PubMed Central Help

Created: September 06, 2006
Updated: July 24, 2007

PubMed Central (PMC) [http://www.pubmedcentral.nih.gov] is a digital archive of life sciences journal literature that includes more than one million articles.

PMC also includes a growing number of final, peer-reviewed author manuscripts by scientists who receive research funding from NIH and other funding agencies. For information on manuscript submission, please visit the NIH Manuscript Submission System [http://nihms.nih.gov] homepage.

PMC provides free access to articles from journals that deposit their content in the archive. Although the articles are free, they are still protected by copyright. (See PubMed Central Copyright Information [http://www.pubmedcentral.gov/about/copyright.html] for more information.) PMC does not publish anything itself. (Find out how journal publishers can participate in PMC [http://www.pubmedcentral.nih.gov/about/pubinfo.html]).

PMC is managed by the National Center for Biotechnology Information [http://www.ncbi.nlm.nih.gov] (NCBI) at the U.S. National Library of Medicine [http://www.nlm.nih.gov] (NLM).

PubMed Central Quick Start

Using this Quick Start section is the fastest way to begin using PubMed Central [http://www.pubmedcentral.nih.gov] (PMC). You can begin from the PMC homepage [http://www.pubmedcentral.nih.gov] (see Search in the navigation bar at the top), or you can begin directly with the Search page.

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Where can I browse title, volume, issue, and embargo information for the journals?

Visit the PMC Journal List [http://www.pubmedcentral.nih.gov/front-page/fp.fcgi?cmd=full_view] to browse journal titles, holdings, and embargo information. A Tabbed List and a Full List are available. Scroll to the bottom of the Full List page to download a comprehensive list of PMC holding details in comma-separated-values (CSV) format.

How do I search PMC?

1. Go to the PMC Search page.

2. Identify the key concept terms for your search.

Example
What is the role of mood in sleep disorders? The key concepts terms are: mood sleep disorders

3. Enter the terms in the Search box.

4. Click Go to run this search in PMC.

How do I search by author?

Enter the author's last name plus initials, without punctuation, in the Search box and click Go.

Examples
Jerome R Skinner BF

If you only know the author's last name, use the author search field tag [au], e.g., Skinner[au].

Example
To search for articles written by Bonnie Ramsey about gene therapy for cystic fibrosis patients, enter the following search terms into the Search box: cystic fibrosis gene therapy ramsey bw

How do I search by journal name?

1. Enter the journal name or title abbreviation in the Search box.

2. Add any additional search terms.

3. Click Go.

Example
To search for articles about obesity in the journal Preventing Chronic Disease, enter the following in the Search box: obesity preventing chronic disease

How do I search for author manuscripts?

1. Add the author manuscript filter to your search term(s) using the operator AND.

2. Click Go.

Example
To search for author manuscripts related to childbirth, enter the following in the Search box: childbirth AND author manuscript[filter]

You may also enter author manuscript[filter] without other search terms to view all author manuscripts in PMC.

If you are a researcher seeking to submit a manuscript, visit the NIH Manuscript Submission [http://www.nihms.nih.gov] homepage.
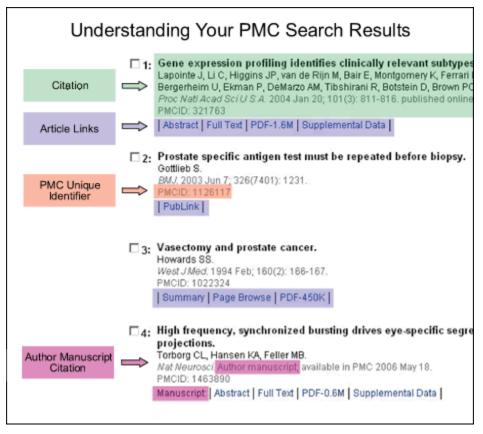
How do I find a specific article? I have some information such as the author, journal name, and the year the article was published.

Use the PMC Citation Search located in the blue sidebar of the PMC Search page.

1. Select Citation Search [http://www.ncbi.nlm.nih.gov/entrez/pmc_cm.cgi] from the PMC sidebar.

2. Enter the information you have in the fill-in-the-blank boxes.

3. Click Search.

Can you explain the search results?

PMC search results are displayed in a summary format explained in the illustration below.

Citations are initially displayed in order of relevance with 20 citations per page.

Understanding Your PMC Search Results

Citation ⟹

☐ 1: **Gene expression profiling identifies clinically relevant subtypes**
Lapointe J, Li C, Higgins JP, van de Rijn M, Bair E, Montgomery K, Ferrari
Bergerheim U, Ekman P, DeMarzo AM, Tibshirani R, Botstein D, Brown PC
Proc Natl Acad Sci U S A. 2004 Jan 20; 101(3): 811-816. published online
PMCID: 321763

Article Links ⟹

| Abstract | Full Text | PDF-1.6M | Supplemental Data |

☐ 2: **Prostate specific antigen test must be repeated before biopsy.**
Gottlieb S.
BMJ. 2003 Jun 7; 326(7401): 1231.

PMC Unique Identifier ⟹

PMCID: 1126117

| PubLink |

☐ 3: **Vasectomy and prostate cancer.**
Howards SS.
West J Med. 1994 Feb; 160(2): 166-167.
PMCID: 1022324

| Summary | Page Browse | PDF-450K |

☐ 4: **High frequency, synchronized bursting drives eye-specific segre**
projections.
Torborg CL, Hansen KA, Feller MB.
Nat Neurosci Author manuscript; available in PMC 2006 May 18.
PMCID: 1463890

Author Manuscript Citation ⟹

Manuscript: | Abstract | Full Text | PDF-0.6M | Supplemental Data |

See Viewing Your Search Results and Viewing Your Articles for additional information.

How can I view articles?

PMC is an electronic archive of full-text journal articles. Most PMC articles are available in both web format (HTML) and Portable Document Format (PDF). For some articles, full text is available only as a PDF.

To view an article, click on the Full Text or PDF link at the bottom of the citation. The number after the PDF link indicates the PDF file size. Some citations also include a link directly to the Abstract, Supplemental Data, Correction, or Retraction for an article.

For additional information, see Viewing Your Articles.

How can I save my results?

There are several ways to save PubMed Central search results including using the Clipboard to save citations temporarily and My NCBI Collections [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.section.pubmedhelp.My_NCBI] to save indefinitely.

To save using the Clipboard:

1. Citations are numbered on the results page. Click the check boxes to the left of the citations that you want to save.

2. From the Send to pull-down menu, select Clipboard. When items are saved to Clipboard, the tab will be shown with an asterisk (Clipboard*).

3. To view your selections, select Clipboard from the tab below the Search boxes.

For additional information, see Saving citations temporarily using the Clipboard.

Another way to save citations is by using My NCBI Collections [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.section.pubmedhelp.My_NCBI#pubmedhelpSaving_res].

For other save options, see:

- Saving and Emailing Results and Searches

- Creating a URL to bookmark your search

- Saving citations as a text file

I'm not finding what I need. How does a PMC search work?

The PMC search program may modify your search terms to enhance your retrieval. Sometimes these changes may not match what you have in mind.

To see how PMC modified your search, select the Details tab. You may edit your search in Details.

Example

If you search for cystic fibrosis by its abbreviation cf, the cf search retrieves some citations that do not discuss cystic fibrosis. To see why PMC retrieved these citations, click Details to see that PMC translated cf to search for citations about cerebrospinal fluid or cf.

For additional information, see automatic term mapping.

Why do I get different search results in PubMed and PMC?

PubMed is a database of citations and abstracts for millions of articles from thousands of journals. It includes links to full-text articles at several thousand journal web sites as well as to most of the articles in PMC.

PMC is an electronic archive of full-text journal articles, offering free access to most of its contents. PMC contains over one million articles, most of which have a corresponding entry in PubMed.

For a comprehensive search, it is advisable to search PubMed and PMC separately for the following reasons:

- PubMed does not have citations for certain types of PMC material, such as book reviews, that are considered out of scope for PubMed. Currently, there are no plans to include them in PubMed.

- PMC includes research articles that are outside of the scope of PubMed subject indexing. These include research articles whose subject matter is primarily non-biomedical (e.g., physics, mathematics). Currently some but not all of these PMC articles are indexed in PubMed, although eventually all of these articles will be indexed in PubMed and will have corresponding PubMed citations.

- In addition, articles published prior to 1966 (and added to PMC via the Back Issue Digitization [http://ipmc0.ncbi.nlm.nih.gov:5701/internal/SamplePages/about/scanning.html] project) generally will be in PMC for several months before appearing in PubMed. Citations and links for these pre-1966 articles are added to PubMed one journal at a time, after all of the back issues for that journal have been added to PMC.

Also note that searches in PMC and in PubMed will generate separate search histories. (A separate search History is kept for each of the Entrez [http://www.ncbi.nlm.nih.gov/Database/index.html] databases, although the search statement numbers will be assigned sequentially for all databases.) The History tab is located on the PMC Search page.

For more information on the connection between PMC and PubMed, visit the PMC Frequently Asked Questions (FAQs) [http://www.pubmedcentral.nih.gov/about/faq.html] page.

Where can I find information on PMC metadata access or high-volume retrieval?

See the PMC Utilities [http://www.pubmedcentral.gov/about/oai.html] page for information and tools for Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH), which discusses access to PMC records, high-volume retrieval, and other related data utilities.

I need further assistance and training.

To contact customer support, email the PMC Help Desk [mailto:pubmedcentral@nih.gov].

Searching PubMed Central

Section Contents

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- Finding author manuscripts

A basic search

1. Identify the key concept terms in your research question.

Example
Find citations about NSAIDs for treatment of joint pain in adults.   The key concept terms are   NSAID   joint pain   adults

2. Enter the significant terms into the Search box on the PMC Search page.

3. Press the Enter key or click Go.

To modify your current search, change your search terms in the Search box or by using the Details tab.

Additional search options are available by using the tabbed content located directly beneath the Search box.

Searching by author

From the PMC Search page, enter the author's name in the format of last name followed by initials. Omit punctuation.

Examples
lipman dj   zidane

More information about author searches:

*   Author names are automatically truncated to account for variations in initials and designations such as Jr. To turn off the truncation, use double quotes around the author's name with the author search field tag [au], e.g., "smith j"[au].

*   Use the [au] search tag if the author name is also a subject term, e.g., moran a[au]. If you do not use the [au] search tag, moran a will search as "moran A"[Substance Name] OR moran a[Text Word].

*   If only the author's last name is entered, tag the name search with the author search field [au] to find the name in the author field only.

Example
woods[au]

Full author names may be searched for citations if the full author name is available in the article. Enter a full author name in natural or inverted order, e.g., julia s wong or wong julia s.

Examples
Joshua Lederberg   Messenger Sharon

Examples

More information about full author searches:

- A comma following the last name for searching is optional. For some names, however, it is necessary to distinguish which name is the last name by using the comma following the last name, e.g., james, ryan.

- Omit periods after initials and put all suffixes at the end, e.g., vollmer charles jr

- Initials and suffixes are not required. If you include a middle initial or suffix, you will retrieve only citations for articles that were published using the middle initial or suffix.

- To distinguish author initials that may match a full author name use the [fau] search tag, e.g., peterson do[fau].

Searching by journal title

Enter in the search box one of the following:

- full journal title (e.g., molecular biology of the cell)

- title abbreviation (e.g., mol biol cell)

- ISSN number, a standardized international code (e.g., 1059-1524)

Example

journal of the medical library association
0884-8734
Proc Natl Acad Sci U S A

More information about journal searches:

- If a journal title is also a MeSH term [http://www.nlm.nih.gov/mesh/meshhome.html] (e.g., RNA), PMC will search the untagged term as MeSH. Tag the journal title by using the Journal Title search field [ta] to search for the journal (e.g., gene therapy[ta]).

- If a journal title is a single word, tag the title using the Journal Title search field (e.g., heart[ta]). Otherwise, PMC will search the untagged, single-word journal title as a MeSH term (if applicable) or as All Fields.

- Searching with the full journal title or title abbreviation is recommended for complete retrieval of indexed items; older citations may not have an ISSN. Use the Journals database to locate official title abbreviations.

- If a journal title or title abbreviation includes a special character (e.g., parentheses, brackets, &), enter the title or abbreviation without the special characters. For example, to search Radiation Oncology (London, England), enter Radiation Oncology London, England.

- PMC Journal List [http://www.pubmedcentral.nih.gov/front-page/fp.fcgi?cmd=full_view] provides journal titles, holdings, and embargo information. Scroll to the bottom of the page to download the PMC Journal List CSV File, a comprehensive list in comma-separated (CSV) format that is updated on a daily basis.

Searching by date

1. From the PMC Search page, select Limits on the tabs below the Search box.

2. The PMC Live Date pull-down menu includes pre-set options for searching articles that became available in PMC in the past 30, 60, 90, 180 days or 1 year.

3. You can also enter a single date or a date range in the data fill-in-the-blank boxes. (Month and day are optional.) If you want to search for a date range up to the current date, leave the to date boxes blank. The following date fields are available from the date pull-down menu:

   - Electronic Publication Date [EPUBDAT] - the date of electronic publication of the article or issue containing the article.

   - PMC Live Date [PMCDAT] - the date the article entered PMC.

   - Publication Date [PDAT] – the date of publication of the article or issue containing the article.

See Search field descriptions and tags for more information about these date fields.

Tip: When you start a new search, turn off the Date limit by deselecting the check box on the Limits tab.

Displaying the Search Details

The PMC search program may modify or add additional search terms to your search to optimize retrieval.

Select the Details tab to view your search as it was translated according to automatic term mapping and search rules.

More information about the Details tab:

- The Query Translation box shows the search strategy used to run the search.

  - To edit the search in the Query Translation box, add or delete terms and then click the Search button just below the box.

  - Click the URL button to display the current search as a URL to bookmark for future use. Numbered searches created by combining History numbers cannot be saved using the URL feature.

- The hyperlinked Result is the total number of citations for the search.

- Translations shows how each term was translated using PubMed's search rules and syntax.

- User query shows the search terms as you entered them in the query box and whether there were any syntax errors in the query.

Note: If your last action was displaying related article citations or selected items in another format, Details will indicate this rather than the last query.

Searching by date or date range in the search box

From the PMC Search page, enter dates using the format YYYY/MM/DD [date field], or enter a date range using a colon (:) between each date followed by a date field.

Example
"2000/08/25"[epubdat] 1899[PubDate]:1901[PubDate]

Limit your searches (Limits)

By using the Limits tab, you can limit your search by journal, author, dates and by other parameters.

1. From the PMC Search page, select the Limits tab from the tabs below the Search box.

2. Use the pull-down menus and text boxes to on the page to set limits on your search terms.

3. If necessary, make changes to the search term(s) in the Search box or enter a new search.

4. Click Go. Your selected limits will be displayed and highlighted in yellow.

   A check will appear next to the Limits tab, and your selected limits will be activated for any subsequent searches. To turn off Limits, click off the Limits check box.

   For detailed information on the search fields listed in the All Fields pull-down menu, see Search field descriptions and tags.

Searching for a phrase

PMC does not perform adjacency searching. However, many phrases are recognized by the MeSH Translation Table used in PMC's automatic term mapping feature. For example, if you enter *influenza in birds*, PMC recognizes this phrase as a MeSH concept. If a phrase is not recognized, you can instruct PMC to bypass automatic term mapping and search for a phrase using the formats outlined below.

Examples
• Enclose the phrase in double quotes: "kidney allograft"
• Use a search tag: kidney allograft[tw]
• Use a hyphen: first-line
• Truncate: kidney allograft*

More information about phrase searching:

* If you use a hyphen or quotes and the phrase is not found, the hyphen or quotes are ignored and the phrase is processed using automatic term mapping. Phrases may appear in a PMC record but not be in the phrases index.

* When you enter your search terms as a phrase (a phrase uses quote marks), PMC will not perform automatic term mapping, which includes expansion of MeSH terms [http://www.nlm.nih.gov/mesh/meshhome.html]. For example, "health planning" will include citations that are indexed to

the MeSH term, Health Planning, but will not include the more specific terms, e.g., Health Care Rationing, Health Care Reform, Health Plan Implementation, etc., that are included with the automatic MeSH mapping.

- Truncating a word in a multi-word query may result in an unexpected phrase search. For example the search, fetus infection* maternal, will treat fetus infection* as a phrase. Use the Details tab to see the search translation.

Truncating search terms

To search for all terms that begin with a word, enter the word followed by an asterisk (*).

Example
flavor* Finds terms that begin with the root term flavor, such as flavored, flavorful, flavoring, etc.

More information about truncation:

- PMC searches for the first 600 variations of a truncated term. If a truncated term (e.g., tox*) produces more than 600 variations, PMC displays a warning message to lengthen the root word to search for all endings.

- Truncation turns off automatic term mapping and the automatic expansion of a MeSH term [http://www.nlm.nih.gov/mesh/meshhome.html]. For example, heart attack* will not map to the MeSH term Myocardial Infarction or include any of the more specific terms, e.g., Myocardial Stunning; Shock, Cardiogenic.

- Truncating a word in a multi-word query may result in an unexpected phrase search. For example, the search fetus infection* maternal will treat fetus infection* as a phrase.

Combining searches (History)

Previous searches can be combined or used in subsequent searches using the search statement number from History.

1. From the PMC Search page, select the History tab from the tabs below the Search box.

2. In the middle of the page, Most Recent Queries contains your search with the Boolean operators AND, OR, or NOT. Each search you make is given a hyperlinked number (e.g., #2). Complex searches can be made by combining multiple searches, either by clicking on the hyperlinked number or by manually entering the number sign and the search number into the Search box.

3. Add additional search terms into the Search box or combine with other searches.

4. Click Go.

Examples
#2 AND #6 #3 AND (laparoscopic OR diet therapy) #5 gene therapy

For additional information, see Viewing Your Search Results.

Finding a citation using PMC Citation Search

PMC Citation Search has a fill-in-the-blank form for searching for a citation when you have some bibliographic information, e.g., journal name, volume, page number.

1. From the PMC Search page, select Citation Search [http://www.ncbi.nlm.nih.gov/entrez/ pmc_cm.cgi] from the PMC sidebar.

2. Enter your bibliographic information.

3. Click Search.

Browsing PMC's index of terms (Preview/Index)

Preview/Index provides an alphabetical display of all search terms in each PMC search field. You can browse by all fields or within a specific field such as MeSH Terms [http://www.nlm.nih.gov/mesh/ meshhome.html].

1. From the PMC Search page, select the Preview/Index tab from the tabs below the Search box.

2. Select a search field from the All Fields pull-down menu near the bottom of the page.

3. Enter a search term in the Search box. If you want to see a list of all terms, leave the search box empty.

4. Click Index. PMC displays an alphabetic list of search terms. The number of citations for that term appears in parentheses to the right of the term. Click Up or Down to move within the Index.

5. Select a term. To select multiple terms (and OR them together), select on each term while holding down the Ctrl key (PC) or the Command key (Mac).

6. Click the appropriate Boolean operator to add the search term to the search box. Be sure to clear the Search box before beginning a new search. Continue adding terms (repeating steps 2 to 6), if desired.

7. Click Go. If you only want to preview the number of results, click Preview.

More information about using Preview/Index:

- Preview/Index displays the last three searches from History. History retains the last 100 searches.

- PMC processes all Boolean operators from left to right. To change this order, enclose search terms to be processed first in parentheses, e.g., "common cold" AND (vitamin c OR zinc). PMC will automatically OR (and add parentheses) for multiple terms selected from the Index.

Combining search terms with Boolean operators (AND, OR, NOT)

PMC assumes the AND operator between concepts, e.g., "vitamin c common cold" is translated as vitamin c AND common cold. Enter Boolean operators in uppercase characters to combine or exclude search terms:

- **AND** retrieves results that include all of the search terms.

- **OR** retrieves results that include at least one of the search terms.

- **NOT** excludes the retrieval of terms from your search.

Examples
Find citations on DNA that were authored by Ostell in 2000:
dna[MeSH Terms] AND ostell[au] AND 2000[pdat]
Find articles on the effects of heat or humidity on multiple sclerosis:
(heat OR humidity) AND multiple sclerosis
Find citations about arthritis excluding author manuscripts:
arthritis NOT author manuscript[filter]

PMC processes searches in a left-to-right sequence. Use parentheses to "nest" concepts that should be processed as a unit and then incorporated into the overall search.

Example
common cold AND (vitamin c OR zinc)

More information about using Boolean operators:

Boolean operators must be used when combining tagged search terms as follows: *search term [tag]* **BOOLEAN OPERATOR** *search term [tag]*. (See Search field descriptions and tags for more information about search tags.)

- In a multi-word search, PMC will use automatic term mapping to identify concepts. For example, for the search *air bladder fistula*, the PMC program will search "air bladder" as a phrase. If you do not want this automatic phrase search, enter each term separated by the Boolean operator AND, e.g., air AND bladder AND fistula.

- Select the Details tab to see how PMC translated your search strategy.

Searching in a specific field or index

To search a specific field in a citation (e.g., author, title, journal, etc.) and bypass the automatic term mapping, tag the search term by following it with the appropriate search tag.

- The search tag must be enclosed in square brackets.

- Case and spacing do not matter (e.g., crabs [mh] = Crabs[mh]).

Example
cough[journal]

Previewing the number of search results (Preview/Index)

To preview the number of citations before displaying the search results:

1. From the PMC Search page, select the Preview/Index tab from the tabs below the Search box.

2. Enter your search term(s) in the Search box.

3. Click Preview. The number of results is displayed.

4. To display the citations, click the Result hyperlinked number.

    Use Preview to add search terms incrementally to refine your search before retrieving the citations.

1. From the PMC Search page, enter a search term in the Search box.

2. Click Preview. The number of results is displayed.

3. Continue adding terms and selecting Preview until your search is complete.

    Note: Preview displays the last three searches from History. History retains the last 100 searches.

How do I search for author manuscripts?

1. From the PMC Search page, add the author manuscript filter to your search term(s) using the operator AND.

2. Click Go.

Example
To search for author manuscripts related to childbirth, enter the following in the search box:
childbirth AND author manuscript[filter]

You may also enter author manuscript[filter] without other search terms to view all author manuscripts in PMC.

   If you are a researcher seeking to submit a manuscript, visit the NIH Manuscript Submission [http://www.nihms.nih.gov] homepage.
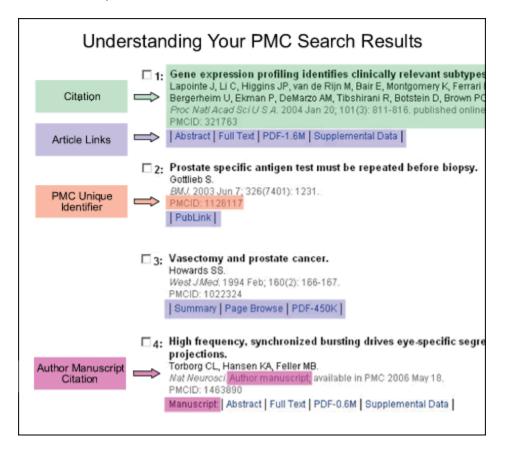
Viewing Your Search Results

Section Contents

- Understanding your search results

- Sorting your search results

- Moving to another page of search results

- Changing the citation display format

- Changing the number of citations shown per page

Understanding your search results

PMC search results are initially displayed in a summary format with 20 citations per page in order of relevance. You can change the display format as well as the number of citations per page.

Understanding Your PMC Search Results

Citation ⟹

☐ 1: **Gene expression profiling identifies clinically relevant subtypes**
Lapointe J, Li C, Higgins JP, van de Rijn M, Bair E, Montgomery K, Ferrari
Bergerheim U, Ekman P, DeMarzo AM, Tibshirani R, Botstein D, Brown PC
Proc Natl Acad Sci U S A. 2004 Jan 20; 101(3): 811-816. published online
PMCID: 321763

Article Links ⟹

| Abstract | Full Text | PDF-1.6M | Supplemental Data |

☐ 2: **Prostate specific antigen test must be repeated before biopsy.**
Gottlieb S.
BMJ. 2003 Jun 7; 326(7401): 1231.

PMC Unique Identifier ⟹ PMCID: 1126117

| PubLink |

☐ 3: **Vasectomy and prostate cancer.**
Howards SS.
West J Med. 1994 Feb; 160(2): 166-167.
PMCID: 1022324
| Summary | Page Browse | PDF-450K |

Author Manuscript Citation ⟹

☐ 4: **High frequency, synchronized bursting drives eye-specific segre projections.**
Torborg CL, Hansen KA, Feller MB.
Nat Neurosci Author manuscript; available in PMC 2006 May 18.
PMCID: 1463890
Manuscript: | Abstract | Full Text | PDF-0.6M | Supplemental Data |

Sorting your search results

Citation display format
Citations displayed per page
Citation sort options
Current page

Limits | Preview/Index | History | Clipboard | Details

Display | Summary | Show | 20 | Sort by | Send to |

Total number of pages

All: 127545 | Review: 7620 |

Items 1 - 20 of 127545
Click to change filter selections using My NCBI

Page | 1 | of 6378 Next

Total citations retrieved
Citations displayed
Citations for the default filter, Review

Output options for citations
· printer-friendly text version
· save as text file
· save in Clipboard
· email citations
· order articles

Navigating Citations
Click Previous or Next.
To go to a specific page:
1. Enter page number in box.
2. Click Page button.

From the Sort by pull-down menu, select a sort field:

Pub Date (publication date)

Epub Date (electronic publication date)

Journal

PMC Live Date

Turning the search results page

On the search results page, the total number of citations retrieved is shown by the All: tab. Of that total, the number of articles freely available is shown by the Free: tab.

The total number of pages appears near the upper right corner of the search results page. The Show drop-down list indicates the number of citations shown on a single page. You may change the number of citations shown per page by using the Show menu. This is especially helpful when printing your results. (See Changing the number of citations shown per page.)

To move to a specific results page, enter the page number in the Page box and click the Page button, or click the Previous or Next hyperlinks to move back or forward to adjacent pages.

Changing the citation display format

Results are initially displayed in the Summary format. You can change the display for all or selected citations by selecting a new display format from the Display pull-down menu.

To change the display format only for selected citations, click the check box to the left of each citation before selecting a display format.

In addition to the Summary, Brief, and XML display formats, the Display pull-down menu includes links to various Entrez [http://www.ncbi.nlm.nih.gov/Database/index.html] databases (e.g., Nucleotide Links and Substance Links). Not all articles in PMC include information or data pertinent to those external databases, so selecting these external links may yield no results.

Changing the number of citations shown per page

From the Show pull-down menu, select the number of citations you want displayed per page.

More information for changing the number of citations shown per page:

PMC displays your search results in the default of 20 citations per page. You can change the number of citations displayed on a single page from 5 to 500 items. To display all citations on a single page, select a number higher than the total number of your search results.

Viewing Your Search History

After you run your first search, click the History tab to display your searches in the order they were run. To view the results for a search, click on the hyperlinked Result number.

History options menu

Click on the hyperlinked Search number in History to open the Options drop-down menu.

Menu options include:

- Boolean operators: **AND, OR, NOT**

- **Delete** the search from the History

- **Go** to re-run the search

- **Details** to display the search details

- **Save in My NCBI**

More information about search history:

- Searches in PMC and in PubMed will generate separate search histories. (A separate Search History is kept for each of the Entrez [http://www.ncbi.nlm.nih.gov/Database/index.html] databases, although the search statement numbers will be assigned sequentially for all databases.)

- The Search History will be lost after 8 hours of inactivity.

- Click Clear History to delete all searches from History.

- PubMed will move a search statement number to the top of the History if a new search is the same as a previous search.

- History search numbers may not be continuous because some numbers are assigned to intermediate processes, such as displaying a citation in another format.

- The maximum number of searches held in History is 100. Once the maximum number is reached, PubMed will remove the oldest search from the History to add the most current search.

- PubMed uses cookies to keep a history of your searches. For you to use this feature, your Web browser must be set to accept cookies.

- Citations in the Clipboard are represented by the search number #0, which may be used in Boolean search statements. For example, to limit the citations you have collected in the Clipboard to English language citations, use the following search: #0 AND english [la]. This does not change or replace the Clipboard contents.

Saving and Emailing Results and Searches

Section Contents

- Saving citations temporarily using the Clipboard

- Saving citations as a text file

- Emailing citations

- Saving searches with My NCBI

- Saving searches as RSS (Really Simple Syndication) feeds

- Creating a URL to bookmark your search

Saving citations temporarily using the Clipboard

The Clipboard gives you a place to collect selected citations from one or several searches. The Clipboard will be lost after 8 hours of inactivity on PMC or on any of the other Entrez [http://www.ncbi.nlm.nih.gov/Database/index.html] databases.

You may also save your search results indefinitely using My NCBI Collections [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.section.pubmedhelp.My_NCBI#pubmedhel-pSaving_res].

To add citations to the Clipboard:

1. In your search results, use the citation check boxes to select citations. You may move to other pages to continue your selections. To save all of your citations, do not click any check boxes.

2. From the Send to pull-down menu, select Clipboard.

3. To view your selections, click Clipboard on the Features bar.

   To delete citations from the Clipboard:

1. Use the check boxes to select citations. To delete all citations, do not click any check boxes.

2. From the Send to menu, select Clip Remove.

More information about the Clipboard:

- The Clipboard displays an asterisk if items have been added, and a mouseover of the Clipboard tab displays the number of items.

- The maximum number of items that can be placed in the Clipboard is 500. If you select Clipboard from the Send to menu without selecting citations using the check box, PMC will add all (up to 500 citations) of your search results to the Clipboard.

- Adding the same citation to the Clipboard multiple times will not result in duplicate entries in the Clipboard.

- PMC uses cookies to add your selections to the Clipboard. For you to use this feature, your Web browser must be set to accept cookies.

- Citations in the Clipboard are represented by the search number #0, which may be used in Boolean search statements. For example, to limit the citations you have collected in the Clipboard to English language articles, use the following search: #0 AND english [la]. This does not affect or replace the Clipboard contents.

Saving citations as a text file

1. In your search results, use the citation check boxes to select citations. You may move to other pages to continue your selections. If you do not make any selections, PMC will save the entire retrieval.

2. From the Display pull-down menu, select a display format.

3. From the Send to pull-down menu, select File.

4. Your Web browser will prompt you to save the PMC search results in a file on your computer.

More information about saving citations to a file:

- Saving a large retrieval may take several minutes.

- The default for the Send to File feature is to save the entire retrieval unless you select specific citations. For example, if you use the Send to File feature on a screen displaying 1-20 items of 2,356, your saved file will contain all 2,356 citations.

- To save citations in HTML format, use the Save as... function of your browser. Change the file extension to HTML. When saving as HTML, only those citations displayed on the page will be saved, so you may want to consider changing the number of citations shown per page.

Emailing citations

1. In your search results, use the check boxes to select citations. To email all citations displayed on the page, do not make any selections.

2. From the Send to pull-down menu, select E-mail.

3. Choose selections for Format, Sort, HTML or Text.

4. Enter an email address. You may also enter a message that will be included with the search results email.

5. Click Mail. The system returns you to your results page and displays a message confirming that the email message was sent.

You may use My NCBI to setup an automatic emailing of search updates.

Your PMC results will be sent from the NCBI automatic mail server, sent by Entrez [http://www.ncbi.nlm.nih.gov/Database/index.html] [nobody@ncbi.nlm.nih.gov], with a "Subject" of PMC Search Results. Do not reply to this message. This is not a functioning customer service email address.

More information about emailing citations:

*   You may email up to 500 items at a time to a single email address.

*   If you choose HTML, your PMC email message displays as a PMC results page and includes hyperlinks to Related Articles, LinkOut, and other Entrez [http://www.ncbi.nlm.nih.gov/Database/index.html] features. The recipient's email program must be set for HTML view to properly view in HTML format.

Saving searches with My NCBI

My NCBI [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.section.pubmed-help.My_NCBI] saves searches and results and features an option to automatically update and email search results from your saved searches. My NCBI includes additional features for highlighting search terms, storing an email address, filtering search results, and setting LinkOut, document delivery service, and outside tool preferences.

Using My NCBI Collections, you can save multiple searches grouped by any criteria you want to use.

Note: To use My NCBI, your Web browser must be set to accept cookies [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.section.pubmedhelp.Appendices#pubmed-helpCookies].

For more information, see PubMed Help: My NCBI [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.section.pubmedhelp.My_NCBI].

Saving searches as RSS (Really Simply Syndication) feeds

PMC does not currently support RSS feeds directly through the PMC search page. However, in PubMed you can create an RSS feed by using a search that restricts retrieval to the PMC subset. For detailed information, see the PubMed Central Subset [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.section.pubmedhelp.Searching_PubMed#pubmedhelpSubsets] section of PubMed Help: Searching PubMed [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=help-pubmed.section.pubmedhelp.Searching_PubMed].

Creating a URL to bookmark your search

You can create a URL with your search terms that can be bookmarked in your Web browser for future use. Documentation is also available for creating a web link to the Entrez databases.

1. Run a search and then click Details.

2. Click URL below the Query Translation box.

3. Bookmark the URL using your Web browser function. You can also copy the URL from the Web browser's URL address box.

More information about creating a bookmark:

- Searches that were created using a search statement number in History (e.g., #1 OR #2 AND human[mh]) cannot be saved using the URL feature because search statements are lost when History expires. You may use History numbers to save a search in My NCBI.

- After saving the bookmark, you may want to use your Web browser's edit functions to rename the bookmark.

Viewing Your Articles

Section contents

- Can you explain the Full Text (HTML) display?

- Using navigational tools and links to PubMed/Entrez

- Viewing bibliographic references

- How do I view tables and figures?

- How do I view supplementary material?

- Can you explain the Summary/Page Browse display?

- What is PubLink?

Can you explain the Full Text (HTML) display?

In addition to providing the complete text, tables, and figures of an article, Full Text articles in PMC include numerous links and tools for finding information within an article, as well as context-sensitive links to different PMC articles and to records in other Entrez databases specifically related to the article at hand.

Using navigational tools and links to PubMed/Entrez

Click on links in the sidebar of a Full Text article to:

- Navigate directly to content sections (for example, **Abstract, Acknowledgements, References**)

- View the full text in PDF format

- See PubMed records for other publications by the article authors

   Use the Related Material pull-down menu in the side bar to:

- Access the PubMed record for the article

- View related articles in PubMed

- Obtain LinkOut information

- See records in other Entrez databases (for example, **Gene**, **Protein** or **Taxonomy**) related to the content of the article

   When applicable, the front matter of an article may also contain one or more of the following links:

- Correction

- Retraction

- Cited by

   For editorial or subscription information about a journal, click on the journal banner at the top of the page to visit the journal or publisher website.

   Note: When an article has more than four authors, the sidebar includes links to the first three authors and the last author, as listed in the article front matter.

Viewing bibliographic references

Clicking on a bibliographic reference in the body of an article leads you to the full citation located in the **References** section near the bottom of the article. If that citation is indexed in PubMed, a direct link to its PubMed record is available.

More information for bibliographic references:

> Links from an article References section to respective PubMed records may not be available immediately upon the article's inclusion in PMC.

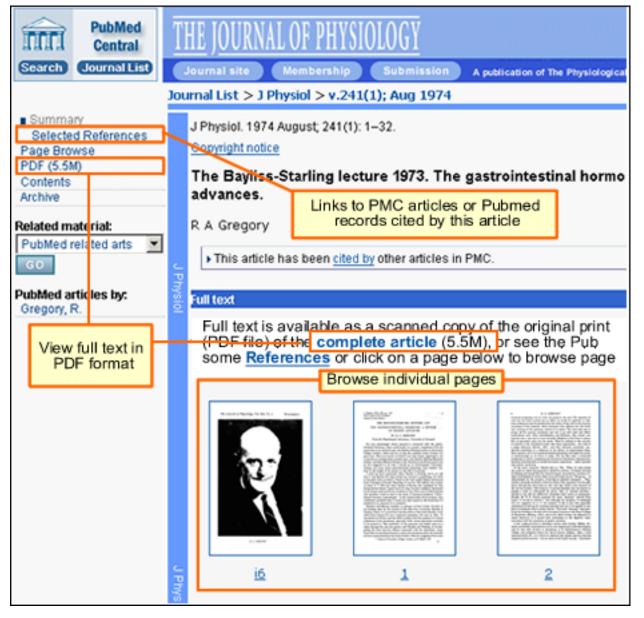## How do I view tables and figures?

> Clicking on references to tables and figures in the article body opens those elements in a separate window. Thumbnail versions of tables and figures are also located in the article body, typically after the paragraph in which a table or figure is first mentioned.

How do I view supplementary material?

> A Supplementary Material section at the bottom of some articles includes links to content that may not be available in the PDF version of the article. Supplementary material, which often varies in format (e.g., tables, graphics, movies, spreadsheets), may require external applications for proper viewing.

Can you explain the Summary/Page Browse display?

Many older articles in PMC are viewable in a Summary/Page Browse format instead of the Full Text (HTML) format, but full text of these articles is still available in PDF format (as a scanned copy of the original print version). An increasing number of Summary/Page Browse articles include a **Selected References** section offering links to citation records in PubMed or to other PMC articles.

What is PubLink?

A small number of PMC holdings are **PubLink** articles, which contain an abstract and a link to the full text at the publisher's website. Full text at the publisher's website may be limited to subscribers. A note at the bottom of the PubLink article indicates whether access is free.

Appendix

Section Contents

- How PMC works: Automatic term mapping

- Cookies

- Search field descriptions and tags

- Stopwords

- Character conversions

How PMC works: Automatic term mapping

Untagged terms that are entered in the search box are matched (in this order) against a MeSH [http://www.nlm.nih.gov/pubs/factsheets/mesh.html] (Medical Subject Headings) translation table, a Journals translation table, the Full Author translation table, and an Author index.

When a match is found for a term or phrase in a translation table the mapping process is complete and does not continue to the next translation table.

1. PMC MeSH translation table

The PMC MeSH translation table contains:

- MeSH [http://www.nlm.nih.gov/pubs/factsheets/mesh.html] terms

- The See-Reference mappings (also known as entry terms) for MeSH terms

- MeSH Subheadings [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.table.pubmedhelp.T40]

- Terms derived from the Unified Medical Language System (UMLS [http://www.nlm.nih.gov/pubs/factsheets/umls.html]) that have equivalent synonyms or lexical variants in English

- Supplementary concept (substance) names and their synonyms

If a match is found in this translation table, the term will be searched as MeSH (which includes the MeSH term and any specific terms indented under that term in the MeSH hierarchy [http://www.nlm.nih.gov/pubs/factsheets/mesh.html]), and as a Text Word.

For example, if you enter "vitamin c" in the query box, PMC will translate this search to: "ascorbic acid"[MeSH Terms] OR vitamin c[Text Word]

More information about automatic term mapping:

Select Details to verify how your terms are translated. If you want to report a translation that does not seem accurate for your search topic, please email the information to the pubmedcentral@nih.gov.

2. Journals translation table

The Journals translation table contains the:

- full journal title

- title abbreviation

- ISSN number

These will automatically map to the journal abbreviation that is used to search journals in PMC. For example, if you enter the journal title *annals of surgery* in the PMC query box and click Details you'll see that PMC translates this search to "Ann Surg"[Journal].

3. Full Author translation table

The Full Author translation table contains full author names from all articles for which full names are provided to PMC from the publisher.

More information about full author searching:

- A comma following the last name for searching is optional. For some names, however, it is necessary to distinguish which name is the last name by using the comma following the last name, e.g., james, ryan.

- Omit periods after initials and put all suffixes at the end, e.g., vollmer charles jr

- Initials and suffixes are not required. If you include a middle initial or suffix, you will only retrieve citations for articles that were published using the middle initial or suffix.

- To distinguish author initials that may match a full author name use the [fau] search tag, e.g., peterson do[fau].

4. Author index

If the term is not found in the above tables, except for Full Author, and is not a single term, PMC checks the author index for a match. When combining multiple authors, to avoid a match with full author names, include initials or use the [au] search tag, e.g., ryan[au] james[au].

5. If no match is found?

PMC breaks apart the phrase and repeats the above automatic term mapping process until a match is found. PMC ignores stopwords in searches. See PubMed Help: Stopwords for a full list of stopwords.

If there is no match, the individual terms will be combined (with AND) together and searched in all fields.

Cookies

A "cookie" is information stored by a Web server (e.g., Entrez) on your computer. See the NLM Privacy Policy [http://www.nlm.nih.gov/privacy.html] for additional information.

In the case of PMC, it is information about your interactions that may be needed later to perform a function. Cookies allow PMC to provide more interactive features such as Preview/Index, Clipboard, History, and My NCBI. Cookies placed by PMC are removed from your computer after a set time period unless you choose to use a persistent cookie with the My NCBI automatic sign in function.

To use these interactive features you need to enable cookies on your computer. Please consult your browser's Help for information on enabling cookies.

If you have problems using cookie-dependent features of PMC even after enabling cookies, possible reasons may include:

- Cookies are blocked by your provider or institution. Check with your Internet provider and/or the system administrator at your institution to see if cookies can be accepted. Even if you have them enabled in your Web browser, if they are blocked by your provider or institution (e.g., by a firewall, proxy server, etc.), the cookie-dependent features of Entrez won't work.

- Your computer's date and time settings are incorrect. Check your computer's time settings to ensure that they are correct.

Search field descriptions and tags

Abstract [AB]	Filter [FILTER]	Pagination [PG]
Accession [ACCN]	Full Author Name [FAU]	PMC Live Date [PMCDAT]
Acknowledgements [ACK]	Grant Number [GR]	Publication Date [PDAT]
Affiliation [AD]	Issue [IP]	PubMed ID [PMID]
All Fields [ALL]	Journal Title [TA]	Reference [REFR]
Author [AU]	MeSH Major Topic [MAJR]	Reference Author [REFA]
Article Body - All Words [ARTICLE]	MeSH Subheadings [SH]	Section title [SECT]
Article Body - Key Terms [KWD]	MeSH Terms [MH]	Substance Name [NM]
DOI [DOI]	Methods - Key Terms [METH]	Text Words [TW]
EC/RN Number [RN]	Organism [ORGN]	Title [TI]
Electronic Publication Date [EPUBDAT]	Organism Unsynonymized [ORGN_NOSYN]	Volume [VI]
Figure/Table Caption [CAPT]		

Note: See an alphabetic list of all the search terms for a particular search field by browsing the index.

Abstract [AB]

Includes all words and numbers in the abstract of an article. English language abstracts are taken directly from the published article. If an article does not have a published abstract, PMC does not create one.

Accession [ACCN]

Includes accession numbers from the GenBank sequence database that are cited in PMC articles.

Acknowledgements [ACK]

Includes all words in the acknowledgement section of an article (e.g., National Institutes of Health [ack]). PMC ignores stopwords [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=help-pubmed.table.pubmedhelp.T42] in search queries.

Affiliation [AD]

Includes the institutional affiliation and address (including email address, when available) of the authors of the article as it appears in the journal. This field can be used to search for work done at specific institutions (e.g., "mayo[ad] AND clinic[ad]").

All Fields [ALL]

Includes all searchable PMC fields. However, only terms where there is no match found in one of the Translation tables or Indexes via the automatic term mapping process will be searched in All Fields. PMC ignores stopwords [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=help-pubmed.table.pubmedhelp.T42] in search queries.

Author [AU]

To search for an author, enter the last name followed by a space and up to the first two initials followed by a space and, if applicable, a suffix abbreviation. Do not include a period or comma after the last name (e.g., "fauci as or o'brien jc jr"). Initials and suffixes may be omitted when searching.

PMC automatically truncates on an author's name to account for varying initials, e.g., o'brien j [au] will retrieve o'brien ja, o'brien jb, o'brien jc jr, as well as o'brien j. To turn off this automatic truncation, enclose the author's name in double quotes and qualify with [au] in brackets, e.g., "o'brien j"[au] to retrieve just o'brien j.

See Full Author Name [FAU] below for more information on author searching.

Article Body - All Words [ARTICLE]

Includes all words and numbers in the body of an article except for the Abstract and References.

Article Body - Key Terms [KWD]

Includes key terms from the article body.

Digital Object Identifier [DOI]

A unique string that identifies a piece of intellectual property in an online environment. Many publishers assign DOI to their online full text articles. Detailed information about DOI is available in the DOI Handbook [http://www.doi.org/hb.html].

EC/RN Number [RN]

Number assigned by the Enzyme Commission (EC) to designate a particular enzyme or by the Chemical Abstracts Service (CAS) for Registry Numbers (e.g., 1-5-20-4[rn])

Electronic Publication Date [EPUBDAT]

The date of the electronic publication. Dates or date ranges must be entered using the format YYYY/MM/DD [epubdat] (e.g., 1998/04/06 [epubdat]) . The month and day are optional (e.g., 1998 [epubdat] or 1998/03 [epubdat]). To enter a date range, insert a colon (:) between each date (e.g., 1996:1997 [epubdat] or 1998/01:1998/04 [epubdat]).

Figure/Table Caption [CAPT]

Includes all words and numbers in the figure and table captions of an article.

Filter [FILTER]

Technical tags used by PMC to qualify citations. These include:

- author manuscript[filter] – all author manuscripts in PMC.

- nih author manuscript[filter] – research manuscripts by NIH-funded scientists.

- wt author manuscript[filter] – research manuscripts by Wellcome Trust grantees.

   Click on the links above to run each search.

Full Author Name [FAU]

The full author names from all articles for which full names are provided to PMC from the publisher. Full author searching can be entered in natural or inverted order, e.g., julia s wong or wong julia s. See Author [AU] for more information on author searching.

Grant Number [GR]

Research grant numbers, contract numbers, or both that designate financial support by any agency of the US PHS (Public Health Service) or Wellcome Trust. The three pieces of the grant number (LM05545 - number, LM - acronym, and NLM - institute mnemonic) are each individually searchable using the [GR] tag.

More information about NIH grant numbers and tips for searching:

NIH grant numbers, e.g., 5R01CA101211-03, typically have three main parts:

1. A prefix that indicates the type of grant, e.g., 5R01.

2. An 8-character serial number consisting of a 2-letter NIH institute/center code and a 6-digit number, e.g., CA101211.

3. A suffix that includes additional data such as grant year.

To search for an individual NIH grant number, use the 8-character serial number and the [gr] tag (e.g., ca101211[gr]).

Note: Grant numbers display in PMC as they appear in the published article. If the number in the journal article is not 6 digits, e.g., CA84141, insert a leading zero, e.g., ca084141[gr], so the entire search string is a total of 8 characters long. For a broader search, use the 2-letter grant code assigned to an agency and the [gr] tag (e.g., ca[gr]). For the broadest search, use the agency abbreviation and the [gr] tag (e.g., nci[gr]). See Grant codes and agency abbreviations [http://www.nlm.nih.gov/bsd/grant_acronym.html] used in grant numbers for help determining the agency abbreviation using the grant code.

See also Funding Support [http://www.nlm.nih.gov/bsd/funding_support_2005.html] and Acknowledgements for additional information.

Issue [IP]

The number of the journal issue in which the article is published.

Journal Title [TA]

The journal title abbreviation, full journal title, or ISSN number (e.g., J Biol Chem, Journal of Biological Chemistry, 0021-9258). If a journal title contains parentheses or brackets, enter the name without the parentheses or brackets, e.g., Proc (Bayl Univ Med Cent) as Proc Bayl Univ Med Cent.

The PMC Journal List [http://www.pubmedcentral.nih.gov/front-page/fp.fcgi?cmd=full_view] is available to browse journal titles, holdings and embargo information. Or use the Entrez Journal Database to look up the full name, abbreviation, and ISSN number of a journal.

MeSH Major Topic [MAJR]

A MeSH term that is one of the main topics discussed in the article. See MeSH Terms below.

MeSH Subheadings [SH]

MeSH Subheadings are used with MeSH terms to help describe more completely a particular aspect of a subject. For example, the drug therapy of asthma is displayed as asthma/drug therapy. See MeSH/Subheading Combinations.

The MeSH Subheading field allows users to "free float" Subheadings, e.g., "hypertension [mh] AND toxicity[sh]".

MeSH Subheadings automatically include the more specific Subheading terms under the term in a search. To turn off this automatic feature, use the search syntax [sh:noexp], e.g., "therapy [sh:noexp]".

In addition, you can enter the MEDLINE two-letter MeSH Subheading abbreviations rather than spelling out the Subheading (e.g., dh[sh] = diet therapy [sh]). See PubMed Help: MeSH Subheadings [http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.table.pubmedhelp.T40] for a full list of abbreviations.

MeSH Terms [MH]

NLM's Medical Subject Headings [http://www.nlm.nih.gov/mesh/meshhome.html] controlled vocabulary of biomedical terms that is used to describe the subject of each journal article in MED-LINE. MeSH contains more than 23,000 terms and is updated annually to reflect changes in medicine and medical terminology. MeSH terms are arranged hierarchically by subject categories with more specific terms arranged beneath broader terms. Entrez allows you to view this hierarchy and select terms for searching in the MeSH database.

Skilled subject analysts examine journal articles and assign to each the most specific MeSH terms applicable, typically 10 to 12. Applying the MeSH vocabulary ensures that articles are uniformly indexed by subject, whatever the author's words.

Notes on MeSH Terms and Major MeSH Topic search fields:

To search the term only as a MeSH term, it must be tagged using the search field, e.g., [mh] for MeSH Terms or [majr] for MeSH Major Topic. A tagged term is checked against the PMC MeSH translation table and mapped to the appropriate MeSH term. Some concepts may map to two or more MeSH terms. To turn off this mapping, enclose the MeSH term in double quotes and tag with [mh], e.g., "cold"[mh].

MeSH terms are arranged hierarchically by subject categories with more specific terms arranged beneath broader terms. MeSH terms in PMC automatically include the more specific MeSH terms in a search. For more detailed information about MeSH vocabulary including the hierarchical structure, please see the MeSH home page [http://www.nlm.nih.gov/mesh/mesh-home.html].

MeSH/Subheading Combinations:

To directly attach MeSH subheadings, use the format MeSH Term/Subheading, e.g., neoplasms/diet therapy. You may also use the MEDLINE two-letter MeSH subheading abbreviations, e.g., neoplasms/dh. The [mh] tag is not required, however [majr] may be used, e.g., plants/genetics [majr]. Only one subheading may be directly attached to a MeSH term. For a MeSH/Subheading

combination, PMC always includes the more specific terms arranged beneath broader terms for the MeSH term and also includes the more specific terms arranged beneath broader subheadings [http://www.nlm.nih.gov/mesh/subhierarchy2006.html]. The broader subheading, or one of its sub-headings, will be directly attached to the MeSH term or one of its subheadings. For example, hypertension/therapy also retrieves hypertension/diet therapy; hypertension/drug therapy; hyper-tension, malignant/therapy; hypertension, malignant/drug therapy, and so on, as well as hyperten-sion/therapy.

To turn off the automatic inclusion of the more specific terms, use the syntax [field:noexp], e.g., hypertension[mh:noexp], or hypertension[majr:noexp], or hypertension/therapy[mh:noexp]. The lat-ter example turns off the more specific terms in both parts, searching for only the one Subheading therapy attached directly to only the one MeSH term hypertension.

If parentheses are embedded in a MeSH term, replace the parentheses with a space and tag with [mh], e.g., enter the MeSH term benzo(a)pyrene as benzo a pyrene[mh].

MeSH terms can be selected for searching in Preview/Index.

Methods - Key Terms [METH]

Key terms from the methods section of the article abstract.

Organism [ORGN]

Contains the scientific and common names for the organisms in the NCBI taxonomy database that are found in PMC articles. The NCBI taxonomy database only includes species that are represented in the public sequence databases, so many of the organisms mentioned in PMC articles will not be found in this index. To cut down on false hits, matches to scientific names are required to add PMC articles to this index - common names in this field will only retrieve articles that mention the corre-sponding scientific name. By default, the PMC organism search is "unexpanded" and does not include more specific terms. The query mammalia[orgn] will only retrieve articles that explicitly mention mammalia. The query mammalia[orgn:exp] will retrieve articles that mention any of the species of mammals.

Organism Unsynonymized [ORGN_NOSYN]

Organism names that are identified as synonyms in the NCBI taxonomy database will retrieve the same set of articles in the PMC Organism index (e.g., "Danio rerio[orgn]" = "Brachydanio rerio [orgn]"). The Organism unsynonymized index will only retrieve articles that use the name in question.

Pagination [PG]

Enter only the first page number on which the article appears. The citation will display the full pag-ination of the article, but this field is searchable using only the first page number.

PMC Live Date [PMCDAT]

Date the article was first available in PMC. Dates or date ranges must be entered using the format YYYY/MM/DD, e.g. "1998/04/06 [pmcdat]". The month and day are optional (e.g., "1998 [pmcdat]" or "1998/03 [pmcdat]"). To enter a date range, insert a colon (:) between each date (e.g., "1996:1997 [pmcdat]" or "1998/01:1998/04[pmcdat]").

Publication Date [PDAT]

The date that the article was published. Dates or date ranges must be searched using the format YYYY/MM/DD, e.g. "1998/03/06[pdat]". The month and day are optional (e.g., "1998[pdat]" or "1998/03 [pdat]").

To enter a date range, insert a colon (:) between each date (e.g., "1996:1998[pdat]" or "1998/01:1998/04[pdat]").

Use the following format to search X days, months, or years immediately preceding today's date where X = numeric value:

* "last X days"[dp]
* "last X months"[dp]
* "last X year"[dp]

Note: Journals vary in the way the publication date appears on an issue. Some journals include just the year, whereas others include the year plus month or year plus month plus day. Some journals use the year and season (e.g., Winter 1997). The publication date in the citation is recorded as it appears in the journal. It is recommended that you search only by year (e.g., 1996[dp] or 1995:1997 [dp]). (For articles published electronically and in print on different dates, both dates may be included on the citation prefaced with an "Epub" or "Print" label.)

PubMed ID [PMID]

Unique identifier for the PubMed record for a PMC article.

Reference [REFR]

Includes words and numbers in the titles in an article references section.

Reference Author [REFA]

Includes authors cited in an article references section.

PMC references do not list the full author name. The format to search for a reference author is the same as article Author searching.

Section title [SECT]

Includes words and numbers in an article section title.

Substance Name [NM]

The name of a chemical discussed in the article. Synonyms to the Supplementary Concept Substance Name will automatically map when qualified with [nm]. This field was implemented in mid-1980. Many chemical names are searchable as MeSH terms before that date.

Text Words [TW]

Includes all words and numbers in the title, abstract and article body, as well as in table and figure captions and in the article reference section.

Title [TI]

Words and numbers included in the title of a citation.

Volume [VI]

The number of the journal volume in which an article is published.

Stopwords

PMC searches use the same stopwords that are used in PubMed. See PubMed Stopwords for more information.

Character Conversions

When running a search that includes characters (e.g., pound sign, dollar sign), PMC uses certain characters to have specific meaning, whereas others are converted to spaces. (See PubMed Character Conversions for more information.) However, in the abstracts and full text of PMC articles, all characters are represented as accurately as possible.