

# Ontology Explorer



Enzyme Database - BRENDA - Mozilla Firefox

http://134.169.106.62/index.php4

Erste Schritte Aktuelle Nachrichten BRENDA™ Setup Wiz...

**BRENDA home**  
 login  
 history  
 All enzymes

**BRENDA**  
 The Comprehensive Enzyme Information System

TU Braunschweig  
 Dept. of Bioinformatics

SEARCH-Navigator  
 close all  open all  
 Nomenclature  
 Reaction & Specificity  
 Functional Parameters  
 Organism related Information  
 Enzyme Structure  
 Isolation & Preparation  
 Stability  
 Disease & References  
 Application & Engineering

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Release 2008.2

EC-Number Enzyme Name **Organism** Protein Full text Advanced Search


Search Display 10 entries

Latest BRENDA update: June 2008

Nomenclature	Reaction & Specificity	Functional Parameters
Enzyme Names EC Number Common/ Recommended Name Systematic Name Synonyms CAS Registry Number	Pathway Catalysed Reaction Reaction Type Natural Substrates and Products Substrates and Products Substrates Natural Substrate Products Natural Product Inhibitors Cofactors	Km Value Ki Value IC50 Value pI Value Turnover Number Specific Activity pH Optimum pH Range Temperature Optimum Temperature Range
<b>Isolation &amp; Preparation</b>		<b>Organism-related information</b> Organism Source Tissue Localization Protein-Specific Search
<b>Stability</b> pH Stability Temperature Stability General Stability Organic Solvent Stability Oxidation Stability Storage Stability	<b>Enzyme Structure</b> Sequence/ SwissProt link 3D-Structure/ PDB link Molecular Weight Subunits Posttranslational Modification	<b>Disease &amp; References</b> Disease References <b>Application &amp; Engineering</b> Engineering Application

Webmaster: **Maurice Scheer**  
 n.scheer@tu-bs.de

For access to all features of the website Javascript must be activated, frames enabled and Java (at least version 1.4) has to be installed

 **Ontology Browser and search engine**

## First some definitions:

### Ontology:

Ontologies attend to several scopos as an instrument for structuring and for data exchange to connect already existant knowledge. Ontology is a formal representation of a set of concepts within a domain and the relationships between those concepts. It is used to reason about the properties of that domain, and may be used to define the domain. Ontologies are commonly encoded using Ontology languages. The BRENDA Ontologies section allows to search in all publicly available ontologies of biochemical, anatomic, developmental, chemical and medical terms such as Gene Ontology. If possible, terms are cross-linked to other ontologies and BRENDA enzyme data.

### Controlled vocabularies:

Controlled vocabularies provide a way to organize knowledge for subsequent retrieval. They are used in subject indexing schemes, subject headings, thesauri and taxonomies. Controlled vocabulary schemes mandate the use of predefined, authorised terms that have been preselected by the designer of the vocabulary, in contrast to natural language vocabularies, where there is no restriction on the vocabulary.

## First some definitions:

### GO (Gene Ontology project):

The GO provides a controlled vocabulary to describe gene and gene product attributes in any organism. Consisting of two parts:

Ontology: Molecular function of gene products; their role in multi-step biological processes; and their localization to cellular components.

Annotation: Characterization of gene products using terms from the ontology.

### BTO (BRENDA Tissue Ontology):

A hierarchical ontology for enzyme sources or tissue. The enzymes of multicellular organisms are either found in all parts of the body or are restricted to a single tissue. The Source/Tissue field comprises terms of tissues, cell lines and cell types from uni- and multicellular organisms. BRENDA has developed its own ontology corresponding to the rules and formats of the GO Consortium, thus providing the first (enzyme source) ontology for all organisms. The tissue tree is divided into four areas: animal, plant, fungi and other source. The whole body of an animal, for example, is divided into 18 subtrees, i. e. the skeletal, hematopoietic and visceral systems. Each different cell type, cancer cell type or cell line is assigned to the tissue from which it has developed or to which it is related. The BTO numbers are unique for each term. Most of the terms have definitions and synonyms included and different relationships are defined between terms, like `part of', `develops from', `is a' or simply `is related to'.

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http://www.brenda-enzymes.info/

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**Ontology explorer**

**Fulltext Search** offers an easy access to the different ontologies (tissues, processes, components, functions, ...)

**Search in a specific ontology**

Ontology	status	version	terms	in tree	synonyms	definitions	contact	home	doc	source
<b>anatomy</b>										
<b>BTO (BRENDA Tissue Ontology)</b>	online	2008-05-01	3403	3403	2346	2761				
<b>Plant Structure</b>			49	749	1132	809				
<b>Maize gross anatomy</b>	online		180	180	51	136				
<b>eVOC - Anatomical System</b>	online	2004				0				
<b>Fungal gross anatomy</b>										
<b>Zebrafish anatomy and development</b>										
<b>Drosophila gross anatomy</b>										
<b>Mosquito gross anatomy</b>										
<b>Mouse adult gross anatomy</b>										
<b>Dictyostelium discoideum anatomy</b>										
<b>Arabidopsis gross anatomy</b>										
<b>eVOC - Cell type</b>										
<b>others</b>										

**BTO:**  
A structured controlled vocabulary for the source of an enzyme. It comprises terms of tissues, cell lines, cell types and cell cultures from uni- and multicellular organisms.

http://www.brenda-enzymes.info/ontology/inc/tree/index.php4?ontology\_id=3

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Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://134.169.106.62/index.php4

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Fulltext Search offers an easy access to the

**Search in a specific ontology**

Ontology

**anatomy**

	TisS	Tissues and Sources	online	200															
	Plant	Plant Structure Ontology	online	200															
	Maize	Maize gross anatomy	online	200															
	eVOC	eVOC - Anatomical System	online	200															
	Fga	Fungal gross anatomy	online	200															
	Zad	Zebrafish anatomy and development	online	200															
	Dro	Drosophila gross anatomy	online	200															
	Mos	Mosquito gross anatomy	online	2008															
	Mga	Mouse adult gross anatomy	online	2008-05															
	Mus	Dictyostellium discoideum anatomy	online	2008-01-30	138	138	0	138											
	Mus	Arabidopsis gross anatomy	online	2008-03-26	794	794	272	848											
	eVOC	eVOC - Cell type	online	2005-06-29	162	162	28	0											

**others**

if you use ontologies the first time it is highly recommended to view the short tutorial (2 min animation)  
**START ANIMATION**

**Ontology**

Categories for specific ontology:

- anatomy
- others
- chemical
- development
- genomic and proteomic
- phenotype

http://134.169.106.62/ontology/index.php4

Start Enzyme Database - B... LEO Ergebnisse für "... TOSHIBA (F:) Short tutorial - Open... DE 11:40

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ontology: **Tissues and Sources** version date:2007-10-25

term: contains membrane use AND (NOT) or OR

synonym: contains use AND (NOT) or OR

definition: contains use AND (NOT) or OR

ID: contains

reference: contains all types of reference

restrict to BRENDA links:  
 tissue

**Search**

**Details**  
vitelline membrane

**BRENDA** vitelline membrane

Tissues and Sources ID  
BTO:0001450

**Definition**  
The cytoplasmic, noncellular membrane surrounding animal cells, especially the membrane enveloping the yolk of animals, especially the membrane enveloping the yolk of animals.

**Synonyms**  
yolk sac membrane

**References**  
From Merriam-Webster's Online Dictionary at

**Results**  
4 different results found

- fetal membrane
- myelin membrane
- peritrophic membrane
- vitelline membrane

**Tree View**  
4 hits found in tree

Tissues and Sources

- brain stem
- brenda source tissue ontology
  - animal
    - whole body
      - adult stem cell
      - body wall
      - cardiovascular system
      - connective tissue
      - embryonic structure
      - gland
      - hematopoietic system
      - integument
      - limb
      - muscular system
      - nervous system

**Search in a specific ontology, for example: "Tissues and Sources".**

Fertig

Start Enzyme Database - B... LEO Ergebnisse für "..." TOSHIBA (F:) Short tutorial - Open... http://134.169.106.6... DE 13:42

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**TisS**

ontology: **Tissues and Sources**

term: contains membrane

synonym: contains

definition: contains

ID: contains

reference: contains all types of reference

Search

5 search fields:

- term
- synonym
- definition
- ID
- reference

**Details**

**vitelline membrane**

**BRENDA** [vitelline membrane](#)

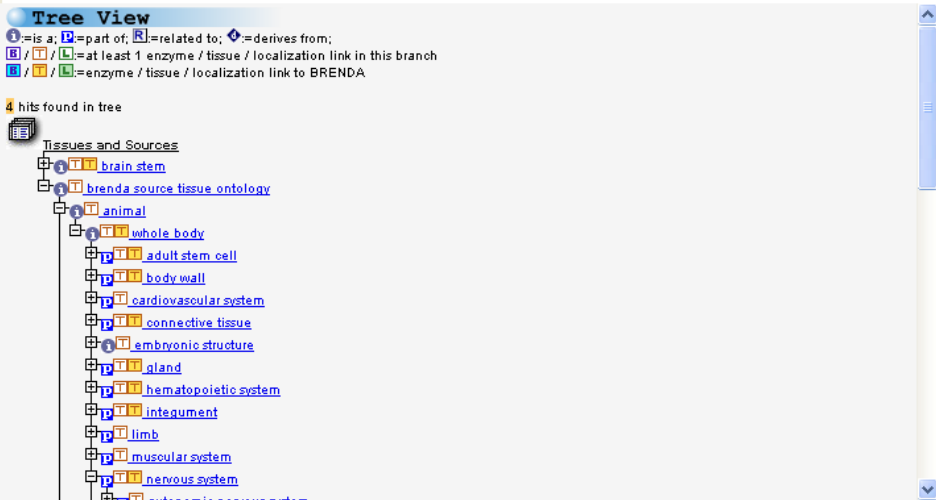
**Tissues and Sources ID**  
BTO:0001450

**Definition**  
The cytoplasmic, noncellular membrane surrounding the eggs of various animals, especially the membrane enveloping the yolk of teleostichth...

**Synonyms**  
yolk sac membrane

**References**  
From Merriam-Webster's Online Dictionary at

- Results**
- 4 different results found
- fetal membrane
  - myelin membrane
  - peritrophic membrane
  - vitelline membrane



**SEARCH-Navigator**

close all open all

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ontology: **Tissues and Sources** version date: 2007

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synonym: contains use AND (NOT) or OR

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**Details**

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**BRENDA** vitelline membrane

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yolk sac membrane

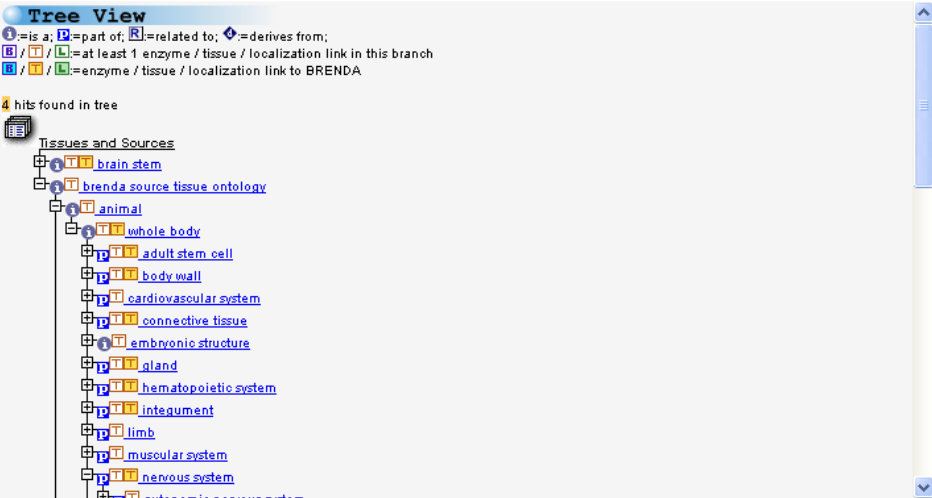
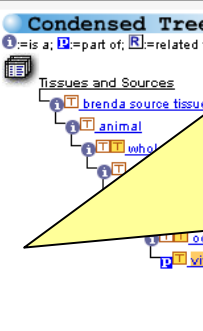
**References**  
From Merriam-Webster's Online Dictionary at

**Results**

enzyme / tissue / localization link to BRENDA

4 different results found

- fetal membrane
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The BRENDA ontology is divided into 5 different areas:

- Search
- Details
- Results
- Condensed tree view
- Tree view

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- SEARCH-Navigator**
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**TisS** ontology: **Tissues and Sources** version date: 2007-10-25

term: contains membrane use AND (NOT) or OR

synonym: contains use AND (NOT) or OR

definition: contains use AND (NOT) or OR

ID: contains

reference: contains all types of references

restrict to BRENDA links:  tissue

**Search**

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**Details**

**vitelline membrane**

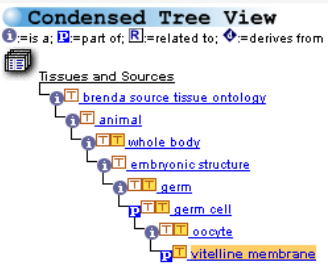
**BRENDA** vitelline membrane

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- 4 different results found
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**Search**

**SEARCH-Navigator**  
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**Details** **Condensed Tree View**

**vitelline membrane**

**BRENDA** vitelline membrane

**Tissues and Sources ID**  
BTO:0001450

**Definition**  
The cytoplasmic, noncellular membrane surrounding the animals, especially the membrane enveloping the yolk

**Synonyms**  
yolk sac membrane

**References**  
From Merriam-Webster's Online Dictionary at

**Results**  
4 different results found

- fetal membrane
- myelin membrane
- peritrophic membrane
- vitelline membrane

Shows all query results. 3 icons indicate, if a BRENDA link is available:

- T Tissue link to BRENDA
- L Localization link to BRENDA
- B Link to comprehensive recordset

brain stem  
brenda source tissue ontology  
animal  
whole body  
adult stem cell  
body wall  
cardiovascular system  
connective tissue  
embryonic structure  
gland  
hematopoietic system  
integument  
limb  
muscular system  
nervous system

Fertig

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SEARCH-Navigator

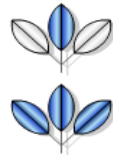
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Result Options



[Search for \*myelin membrane\* in BRENDA Source / Tissues](#)

You will find all results in the table Source / Tissues with the term 'myelin membrane'

[Search for \*myelin membrane\* and all ramifications of \*myelin membrane\* in BRENDA Source / Tissues](#)

1 distinct terms which have been found in BRENDA Source / Tissues found downstream myelin membrane:  
[myelin membrane](#)



[example](#)

All exact hits in BRENDA

All hits in BRENDA below this node in the ontology tree

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Any question? -> Use the BRENDA Discussion groups

**Search Source Tissue**

myelin membrane exact

Don't show organism specific information  
 Search organism in taxonomic tree (slow  
(Not possible to combine with the first option))

Recommended Name:   
 EC Number:

Commentary:  contains

*Organism:*  contains

Reference:  contains

**Show additional data**

do not include text mining results  
 include **AMENDA results** (Automatic Mining of Enzyme Data; [more...](#))

If you click , you get directly to enzyme data.

:= amino acid sequences = comprehensive online version = show the catalyzed reaction  
 Results 1 - 4 of 4

download this result as tab stop separated values  
 (Excel, OpenOffice) format

Source	EC Number	Recommended Name	Source Tissue	Commentary	Reference
AMENDA	3.1.3.5	5'-nucleotidase	<a href="#">myelin membrane</a>	AMENDA reliability ++	<a href="#">887847</a>
BRENDA	3.1.4.2	glycerophosphocholine phosphodiesterase	<a href="#">myelin membrane</a>	-	<a href="#">95133</a>
AMENDA	3.4.21.113	pestivirus NS3 polyprotein peptidase	<a href="#">myelin membrane</a>	AMENDA reliability ++	<a href="#">728671</a>
AMENDA	3.4.21.113	pestivirus NS3 polyprotein peptidase	<a href="#">myelin membrane</a>	AMENDA reliability +	<a href="#">1691280</a>

Results 1 - 4 of 4

download this result as tab stop separated values  
 (Excel, OpenOffice) format

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### All search results for '*myelin membrane*' downstream the Source Tissue tree

4 results found

EC Number	Recommended Name	Source / Tissue	Organism	Commentary	References
3.1.3.5	5'-nucleotidase	myelin membrane	Rattus	AMENDA reliability ++	867847
3.1.4.2	glycerophosphocholine phosphodiesterase	myelin membrane	Bos taurus		95133
3.4.21.113	pestivirus NS3 polyprotein peptidase	myelin membrane	Bos taurus	AMENDA reliability ++	728671
3.4.21.113	pestivirus NS3 polyprotein peptidase	myelin membrane	Bos taurus	AMENDA reliability +	1691280

If you click  , you get directly to enzyme data below this node in the ontology tree.

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ontology: **Tissues and Sources** version date: 2007-10-25

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synonym: contains use AND (NOT) or OR

definition: contains use AND (NOT) or OR

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restrict to BRENDA links:  
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**Search**

**Details**

**vitelline membrane**

**BRENDA** vitelline membrane

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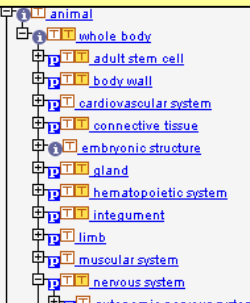
- fetal membrane
- myelin membrane
- peritrophic membrane
- vitelline membrane

**Search modes:**

- contains
- exact
- begins with
- ends with
- wildcard \*
- regular expression

**Condensed Tree View**  
is a; is part of; is related to; derives from

Tissues and Sources



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ontology: **Tissues and Sources**

term: contains membrane use AND

synonym: contains use AND

definition: contains

ID: contains

reference: contains

**Details**

**vitelline membrane**

**BRENDA** vitelline membrane

**Tissues and Sources ID**  
BTO:0001450

**Definition**  
The cytoplasmic, noncellular membrane surrounding the eggs of various animals, especially the membrane enveloping the yolk of teleostichal

**Synonyms**  
yolk sac membrane

**References**  
From Merriam-Webster's Online Dictionary at

**Results**

4 different results found

- fetal membrane
- myelin membrane
- peritrophic membrane
- vitelline membrane

**Tree View**

4 hits found in tree

Tissues and Sources

- brain stem
- brenda source tissue ontology
  - animal
    - whole body
      - adult stem cell
      - body wall
      - cardiovascular system
      - connective tissue
      - embryonic structure
      - gland
      - hematopoietic system
      - integument
      - limb
      - muscular system
      - nervous system

If you click on a term in the result list or in one of the ontology trees all **details** of a result (ID, definition, synonyms, and references) are shown. References are linked if available.

Fertig

Start Enzyme Database - B... LEO Ergebnisse für "... TOSHIBA (F:) Short tutorial - Open... http://134.169.106.6... DE 13:42

Enzyme Database - BRENDA - Mozilla Firefox

http://www.brenda-enzymes.info/

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**TiSS**  
ontology: **Tissues and Sources**  
term: contains membrane use AND (ND)  
synonym: contains use AND (ND)  
definition: contains use AND (ND)  
ID: contains  
reference: contains all types of references

**Details**  
**vitelline membrane**  
**BRENDA** vitelline membrane  
**Tissues and Sources ID**  
BTO:0001450  
**Definition**  
The cytoplasmic, noncellular membrane surrounding the eggs of var  
animals, especially the membrane enveloping the yolk of telolecithal  
**Synonyms**  
1. yolk sac membrane  
**References**  
1. From Merriam-Webster's Online Dictionary at

**Results**  
4 different results found  
1. fetal membrane  
2. myelin membrane  
3. peritrophic membrane  
4. vitelline membrane

**Tree View**  
is a; is part of; is related to; derives from;  
at least 1 enzyme / tissue / localization link in this branch  
hits found in tree  
**Tissues and Sources**  
brain stem  
brenda source tissue ontology  
animal  
whole body  
adult stem cell  
body wall  
cardiovascular system  
connective tissue  
embryonic structure  
gland  
hematopoietic system  
integument  
limb  
muscular system  
nervous system

The "Tree View" presents an overview where found results (terms marked with orange background) are located in the tree. The view is similar to a file browser. You can open and close "folders" by clicking on the + or -.

Fertig

Start Enzyme Database - B... LEO Ergebnisse für "..." TOSHIBA (F:) Short tutorial - Open... http://134.169.106.6... DE 13:42

Enzyme Database - BRENDA - Mozilla Firefox

http://www.brenda-enzymes.info/

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Fertig

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atics

The Comp...

ontology: **Tissues and Sources**  
term: contains membrane use AND  
synonym: contains use AN  
definition: contains use AN  
ID: contains  
reference: contains all types of references

Details

**BRENDA**  
Tissues and Sources  
BTO:0001450  
Definition  
The cytoplasmic, noncellular membrane, especially the membrane of the yolk sac.  
Synonyms  
1. yolk sac membrane  
References  
1. From Merriam-Webster  
Results  
4 different results found  
1. fetal membrane  
2. myelin membrane  
3. peritrophic membrane  
4. vitelline membrane

Tree View  
i:=is a; p:=part of; r:=related to  
B / T / L:=at least 1 enzyme  
B / T / L:=enzyme / tissue / location

4 hits found in tree

Tissues and Sources

- brain stem
- brenda source tissue
- animal
  - whole body
  - adult stem
  - body wall
  - cardiovascular system
  - connective tissue
  - embryonic structure
  - gland
  - hematopoietic system
  - integument
  - limb
  - muscular system
  - nervous system

Three icons ( **B** , **T** , **L** ) indicate that at least one reference in BRENDA is available. If icons have a colored background, this is a direct link to BRENDA. If the icon background is white, this is a hint that more terms with a BRENDA link are further down this node. A click on this type of icon opens all these terms.



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If you use ontologies the first time it is highly recommended to view the short tutorial (2 min animation)  
**START ANIMATION**

# Ontology explorer

**Fulltext Search** offers an easy access to the different ontologies (tissues, processes, components, functions, ...)

## Search in a specific ontology

Ontology	status	versto	synonyms	definitions	contact	home	doc	source
<b>anatomy</b>								
Tiss								
Plant	online	2005-06-21	749	749	1132	809		
Maiz	online	2005-08-09	180	180	51	136		
eVOC	online	2005-06-29	395	395	44	0		
Fga	online	2005-08-09	66	66	15	64		
Zad	online	2007-10-24	2133	2133	1166	921		
Dro	online	2007-04-11	6025	6025	0	577		
Mos	online	2007-09-05	1861	1861	0	1860		
Mga	online	2007-09-21	2746	2746	349	0		
Mus	online	2007-10-28	129	129	0	129		
Mus	online	2007-08-14	1	1	264	829		
eVOC	online	2005-06-29	162	162	28	0		
<b>others</b>								

Full Search ontologies

**SEARCH-Navigator**

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## Fulltext Search ontologies

(tissue, processes, functions, components)

Enter your searchterm (use **AND, OR, AND NOT** for simple Boolean queries)

membrane contains Search

Search in all ontologies

or

search only in selected ontologies

(hold the ctrl-key to select more than one field)

Enter your search term

ontology	distinct terms	terms in tree	definitions	synonyms	references
<b>anatomy</b>					
1. Tissues and Sources	4	4	69	9	2
2. Plant Structure Ontology	-	-	2	-	-
3. Maize gross anatomy	-	-	-	-	-
4. eVOC - Anatomical System	-	-	-	1	-
5. Fungal gross anatomy	-	-	1	-	-
6. Zebrafish anatomy and development	3	3	24	-	-
7. Drosophila gross anatomy	14	14	7	-	-
8. Mosquito gross anatomy	8	8	48	-	-
9. Mouse adult gross anatomy	11	11	-	3	-
10. Dictyostelium discoideum anatomy	-	-	2	-	-
11. Arabidopsis gross anatomy	-	-	-	-	-
12. eVOC - Cell type	-	-	-	-	-
<b>others</b>					
ontology	distinct terms	terms in tree	definitions	synonyms	references
13. Gene ontology	891	891	1875	-	-
14. Biological imaging methods	-	-	-	-	-
15. Medical Subject Headings (MeSH)	39	39	462	66	-
16. Pathway ontology	-	-	17	-	-
17. Systems Biology	-	-	-	-	-
18. Event (INOH pathway ontology)	65	65	15	-	-
19. Molecule role	2	2	10	-	-

**SEARCH-Navigator**  
 close all  open all

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## Fulltext Search ontologies

(tissue, processes, functions, components)

Enter your searchterm (use **AND, OR, AND NOT** for simple Boolean queries)

membrane

Search in all ontologies **or** search only in selected ontologies

(hold the ctrl-key to select more than one field)

**Search modes:**

- contains
- begins with
- ends with
- use \* as a wildcard
- regular expression

### Examples

Click to start the examples

### Different search modes

Enter your searchterm (use **AND, OR, AND NOT** for simple Boolean queries)

Search in all ontologies **or** search only in selected ontologies

(hold the ctrl-key to select more than one field)

for simple Boolean queries

- s contains
- s exact
- s begins with
- s ends with
- s use \* as wildcard
- s regular expression

Click the link to start the examples

- exact Find all fields which **exact** 'apoptosis' in all ontologies
- contains Find all fields which **contains** 'apoptosis' in all ontologies
- begins with Find all fields which **begins with** 'alpha' in all ontologies
- ends with Find all fields which **ends with** 'hydrogenase' in all ontologies
- use \* as wildcard Use the search mode **use \* as wildcard** to find e.g. all fields beginning with two characters ( ) followed by phospho, any characters and ends with activity => **'\_phospho\*activity'** in all ontologies
- regular expression This search mode is definitely an **expert mode**. If you are not familiar with regular expressions read an introduction at wikipedia. Here a simple example (reductase|dehydrogenase).\*NAD(((P)))?

Enzyme Database - BRENDA - Mozilla Firefox

http://www.brenda-enzymes.info/

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**BRENDA**  
The Comprehensive Enzyme Information System

TU Braunschweig  
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(tissue, processes, functions, components)

Enter your searchterm (use **AND**, **OR**, **AND NOT** for simple Boolean queries)

membrane contains

Search in all ontologies

or

search only in selected ontologies

- Molecule role(INOH Protein name/family name onto
- FlyBase Controlled Vocabulary
- chemical**
- Chemical entities of biological
- Physical-chemical
- Physico-chemical processes
- development**
- Arabidopsis development
- Drosophila development
- Human developmental anatomy(timed version)
- Human developmental anatomy(chronological)

(hold the ctrl-key to select more than one field)

**Examples**

Click to start the examples

**Different search modes**

Click the icons to start example search!

link	Description
exact	Find exact 'liver' in all ontologies
contains	Find all fields which contains 'apoptosis' in all ontologies
begins with	Find all fields which begins with 'alpha' in all ontologies
ends with	Find all fields which ends with 'hydrogenase' in all ontologies
use * as wildcard	Use the search mode use * as wildcard to find e.g. all fields beginning with two characters ( ) followed by phospho, any characters and ends with activity => '_phospho*activity' in all ontologies
regular expression	This search mode is definitely an expert mode. If you are not familiar with regular expressions read an introduction at wikipedia. Here a simple example '(reductase dehydrogenase).*NAD((P DP))?'

for simple Boolean queries

contains Search

- s contains
- exact
- begins with
- ends with
- 1 use \* as wildcard
- s regular expression

Use 'AND', 'OR', or 'AND NOT' as logical links between search terms

Enter your searchterm (use **AND**, **OR**, **AND NOT**)

Select the ontologies:

- anatomy
- others
- chemical
- development
- genomic and proteomic
- phenotype

with some subitems.

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## Fulltext Search ontologies

(tissue, processes, functions, components)

Enter your searchterm (use **AND, OR, AND NOT** for simple Boolean queries)

membrane contains Search

Search in all ontologies

or

search only in selected ontologies

**anatomy**

- Tissues and Sources
- Plant Structure Ontology
- Maize gross anatomy
- eVOC - Anatomical System
- Fungal gross anatomy
- Zebrafish anatomy and development
- Drosophila gross anatomy
- Mosquito gross anatomy
- Mouse adult gross anatomy

(hold the ctrl-key to select more than one field)

anatomy					
ontology	distinct terms	terms in tree	definitions	synonyms	references
1. Tissues and Sources	4	4	69	9	2
2. Plant Structure Ontology	-	-	2	-	-
3. Maize gross anatomy	-	-	-	-	-
4. eVOC - Anatomical System	-	-	-	1	-
5. Fungal gross anatomy	-	-	1	-	-
6. Zebrafish anatomy and development	3	3	24	-	-
7. Drosophila gross anatomy	14	14	7	-	-
8. Mosquito gross anatomy	8	8	48	-	-
9. Mouse adult gross anatomy	11	11	-	3	-
10. Dictyostelium discoideum anatomy	-	-	2	-	-
11. Arabidopsis gross anatomy	-	-	-	-	-
12. eVOC - Cell type	-	-	-	-	-
others					
ontology	distinct terms	terms in tree	definitions	synonyms	references
13. Gene ontology	891	891	1875	-	-
14. Biological imaging methods	-	-	-	-	-
15. Medical Subject Headings (MeSH)	39	39	462	66	-
16. Pathway ontology	-	-	17	-	-
17. Systems Biology	-	-	-	-	-
18. Event (INOH pathway ontology)	65	65	15	-	-
19. Molecule role	2	2	10	-	-

Results

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## Fulltext Search ontologies

(tissue, processes, functions, components)

Enter your searchterm (use **AND, OR, AND NOT** for simple Boolean queries)

membrane contains Search

Search in all ontologies

or

search only in selected ontologies

**anatomy**

- Tissues and Sources
- Plant Structure Ontology
- Maize gross anatomy
- eVOC - Anatomical System
- Fungal gross anatomy
- Zebrafish anatomy and development
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- Mouse adult gross anatomy

examples

(hold the ctrl-key to select more than one field)

anatomy					
ontology	distinct terms	terms in tree	definitions	synonyms	references
1. Tissues and Sources	4	4	69	9	2
2. Plant Structure Ontology	-	-	2	-	-
3. Maize gross anatomy	-	-	-	-	-
4. eVOC - Anatomical System	-	-	-	1	-
5. Fungal gross anatomy	-	-	1	-	-
6. Zebrafish anatomy and development	3	3	24	-	-
7. Drosophila gross anatomy	14	14	7	-	-
8. Mosquito gross anatomy	8	8	-	-	-
9. Mouse adult gross anatomy	11	11	-	-	-
10. Dictyostelium discoideum anatomy	-	-	-	-	-
11. Arabidopsis gross anatomy	-	-	-	-	-
12. eVOC - Cell type	-	-	-	-	-
others					
ontology	distinct term				
13. Gene ontology	891	-	-	-	-
14. Biological imaging methods	-	-	-	-	-
15. Medical Subject Headings (MeSH)	39	39	462	66	-
16. Pathway ontology	-	-	17	-	-
17. Systems Biology	-	-	-	-	-
18. Event (INOH pathway ontology)	65	65	15	-	-
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Click on the resulting numbers for more information.

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### Fulltext Search ontologies

(tissue, processes, functions, components)

Enter your searchterm (use **AND, OR, AND NOT** for simple Boolean queries)

contains  Search

Search in all ontologies

or

search only in selected ontologies

- anatomy
- Tissues and Sources
- Plant Structure Ontology
- Maize gross anatomy
- eVOC - Anatomical System
- Fungal gross anatomy
- Zebrafish anatomy
- Drosophila gross anatomy
- Mosquito gross anatomy
- Mouse gross anatomy

(hold the ctrl-key to select more than one field)

### Examples

Click to start the examples

### Different search modes

Click the icons to start the examples

link Description

- exact Find exact 'liver' in all ontologies
- contains Find all fields which contains 'apoptosis' in all ontologies
- begins with Find all fields which begins with 'alpha' in all ontologies
- ends with Find all fields which ends with 'hydrogenase' in all ontologies
- use \* as wildcard Use the search mode use \* as wildcard to find e.g. all fields beginning with two characters ( ) followed by phospho, any characters and ends with activity => '\_phospho\*activity' in all ontologies
- regular expression This search mode is definitely an expert mode. If you are not familiar with regular expressions read an introduction at wikipedia. Here a simple example '(reductase|dehydrogenase).\*NAD((|P))?)'

Click to start the different examples for "Fulltext Search ontologies".

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### Fulltext Search ontologies

(tissue, processes, functions, components)

Enter your searchterm (use **AND, OR, AND NOT** for simple Boolean queries)

contains [v] Search

Search in all ontologies

or

search only in selected ontologies

- anatomy
- Tissues and Sources
- Plant Structure Ontology
- Maize gross anatomy
- eVOC - Anatomical System
- Fungal gross anatomy
- Zebrafish anatomy and development
- Drosophila gross anatomy
- Mosquito gross anatomy
- Mouse adult gross anatomy

(hold the ctrl-key to select more than one field)

### Examples

Click to start the examples

#### Different search modes

Click the icon

link Descr

exact

Find exact matches

contains

Find all fields which contain 'phosphatase' in all ontologies

begins with

Find all fields which begin with 'alpha' in all ontologies

ends with

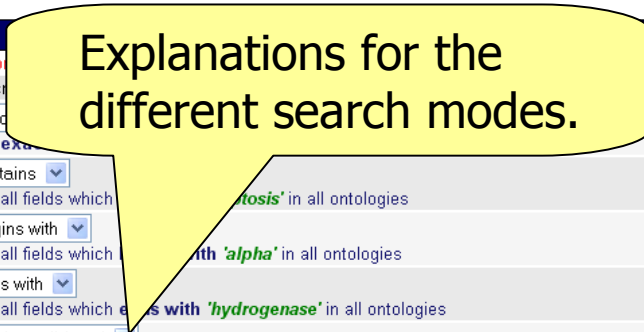
Find all fields which end with 'hydrogenase' in all ontologies

use \* as wildcard

Use the search mode **use \* as wildcard** to find e.g. all fields beginning with two characters ( ) followed by phospho, any characters and ends with activity => **'\_phospho\*activity'** in all ontologies

regular expression

This search mode is definitely an **expert mode**. If you are not familiar with regular expressions read an introduction at wikipedia. Here a simple example '(reductase|dehydrogenase).\*NAD((|P))?'



Ideas for *BRENDA's*  
improvement welcome !!!