. 2013/06/11.

An alternate query is “last 19 days”[edat].

Journal title [JOUR] [TA]

The full title of a journal may be used to search a specific journal. For example, Journal of Biological Chemistry [JOUR] should give you *JBC* papers. Sometimes the full title is long. The journal that many commonly refer to as *PNAS* is actually *Proceedings of the National Academy of Sciences of the United States of America*. Not fun to type into search windows!

Every journal has an official abbreviation, such as *J Biol Chem* or *Proc Natl Acad Sci USA*. Each journal also has a unique identifier or ISSN, such as 0021-9258. To get official abbreviations or ISSN numbers, go to [this site](#).

Journal issue [ISS] & [VOL]

Volume number is [VOL] and issue number is [ISS]. For volume 154, issue 5 of *Cell*, type: 154 [VOL] AND 5 [ISS] AND *Cell* [JOUR]

Discussion topic: When you pull up an issue of a journal in PubMed, the pages go backwards. The first paper is the last paper in the journal and it works back to the first. Why might that be?

Publication type [PT]

There are five official types of papers: Review, Clinical Trial, Lecture, Letter and Technical Publication, If you want a review article on malaria, the format is: malaria [titl] AND review [pt]

MeSH terms [MH][MAJR][SH]

Medical Subheadings (MeSH) are used to index most journal articles. MeSH is a controlled vocabulary developed by the National Library of Medicine, which attempts to avoid issues with inconsistent uses of terms. The MeSH Major Topic is a broad category, used before the slash in searches. Subheadings come after the slash e.g. Asthma/drug therapy [MeSH] will find papers on drug therapy of asthma.

Terms are arranged hierarchically by subject categories, with more specific terms beneath broader terms. There is an exploding search mechanism, so that, for instance, if you use "antibiotics," it should match "penicillin," because penicillin is listed as an antibiotic.

There are three tutorials that I recommend:

1. [Use MeSH to Build a Better PubMed Query](#)
2. [Combining terms in MeSH](#)
3. [MeSH subheadings](#)

Discussion topic: Try entering “aminotransferase.” What is the preferred term? Limit to the subheading "drug effects." Now search PubMed. How many records?

Others [LA][PS][NM][TW]

[LA] – Language of journal article (e.g. English [LA])

[PS] – An article about someone: searches name as subject, not an author (e.g. Harold Varmus [PS])

[SUBS] – Substance name: name of chemical (e.g. doxycycline [SUBS])

[WORD] – Text words: everything but author & affiliation (e.g. Brown [WORD])

A few notes. PubMed accepts papers with English abstracts. The full-text might not be in English. The last search, Brown [WORD], might be good for search terms that coincidentally happen to be common names. So if you are looking to search for "brown powder," you don't want to match Brown on the author field and powder in the text. Use [WORD] to avoid the author or address field.

Truncated search

An asterisk can represent rest of word, only at the end of a word.

immunoglo*

That will return "immunoglobulin" and "immunoglobulins."

It can be useful for authors if unsure of spelling, but it only searches first 600 variations (alphabetically) of a truncated search. McD* may not call up McDonald. You could get McDaniel, McDavid and if there are 600+ variations before you make it to McDonald, you won't see it. So include as much of the name as possible. Better to use McDon*