

Chapitre 1 ; Domaine 1 ; Documentation ; Champs référentiels 1.1.1, 1.1.2 et 1.1.3

Base de données bibliographiques Pubmed-Medline

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Université Paris Descartes,

30 mai 2007

- Introduction : Définition d'une base de données (BDD)
- Les BDD bibliographiques
- Généralités sur la BDD Medline
- La BDD bibliographiques PubMed – Medline
- Faire une recherche sur Pubmed – Medline
- Application

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Les bases de données (banques de données ou en anglais « *databases* ») sont des produits documentaires qui rassemblent :

- soit des informations primaires : documents immédiatement utilisables (articles, photos, chiffres) ;
- soit des informations secondaires donnant une liste de documents où l'on peut trouver l'information (auteur, titre, résumé...)

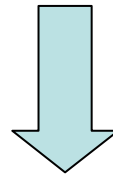
INTRODUCTION (2/2)

Information primaire	BDD en texte intégral	Ex : dépêches de l'AFP
	BDD factuelles ou numériques (chiffres, statistiques, économie)	Ex : les motifs protéiques (<i>PDB Protein Data Bank</i>).
	BDD d'images	Ex : clipart
Information secondaire	BDD bibliographiques	Ex : Current Contents (toutes disciplines), Medline (en médecine)

(<http://www.dsi.univ-paris5.fr/bio2/autof2/index.htm>)

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Les bases de données bibliographiques sont des outils indispensables pour tout travail de recherche



- pour faire un bilan des connaissances actuelles sur un domaine ;
- pour ne pas faire ce qui a déjà été fait ;
- pour avoir de nouvelles idées ;
- ...

Cahier des charges pour une recherche bibliographique :

- Générer une liste d'articles sur un sujet ou un auteur.
- Délimiter la recherche par date, par type de document...
- Identifier une référence dont on ne possède pas tous les éléments pour la localiser.
- Repérer régulièrement les nouvelles publications sur un sujet donné (veille documentaire)

Quelques exemples de BDD bibliographiques :

- ✓ **MedLine** : littérature scientifique en sciences de la santé
- ✓ **Pascal** : multidisciplinaire : mathématiques appliquées, physique, chimie, sciences appliquées, sciences de l'information, sciences de la terre, biologie, océanologie, astronomie, biotechnologie, agronomie, médecine, psychologie, pharmacologie. (*14 millions de références, multilingue*).
- ✓ **Embase (Excerpta Medica)** : recherche sur le médicament ($\approx 40\%$), psychiatrie, économie de la santé. (*13 millions de références*)
- ✓ **Autres bases** : - Francis (sciences humaines et sociales depuis 1984)
- voir le site de la bibliothèque Paris Descartes
<http://biup.univ-paris5.fr>

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(**MED**ical Literature analysis and retrieval system on **LINE**)

- ✓ **BDD bibliographiques anglophone** développée par la NLM (National Library Medicine, United States)
- ✓ **BDD bibliographiques dans le domaine biomédical** : biologie, santé publique, biochimie, médecine clinique, éthique, économie de la santé, psychiatrie toxicologie, pharmacologie, médecine vétérinaire.

Historique :

- ✓ **1964** : **MED**ical **L**iterature **A**nalysis and **R**etrieval **S**ystem
- ✓ **1971** : **MEDLINE** (Accès à MEDLARS à distance)
- ✓ Accessibilité par CD-ROM
- ✓ **1996** : Mise à disposition gratuitement sur Internet – Naissance de PubMed (Public Access to Medline)

Interface « Entrez » développée par le NCBI (*National Centre for Biotechnology Information*) de la NLM.

GÉNÉRALITÉS SUR LA BDD MEDLINE (3/4)

Adresse URL Pubmed : www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=PubMed

NCBI PubMed A service of the National Library of Medicine and the National Institutes of Health [My NCBI](#) [Sign In](#) [Register](#)

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search PubMed for

Limits Preview/Index History Clipboard Details

- To get started, enter one or more search terms.
- Search terms may be [topics](#), [authors](#) or [journals](#).

My NCBI Set up an automated PubMed update in less than 5 minutes.

(1) Get a [My NCBI account](#). (2) Save your search.
(3) Your PubMed updates can be e-mailed directly to you.

Read the [My NCBI Help](#) material to explore other options, such as automated updates of other databases, setting search filters, and highlighting search terms.

PubMed is a service of the [U.S. National Library of Medicine](#) that includes over 16 million citations from MEDLINE and other life science journals for biomedical articles back to the 1950s. PubMed includes links to full text articles and other related resources.

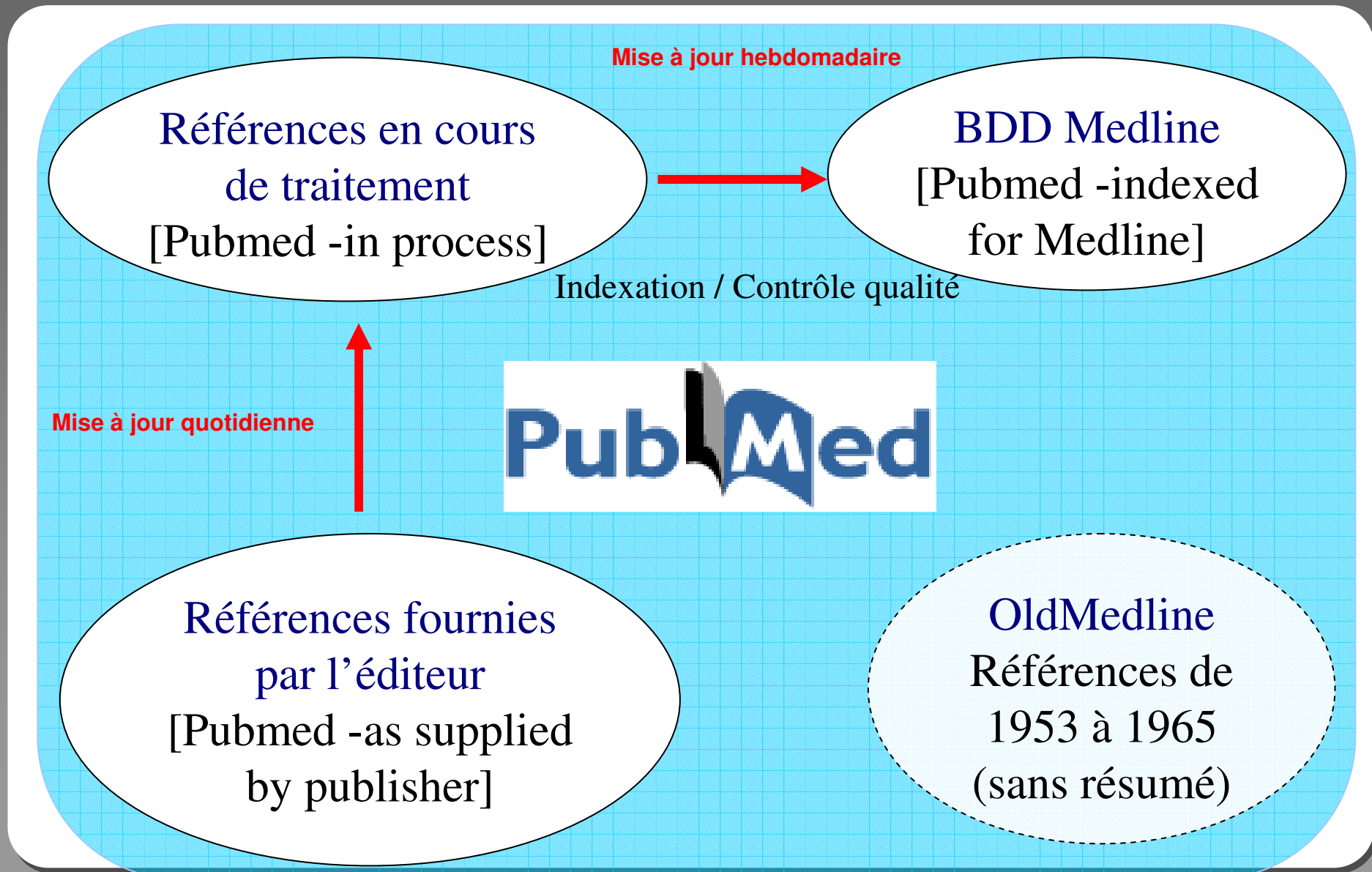
Sur l'interface « Entrez », la recherche peut se faire dans différentes BDD dont :

- **PubMed** : Recherche bibliographique
- **Nucleotide** : Recherche de nucléotides dans Genbank
- **Protein** : Séquences protéiques dans les BDDs Swiss-prot, PIR, PRF, PDB
- **Popset** : BDD de séquences d'ADN pour faire du comparatif intra ou inter espèces (phylogénie).
- **OMIM** : catalogue d'anomalies génétiques
- ...

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- ✓ Références de 1966 à nos jours
- ✓ Nombre de documents référencés : \approx 17 millions
- ✓ 4800 revues internationales (USA + 70 pays, 30 langues)
- ✓ Mise à jour : 5 jours sur 7 (sauf en décembre)
- ✓ Entre 1500 à 3500 références ajoutées par jour
- ✓ \sim 600 000 références additionnées par an
- ✓ 48 % des réf. sont issues de journaux US (1995-2003)
- ✓ 80 % des articles sont en anglais
- ✓ 76 % ont un résumé (« abstract »)

PUBMED - MEDLINE : Principe d'indexation (1/8)



- ✓ **ME**dicale **S**ubject **H**eading (1954) : Thésaurus de référence dans le domaine biomédical permettant l'indexation des articles pour faciliter leur classement dans MedLine et ainsi faciliter la recherche documentaire.
- ✓ Vocabulaire contrôlé par la *NLM*
 - 23880 descripteurs
 - Jusqu'à 15 termes MeSH assignés sur un article entier
 - 3 types de termes MeSH :

Major MeSH Topics qui décrivent le terme principal de l'article

MeSH terms qui décrivent l'ensemble ou une partie de l'article

MeSH Subheading qui décrivent plus précisément un aspect particulier de l'article

Comment trouver les termes MeSH appropriés?


- Collaboration *NLM* – INSERM pour la France

Le répertoire des mots clés MeSH (français-anglais) est géré par l'INSERM (MeSH bilingue) :

<http://www.inserm.fr>

requête « mesh bilingue 2006 » sur google

Recherche par mot clé : Exemple: « maladie de la vache folle »
(Conseil : ajouter avant et après * pour élargir la recherche)

 Donne l'accès à Pubmed

The screenshot shows the homepage of the 'Le MeSH bilingue 2005' website. At the top, there is a header with the title 'Le MeSH bilingue 2005' in orange, the 'Inserm' logo in black, and the 'NLM' logo in blue. Below the header is a navigation bar with links for 'Accueil', 'Mesh bilingue 2005', and 'Nous contacter'. The main content area features a green bar for 'Consultation du MeSH 2005', followed by two search options: 'Recherche simple par mot' and 'Recherche guidée par les index (avec affichage hiérarchique)'. Below this is another green bar for 'Nouveautés du MeSH 2005', which contains a list of updates: 'En bref', 'Les nouveaux termes', 'Les termes modifiés', 'Les termes supprimés', and 'La révision de la traduction française'. At the bottom, there is a section for 'Listes des termes particuliers:' with a list of specific terms: 'Les descripteurs Types de publication', 'Les Qualificatifs', and 'Les Check Tags'.

Le MeSH bilingue 2005

MEDICAL SUBJECT HEADINGS 

Inserm



[Accueil](#) |

| [Mesh bilingue 2005](#) |

| [Nous contacter](#)

Si le terme contient une virgule placez le terme entre ' '

ex: 'prion, maladies'

Vous pouvez utiliser la troncature * (droite et/ou gauche)

ex: *grossesse*



Terme
(s)

Le MeSH bilingue 2006

MEDICAL SUBJECT HEADINGS 

Inserm



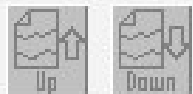
Accueil | Mesh bilingue 2006 |

| Nous contacter

Pour afficher les termes en relations et la définition du terme cliquez sur le terme
Pour rechercher sur "PubMed" cliquez sur /font> [PubMed](#)
Pour rechercher sur "Doc'CISeMeF" du CHU de Rouen cliquez sur [CISeMeF](#)

Résultat : Documents 1 à 1 sur 1

1 - Encéphalopathie spongiforme bovine *Encephalopathy, Bovine Spongiform* - [PubMed](#) [CISeMeF](#)



PubMed Services
Journals Database
MeSH Database
Single Citation
Matcher
Batch Citation Matcher
Clinical Queries
Special Queries
LinkOut
My NCBI

Related Resources
Order Documents
NLM Mobile
NLM Catalog
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

1: Encephalopathy, Bovine Spongiform

Links

A transmissible spongiform encephalopathy of cattle associated with abnormal prion proteins in the brain. Affected animals develop excitability and salivation followed by ATAXIA. This disorder has been associated with consumption of SCRAPIE infected ruminant derived protein. This condition may be transmitted to humans, where it is referred to as variant or new variant CREUTZFELDT-JAKOB SYNDROME. (Vet Rec 1998 Jul 25;143(41):101-5)

Year introduced: 1992

Subheadings: This list includes those paired at least once with this heading in MEDLINE and may not reflect current rules for allowable combinations.

- blood
- cerebrospinal fluid
- chemically induced
- classification
- complications
- diagnosis
- drug therapy
- economics
- enzymology
- epidemiology
- etiology
- genetics
- history
- immunology
- metabolism
- microbiology
- mortality
- nursing
- pathology
- physiopathology
- prevention and control
- psychology
- surgery
- therapy
- transmission
- virology

Restrict Search to Major Topic headings only

Do Not Explode this term (i.e., do not include MeSH terms found below this term in the MeSH tree).

Entry Terms:

- Bovine Spongiform Encephalopathy
- BSE (Bovine Spongiform Encephalopathy)
- BSEs (Bovine Spongiform Encephalopathy)
- Encephalitis, Bovine Spongiform
- Bovine Spongiform Encephalitis
- Mad Cow Disease
- Mad Cow Diseases
- Spongiform Encephalopathy, Bovine

Previous Indexing:

- [Brain Diseases/veterinary \(1988-1991\)](#)

PUBMED - MEDLINE : Principe d'indexation (8/8)

Previous Indexing:

- [Brain Diseases/veterinary \(1988-1991\)](#)
- [Cattle Diseases \(1988-1991\)](#)

[All MeSH Categories](#)

[Diseases Category](#)

[Nervous System Diseases](#)

[Central Nervous System Diseases](#)

[Central Nervous System Infections](#)

[Prion Diseases](#)

Encephalopathy, Bovine Spongiform

[All MeSH Categories](#)

[Diseases Category](#)

[Nervous System Diseases](#)

[Neurodegenerative Diseases](#)

[Prion Diseases](#)

Encephalopathy, Bovine Spongiform

[All MeSH Categories](#)

[Diseases Category](#)

[Animal Diseases](#)

[Cattle Diseases](#)

Encephalopathy, Bovine Spongiform

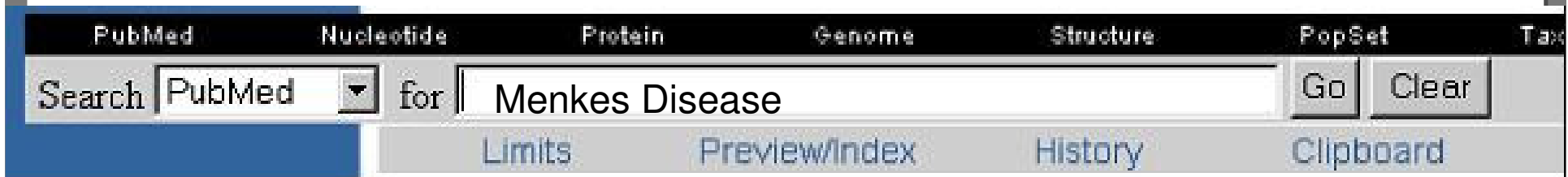
Display Show Send to

[Write to the Help Desk](#)
N C B I N I M I N I H

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✓ Recherche simple :

Mots clés : Menkes disease



The screenshot shows the PubMed search interface. At the top, there are tabs for different search categories: PubMed, Nucleotide, Protein, Genome, Structure, PopSet, and Taxonomy. Below these tabs is a search bar with the text "Search PubMed for Menkes Disease". To the right of the search bar are "Go" and "Clear" buttons. Below the search bar are several links: "Limits", "Preview/Index", "History", and "Clipboard".

➔ Par défaut et en absence de renseignements, la recherche se fait sur tous les champs de références bibliographiques <all fields>

✓ Présentation des résultats

The screenshot shows the PubMed search results page for the query 'Menkes disease'. The page features the NCBI logo and the PubMed logo, along with the text 'A service of the National Library of Medicine and the National Institutes of Health'. The search bar contains 'Menkes disease' and the results are displayed in a list format. The first two results are highlighted with a blue background. The first result is by Godwin SC, Shawker T, Chang B, Kaler SG, published in J Pediatr. 2006 Sep;149(3):412-415. The second result is by Tan JC, Burns DL, Jones HR, published in JPEN J Parenter Enteral Nutr. 2006 Sep-Oct;30(5):446-50. The page also shows the total number of results (852) and the current page (1 of 43).

NCBI
PubMed
www.pubmed.gov
A service of the National Library of Medicine and the National Institutes of Health
My NCBI
[Sign In] [Register]

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search PubMed for Menkes disease Go Clear Save Search

Limits Preview/Index History Clipboard Details

Display Summary Show 20 Sort by Send to

All: 852 Review: 159

Items 1 - 20 of 852 Page 1 of 43 Next

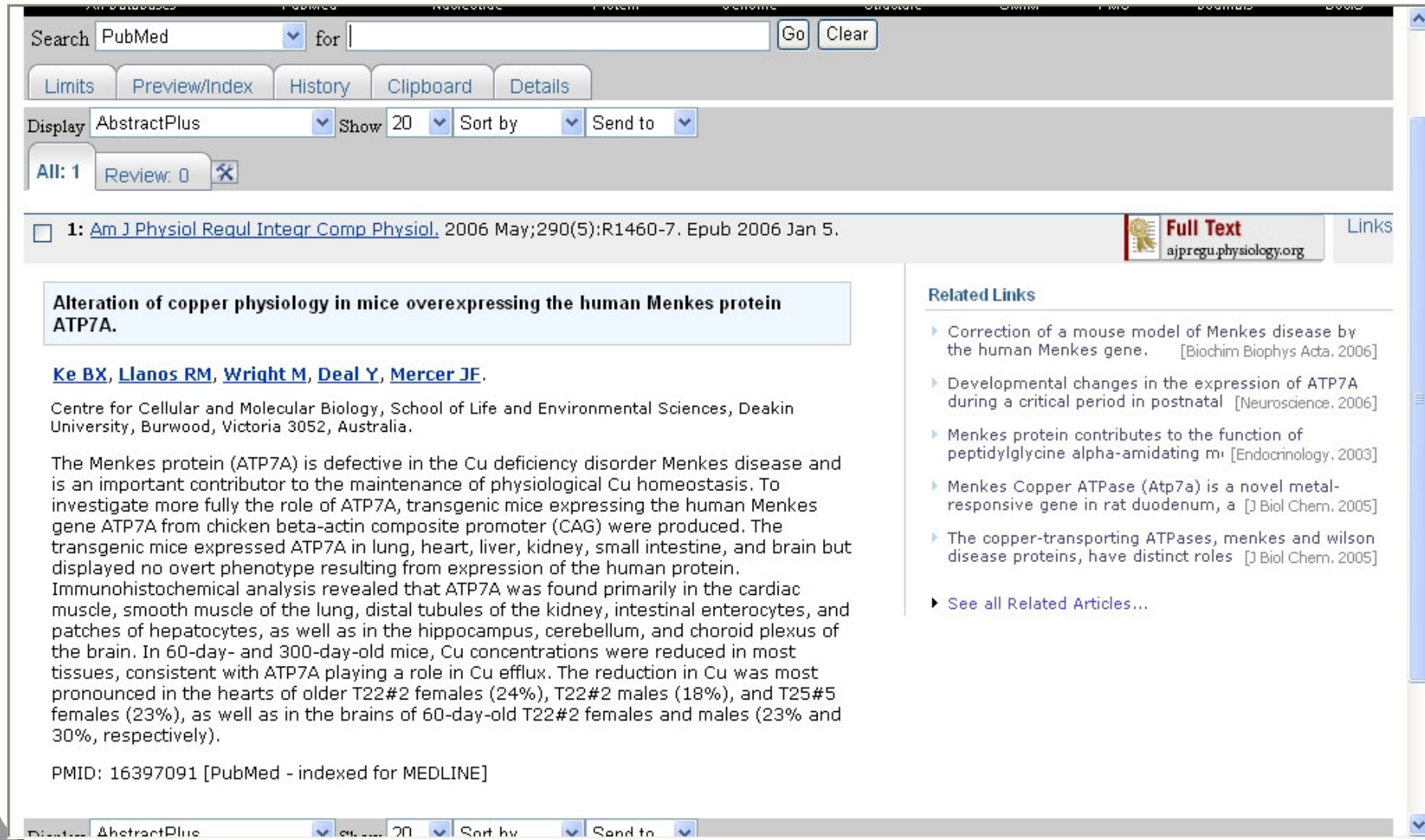
1: [Godwin SC, Shawker T, Chang B, Kaler SG.](#) Related Articles, Links
Brachial artery aneurysms in Menkes disease.
J Pediatr. 2006 Sep;149(3):412-415.
PMID: 16939759 [PubMed - as supplied by publisher]

2: [Tan JC, Burns DL, Jones HR.](#) Related Articles, Links
Severe ataxia, myelopathy, and peripheral neuropathy due to acquired copper deficiency in a patient with history of gastrectomy.
JPEN J Parenter Enteral Nutr. 2006 Sep-Oct;30(5):446-50.
PMID: 16931615 [PubMed - in process]

About Entrez
Text Version
Entrez PubMed
Overview
Help | FAQ
Tutorials
New/Noteworthy
E-Utilities
PubMed Services
Journals Database
MeSH Database
Single Citation
Matcher

(Nombre de réponses, type d'articles, abstract, nom des auteurs, titre de l'article, journal, référence, *related articles*, statut dans Pubmed)

✓ Présentation des résultats



The screenshot shows a PubMed search result for a paper. At the top, there is a search bar with 'PubMed' selected and a 'Go' button. Below the search bar are buttons for 'Limits', 'Preview/Index', 'History', 'Clipboard', and 'Details'. The display settings are set to 'AbstractPlus', 'Show 20', and 'Sort by'. The search results show one result: '1: Am J Physiol Regul Integr Comp Physiol, 2006 May;290(5):R1460-7. Epub 2006 Jan 5.' The title of the article is 'Alteration of copper physiology in mice overexpressing the human Menkes protein ATP7A.' The authors are 'Ke BX, Llanos RM, Wright M, Deal Y, Mercer JF.' The abstract text describes the study of transgenic mice overexpressing the human Menkes protein ATP7A. The PMID is 16397091. On the right side, there are 'Full Text' and 'Links' buttons, and a 'Related Links' section with several links to related articles.

Search PubMed for [] Go Clear

Limits Preview/Index History Clipboard Details

Display AbstractPlus Show 20 Sort by Send to

All: 1 Review: 0

1: [Am J Physiol Regul Integr Comp Physiol](#), 2006 May;290(5):R1460-7. Epub 2006 Jan 5. [Full Text](#) [Links](#)
[ajpregu.physiology.org](#)

Alteration of copper physiology in mice overexpressing the human Menkes protein ATP7A.

[Ke BX](#), [Llanos RM](#), [Wright M](#), [Deal Y](#), [Mercer JF](#).

Centre for Cellular and Molecular Biology, School of Life and Environmental Sciences, Deakin University, Burwood, Victoria 3052, Australia.

The Menkes protein (ATP7A) is defective in the Cu deficiency disorder Menkes disease and is an important contributor to the maintenance of physiological Cu homeostasis. To investigate more fully the role of ATP7A, transgenic mice expressing the human Menkes gene ATP7A from chicken beta-actin composite promoter (CAG) were produced. The transgenic mice expressed ATP7A in lung, heart, liver, kidney, small intestine, and brain but displayed no overt phenotype resulting from expression of the human protein. Immunohistochemical analysis revealed that ATP7A was found primarily in the cardiac muscle, smooth muscle of the lung, distal tubules of the kidney, intestinal enterocytes, and patches of hepatocytes, as well as in the hippocampus, cerebellum, and choroid plexus of the brain. In 60-day- and 300-day-old mice, Cu concentrations were reduced in most tissues, consistent with ATP7A playing a role in Cu efflux. The reduction in Cu was most pronounced in the hearts of older T22#2 females (24%), T22#2 males (18%), and T25#5 females (23%), as well as in the brains of 60-day-old T22#2 females and males (23% and 30%, respectively).

PMID: 16397091 [PubMed - indexed for MEDLINE]

Related Links

- ▶ Correction of a mouse model of Menkes disease by the human Menkes gene. [Biochim Biophys Acta. 2006]
- ▶ Developmental changes in the expression of ATP7A during a critical period in postnatal [Neuroscience. 2006]
- ▶ Menkes protein contributes to the function of peptidylglycine alpha-amidating m [Endocrinology. 2003]
- ▶ Menkes Copper ATPase (Atp7a) is a novel metal-responsive gene in rat duodenum, a [J Biol Chem. 2005]
- ▶ The copper-transporting ATPases, menkes and wilson disease proteins, have distinct roles [J Biol Chem. 2005]
- ▶ See all Related Articles...

✓ Une des réponses avec les mots clés: Menkes disease

☐ **19:** Menkes DB, et al. [Related Articles](#), [Books](#), [LinkOut](#)



Stereotactic radiosurgery: the patient's experience.
Soc Sci Med. 2005;60(11):2561-73. Epub 2005 Jan 18.
PMID: 15814181 [PubMed - indexed for MEDLINE]



**Nécessité de spécifier le champ de
recherche dans la requête**

Utilisation de l'interface « *Limits* »

Utilisation de l'interface « Limits »

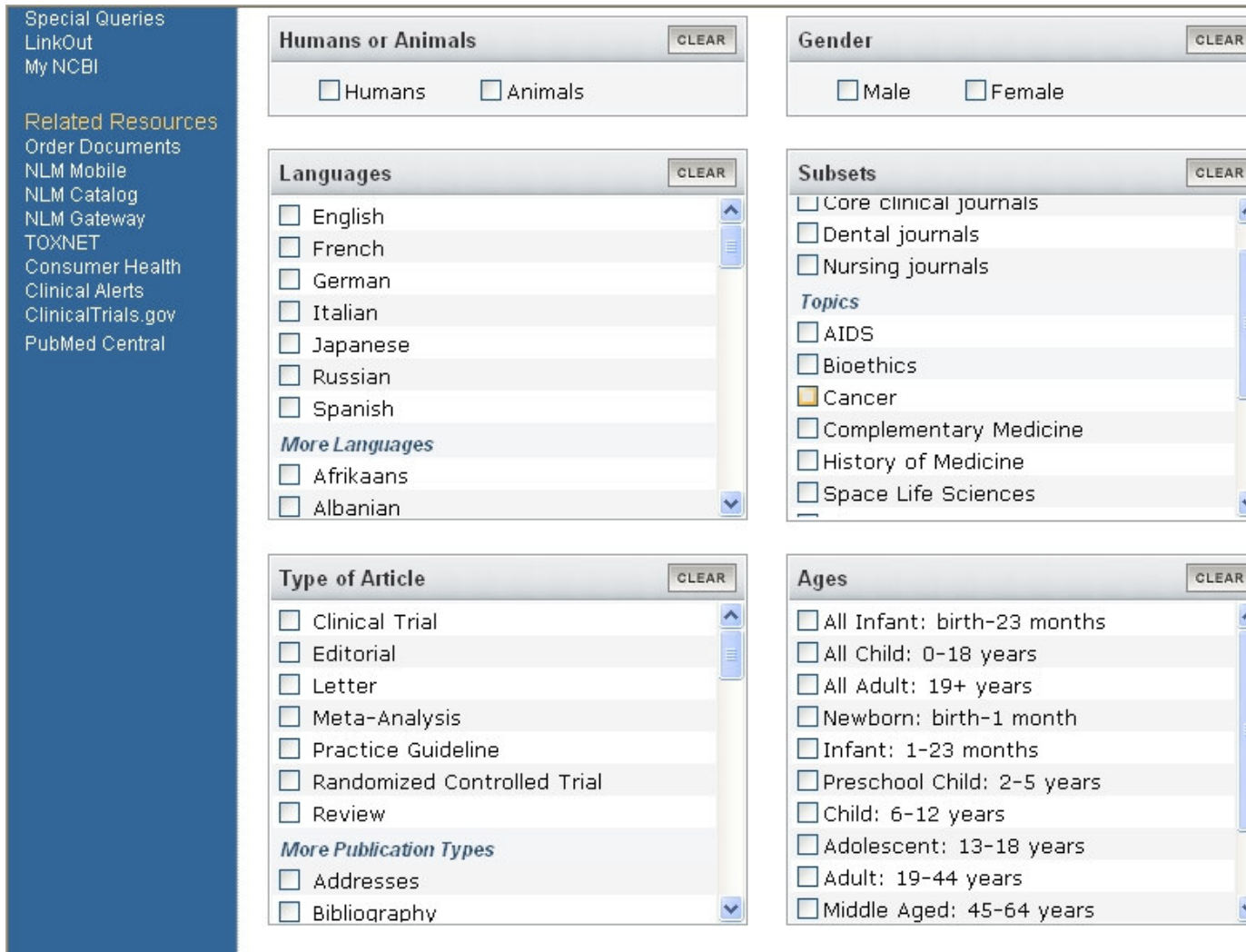


The screenshot shows the PubMed 'Limits' interface. At the top, there is a search bar with 'PubMed' selected in a dropdown menu and a 'Go' button. Below the search bar, there are several filter sections:

- Search by Author:** Includes an 'Add Author' button and a 'CLEAR' button.
- Search by Journal:** Includes an 'Add Journal' button and a 'CLEAR' button.
- Full Text, Free Full Text, and Abstracts:** Includes a 'CLEAR' button and three checkboxes: 'Links to full text', 'Links to free full text', and 'Abstracts'.
- Dates:** Includes a 'CLEAR' button and two dropdown menus: 'Published in the Last:' and 'Added to PubMed in the Last:', both currently set to 'Any date'.
- Humans or Animals:** Includes a 'CLEAR' button and two checkboxes: 'Humans' and 'Animals'.
- Gender:** Includes a 'CLEAR' button and two checkboxes: 'Male' and 'Female'.
- Languages:** Includes a 'CLEAR' button.
- Subsets:** Includes a 'CLEAR' button and a dropdown menu currently showing 'More clinical journals'.

On the left side of the interface, there is a navigation menu with links such as 'About Entrez', 'Text Version', 'Entrez PubMed', 'PubMed Services', and 'Related Resources'.

Utilisation de l'interface « *Limits* »



The screenshot displays the 'Limits' section of the PubMed search interface, which allows users to refine their search results based on various criteria. The interface is organized into several panels, each with a 'CLEAR' button to reset the filters.

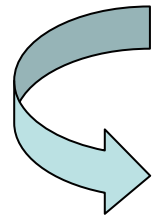
- Humans or Animals:** Includes checkboxes for Humans and Animals.
- Gender:** Includes checkboxes for Male and Female.
- Languages:** Includes checkboxes for English, French, German, Italian, Japanese, Russian, and Spanish. A 'More Languages' section includes Afrikaans and Albanian.
- Subsets:** Includes checkboxes for Core clinical journals, Dental journals, and Nursing journals. A 'Topics' section includes AIDS, Bioethics, Cancer (checked), Complementary Medicine, History of Medicine, and Space Life Sciences.
- Type of Article:** Includes checkboxes for Clinical Trial, Editorial, Letter, Meta-Analysis, Practice Guideline, Randomized Controlled Trial, and Review. A 'More Publication Types' section includes Addresses and Bibliography.
- Ages:** Includes checkboxes for All Infant: birth-23 months, All Child: 0-18 years, All Adult: 19+ years, Newborn: birth-1 month, Infant: 1-23 months, Preschool Child: 2-5 years, Child: 6-12 years, Adolescent: 13-18 years, Adult: 19-44 years, and Middle Aged: 45-64 years.

On the left side of the interface, there is a blue sidebar with the following links:

- Special Queries
- LinkOut
- My NCBI
- Related Resources
- Order Documents
- NLM Mobile
- NLM Catalog
- NLM Gateway
- TOXNET
- Consumer Health
- Clinical Alerts
- ClinicalTrials.gov
- PubMed Central

✓ Recherche plus sophistiquée :

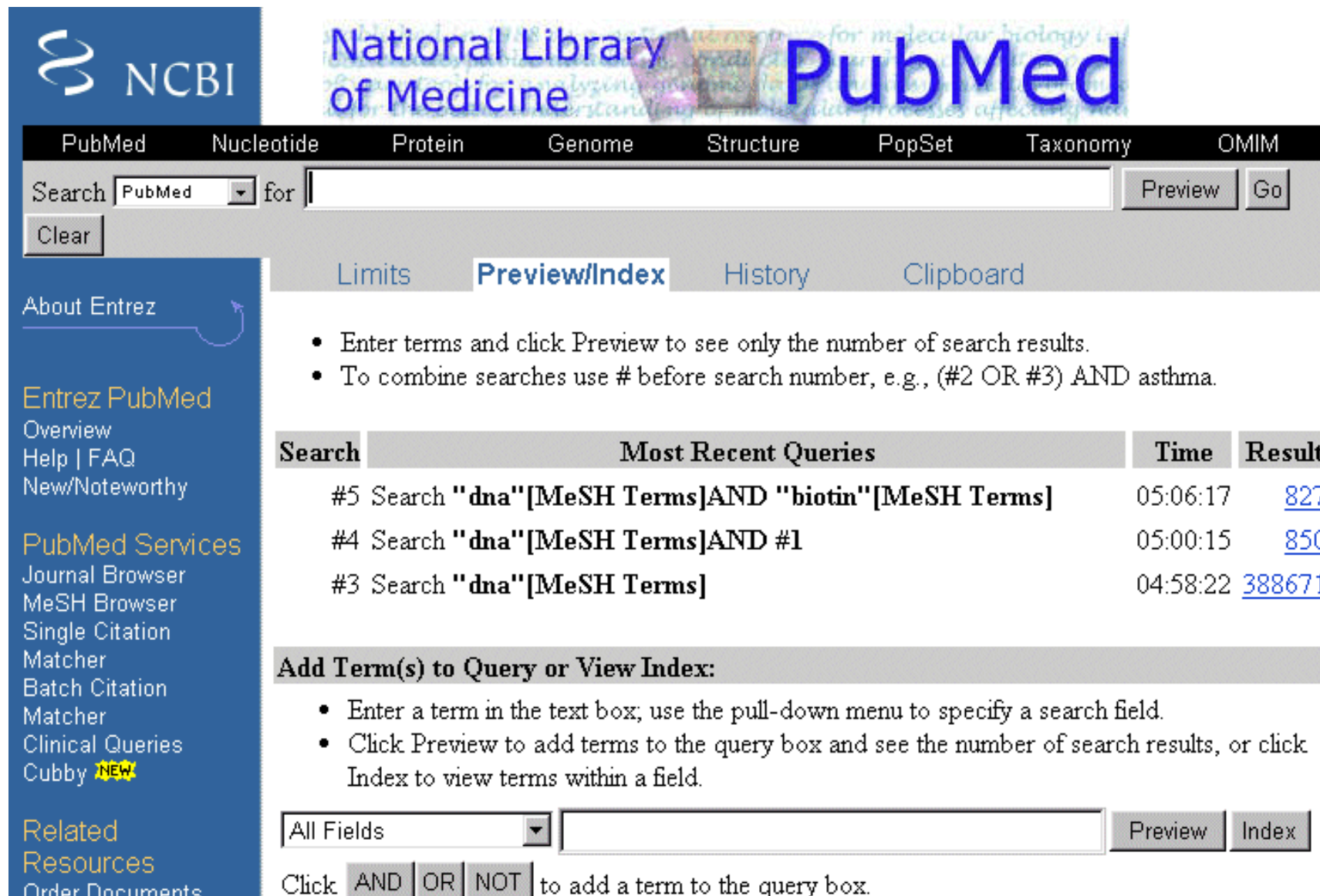
- Utilisation des opérateurs booléens
- Spécification des champs de recherches
- Combinaison de requêtes
- Visualisation des résultats des recherches



Interface « *Preview / Index* »

Interface « *History* »

PUBMED - MEDLINE : Recherche (8/11)



The screenshot shows the NCBI PubMed search interface. At the top, there is a navigation bar with links for PubMed, Nucleotide, Protein, Genome, Structure, PopSet, Taxonomy, and OMIM. Below this is a search bar with a dropdown menu set to 'PubMed' and a search box. A 'Clear' button is located to the left of the search bar. To the right of the search bar are 'Preview' and 'Go' buttons. Below the search bar, there are links for 'Limits', 'Preview/Index', 'History', and 'Clipboard'. On the left side, there is a sidebar with 'About Entrez' and 'Entrez PubMed' sections. The 'Entrez PubMed' section includes links for Overview, Help | FAQ, and New/Noteworthy. The 'PubMed Services' section includes links for Journal Browser, MeSH Browser, Single Citation Matcher, Batch Citation Matcher, Clinical Queries, and Cubby (marked as NEW). The 'Related Resources' section includes a link for Order Documents. The main content area shows a list of 'Most Recent Queries' with columns for Search, Time, and Result. Below this is a section for 'Add Term(s) to Query or View Index:' with a list of instructions. At the bottom, there is a search field with a dropdown menu set to 'All Fields' and 'Preview' and 'Index' buttons. Below the search field, there are buttons for 'AND', 'OR', and 'NOT' to add terms to the query box.

Search PubMed for

[Limits](#) [Preview/Index](#) [History](#) [Clipboard](#)

- Enter terms and click Preview to see only the number of search results.
- To combine searches use # before search number, e.g., (#2 OR #3) AND asthma.

Search	Most Recent Queries	Time	Result
#5	Search "dna"[MeSH Terms]AND "biotin"[MeSH Terms]	05:06:17	827
#4	Search "dna"[MeSH Terms]AND #1	05:00:15	850
#3	Search "dna"[MeSH Terms]	04:58:22	388671

Add Term(s) to Query or View Index:

- Enter a term in the text box; use the pull-down menu to specify a search field.
- Click Preview to add terms to the query box and see the number of search results, or click Index to view terms within a field.

All Fields

Click to add a term to the query box.

PUBMED - MEDLINE : Recherche (9/11)

The screenshot shows the PubMed search results page. At the top, the NCBI logo and 'PubMed' branding are visible, along with the text 'A service of the National Library of Medicine and the National Institutes of Health'. The search bar contains 'menkes disease' and is highlighted with a red circle. Below the search bar, there are navigation tabs: 'Limits', 'Preview/Index', 'History', 'Clipboard', and 'Details'. The 'Clipboard' tab is selected and highlighted with a red circle. The search results show 'All: 874' and 'Review: 163'. The first result is a paper by Owatari S. et al. titled 'Copper-Transporting P-Type ATPase, ATP7A, Confers Multidrug Resistance and Its Expression Is Related to Resistance to SN-38 in Clinical Colon Cancer'. The second result is by Donsante A. et al. The page also shows 'Items 1 - 20 of 874' and 'Page 1 of 44 Next'.

Clipboard = Panier de sélection

PUBMED - MEDLINE : Recherche (10/11)

NCBI PubMed
A service of the National Library of Medicine and the National Institutes of Health
www.pubmed.gov

Search PubMed for menkes disease Go Clear

Limits Preview/Index History **Clipboard*** Details

- The Clipboard will hold a maximum of 500 items.
- Clipboard items will be lost after eight hours of inactivity.
- To save items indefinitely, use Send to My NCBI Collections.

Display: AbstractPlus Show 20 Sort by Send to

All: 1 Review: 0

1: [Cancer Res.](#) 2007 May 15;67(10):4860-8. Full Text Cancer Res Links

Copper-Transporting P-Type ATPase, ATP7A, Confers Multidrug Resistance and Its Expression Is Related to Resistance to SN-38 in Clinical Colon Cancer.

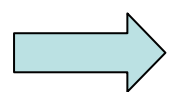
[Owatari S](#), [Akune S](#), [Komatsu M](#), [Ikeda R](#), [Firth SD](#), [Che XF](#), [Yamamoto M](#), [Tsujikawa K](#), [Kitazono M](#), [Ishizawa T](#), [Takeuchi T](#), [Aikou T](#), [Mercer JF](#), [Akiyama S](#), [Furukawa T](#).

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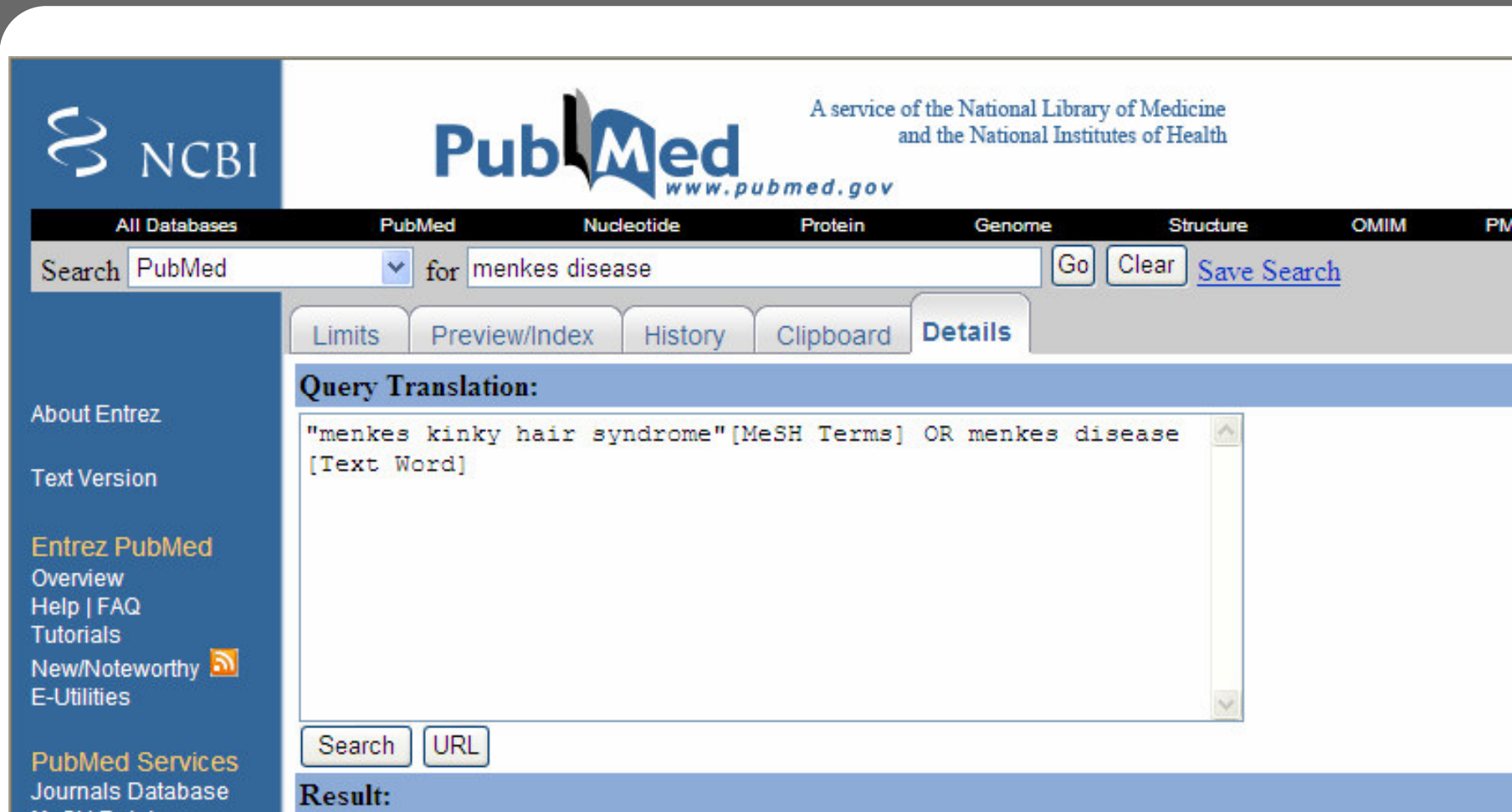
We and others have shown that the copper transporters ATP7A and ATP7B play a role in cellular resistance to cis-diaminedichloroplatinum (II) (CDDP). In this study, we found that ATP7A transfection of Chinese hamster ovary cells

Related Links

- ▶ Modulation of the cellular pharmacology of JM118, the r [Cancer Chemother Pharmacol. 2006]
- ▶ Expression of multidrug resistance-associated protein in NIH/3T3 cells con [Cancer Res. 1995]
- ▶ ATP-Dependent efflux of CPT-11 and SN-38 by the multidrug resistan [Mol Pharmacol. 1999]
- ▶ Human multidrug resistance associated protein 4 confers resistance [Pharm Res. 2005]
- ▶ Role of ABCG2 as a biomarker for predicting resistance to CPT-11/SN-38 [Cancer Sci. 2006]



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The screenshot shows the PubMed search interface. At the top left is the NCBI logo. The main header features the PubMed logo and the text "A service of the National Library of Medicine and the National Institutes of Health" with the URL "www.pubmed.gov". Below the header is a navigation bar with tabs for "All Databases", "PubMed", "Nucleotide", "Protein", "Genome", "Structure", "OMIM", and "PM". The search bar contains the text "Search PubMed" and a dropdown menu set to "PubMed". The search query is "menkes disease". There are buttons for "Go", "Clear", and "Save Search". Below the search bar are tabs for "Limits", "Preview/Index", "History", "Clipboard", and "Details". The "Details" tab is selected, showing a "Query Translation" section with the text: "menkes kinky hair syndrome"[MeSH Terms] OR menkes disease [Text Word]. At the bottom of the query translation section are buttons for "Search" and "URL". Below the query translation is a "Result:" section.

Details = Interprétation des requêtes soumises à PubMed

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