

DeCS services

Right of access

For copyright protection, DeCS web services are offered free of charge through a license of use. Therefore, we ask that you first fill out our [Standard DeCS Pre-License Agreement Form](#).

Once we receive this information, we will send you a license for each language requested.

Forms of access

DeCS services allow the remote retrieval, referred to as http, of its concepts through three search types: the search by hierarchical code, the search by words and the search by boolean operators.

Hierarchical Search

The hierarchical search allows searching DeCS terms by their hierarchical codes. The hierarchical code goes through the "tree_id" parameter.

When the "tree_id" parameter is empty, as in the url:

```
http://decs.bvsalud.org/cgi-bin/mx/cgi=@vmx/decs/?tree\_id=
```

the service produces first level of DeCS hierarchical categories.

But, when "B01.050.150.900.649.313.988.400.112.199.120.510.550" is chosen:

```
http://decs.bvsalud.org/cgi-bin/mx/cgi=@vmx/decs/?tree\_id=B01.050.150.900.649.313.988.400.112.199.120.510.550
```

the retrieved concept is the term "Macaca mulatta".

It is possible to determine the language of the search results by adding the "lang" parameter in the url, with either the value "pt" for Portuguese (&lang=pt), "es" for Spanish (&lang=es) or "en" for English (&lang=en). When not specified, the default language is Portuguese (&lang=pt).

The last search example showing the result in Spanish would present the following url:

```
http://decs.bvsalud.org/cgi-bin/mx/cgi=@vmx/decs/?tree\_id=B01.050.150.900.649.313.988.400.112.199.120.510.550&lang=es
```

Search by words

This type of search permits, through the "words" parameter, searching word by word, which are internally connected with an AND operator.

In the url below:

```
http://decs.bvsalud.org/cgi-bin/mx/cgi=@vmx/decs/?words=Macaca mulatta
```

the expression " Macaca mulatta" is internally converted to "Macaca AND mulatta".

The search by words is performed in the DeCS index containing the main heading, synonyms and historical terms, all of them indexed word by word.

Just like in the hierarchical search, the "lang" parameter may be used to specify the language in which the result will be displayed, Portuguese being the default when the parameter is not specified.

Search by boolean operators

This type of search allows the use of a boolean expression through "bool" search parameter, where the terms are connected by the boolean operators AND, OR and AND NOT, as in the example below:

```
http://decs.bvsalud.org/cgi-bin/mx/cgi=@vmx/decs/?bool=macaca AND mulatta
```

It is possible to specify what index will be used for the search, by placing its code (see "Search Index Prefixes" below) as a prefix to the search expression:

```
<index/prefix code> <search expression>
```

Examples with operators and indexes

The following search:

```
http://decs.bvsalud.org/cgi-bin/mx/cgi=@vmx/decs/?bool=101 Macaca OR 101 mulatta
```

searches the terms "Macaca" or "mulatta" in the index created by the entire field with only authorized terms.

If, instead of 101, it had been used the prefix 407 (word by word, authorized term, synonyms and historical notes), the terms "Macaca mulatta", "Macaca nemestrina" and "Macaca radiata" would also have been retrieved.

If the index code to be searched is not specified, the default index will be the word by word, authorized term, synonyms and historical terms (prefix 407).

If the search expression contains no boolean operators, then it will be considered as the entire field.

Thus, the url

```
http://decs.bvsalud.org/cgi-bin/mx/cgi=@vmx/decs/?bool=Macaca mulatta
```

retrieves nothing because the term "Macaca mulatta" is considered a whole field and will be searched as an index term that has been indexed word by word.

The following url:

```
http://decs.bvsalud.org/cgi-bin/mx/cgi=@vmx/decs/?bool=107 Macaca mulatta
```

retrieves "Macaca mulatta" because that term appears in the indexed index with the whole field.

Prefixes of search index

101 - whole field, authorized term

102 - whole field, synonyms

104 - whole field, historical terms

103 - whole field, authorized term and synonyms

105 - whole field, authorized term and historical terms

106 - whole field, synonyms and historical terms

107 - whole field, authorized term, synonyms and historical terms

401 - word by word, authorized term

402 - word by word, synonyms

404 - word by word, historical terms

403 - word by word, authorized term and synonyms

405 - word by word, authorized term and historical terms

406 - word by word, synonyms and historical terms

407 - word by word, authorized term, synonyms and historical terms

Note: a prefix of search index applies to the search term that follows it.

Description of the search result in XML

The result of a query of DeCS services is an XML file. For better understanding of the meaning of the tags that constitute such file, there is a commented example of the search result for "107 Macaca mulatta".

Commented example

Term

On the top part of the result page, the service shows the format, XML, the character code, UTF-8, the descvmx system version, 1.0, the date, hour, minute and second, 20100625 141408, in which the search was done, the sought term, Macaca mulatta, and its hierarchical code, B01.050.150.900.649.801.400.112.199.120.550, when a descriptor equal to the sought term exists.

```
<?xml version="1.0" encoding="UTF-8"?>
<descvmx version="1.0" date="20100625 141408" query="107 macaca mulatta">
<decsws_response service=""
tree_id="B01.050.150.900.649.801.400.112.199.120.510.550">
```

Then, the service shows the result data in two ways, a hierarchical view and the complete record view:

1. the hierarchical position of the descriptor found, of its broader descriptors (or ancestors), of its brother descriptors (whose hierarchical codes are of equal level or length), called preceding and following siblings), and of its specific descriptors (or descendants).
2. the complete record of the descriptor found.

When the result contains two or more records, the service shows the the hierarchical position of the first and the complete record of the first, the hierarchical position of the second and the complete record of the second, and so on.

The hierarchical view contains the following fields and parameters:

- self** - descriptor of the sought term;
- ancestors** - broader (or more general) descriptors;
- preceding_sibling** - brother descriptors (of equal hierarchical level), which precede the self;
- following_sibling** - brother descriptors (of equal hierarchical level), which succeed the self;
- term** - name of the category or general descriptor, in the language selected in the DeCSClient;
- descendants** - descriptors more specific than the self;
- tree_id** - hierarchical code of the name of the category, generic descriptor, self, sibling or descendant;
- leaf** - indicates the most specific descriptor in the hierarchical structure;
- lang** - language of the content

The complete record contains the following fields and parameters:

- lang** - language of the content
- db** - name of the database
- mfn** - record number in the database
- tree_id** - the descriptor's hierarchical code;
- descriptor** - the preferred term for representing the concept, in the language specified in the lang parameter;
- synonym** - the alternative (or non-preferred) term in the language selected in the DeCSClient;
- definition** - the definition or scope note in the language selected in the DeCSClient;
- indexing_annotation** - notes to the indexers for indexing documents more properly, in the language selected in the lang parameter in the DeCSClient;
- pharmacological_action_list** - references to the pharmacological actions (other descriptors) of the descriptor;
- consider_also_terms_at** - other Greek and Latin prefixes, with equal meaning;
- entry_combination_list** - this field is presented as an indication that a combination of a qualifier and a descriptor should be indexed by a different descriptor. It forbids, and on some systems prevents, the establishment of a relationship between a qualifier and a descriptor, forbidden because the meaning can be expressed in a different manner covered by a different descriptor. For example, the descriptor/qualifier combination 'Pregnancy/complications' is forbidden, and the user is pointed to the descriptor 'Pregnancy Complications'.
- see_related_list** - list of related descriptors in other hierarchical branches;
- allowable_qualifier** - List of two letter abbreviations of the qualifiers allowed to be used with the descriptor (format used in bibliographical searches);
- unique_identifier_nlm** - MeSH/NLM's unique identifier code, that is, the unchangeable identification code for the one concept or group of concepts found in one electronic MeSH record (UI).

Hierarchical view of the sought descriptor:

```
<tree>
```

Hierarchical code and descriptor found relative to the term or code sought:

```
<self>
  <term_list lang="pt">
    <term tree_id="B01.050.150.900.649.801.400.112.199.120.510.550"
leaf="true">Macaca mulatta</term>
  </term_list>
</self>
```

List of hierarchical codes and respective broader (or ancestor) descriptors:

```
<ancestors>
  <term_list lang="pt">
    <term tree_id="B">ORGANISMOS</term>
    <term tree_id="B01">Eucariotos</term>
    <term tree_id="B01.050">Animais</term>
    <term tree_id="B01.050.150">Cordados</term>
    <term tree_id="B01.050.150.900">Vertebrados</term>
    <term tree_id="B01.050.150.900.649">Mamíferos</term>
    <term tree_id="B01.050.150.900.649.801">Primatas</term>
    <term tree_id="B01.050.150.900.649.801.400">Haplorhini</term>
    <term tree_id="B01.050.150.900.649.801.400.112">Catarrinos</term>
    <term tree_id="B01.050.150.900.649.801.400.112.199">Cercopithecidae</term>
    <term
tree_id="B01.050.150.900.649.801.400.112.199.120">Cercopithecinae</term>
      <term tree_id="B01.050.150.900.649.801.400.112.199.120.510">Macaca</term>
    </term_list>
  </ancestors>
```

List of hierarchical codes and preceding siblings:

```
<preceding_sibling>
  <term_list lang="pt">
    <term tree_id="B01.050.150.900.649.801.400.112.199.120.510.520"
leaf="true">Macaca fascicularis</term>
  </term_list>
</preceding_sibling>
```

List of hierarchical codes and following siblings:

```
<following_sibling>
  <term_list lang="pt">
    <term tree_id="B01.050.150.900.649.801.400.112.199.120.510.560"
leaf="true">Macaca nemestrina</term>
    <term tree_id="B01.050.150.900.649.801.400.112.199.120.510.570"
leaf="true">Macaca radiata</term>
  </term_list>
</following_sibling>
```

```
</term_list>
</following_sibling>
```

List of hierarchical codes and descendant (narrower) terms: in this example there are none:

```
<descendants>
  <term_list lang="pt">
  </term_list>
</descendants>
```

End of the hierarchical view of the *Macaca mulatta* descriptor:

```
</tree>
```

Beginning of the list of records found:

```
<record_list>
```

Complete record view (all fields)

Identification of the language, the database and the record ID code (in this case, only one record was found):

```
<record lang="pt" db="decs" mfn="8425">
```

List of descriptor terms in English, Spanish and Portuguese:

```
<descriptor_list>
  <descriptor lang="en">Macaca mulatta</descriptor>
  <descriptor lang="es">Macaca mulatta</descriptor>
  <descriptor lang="pt">Macaca mulatta</descriptor>
</descriptor_list>
```

List of entry terms (synonyms, near synonyms, cross-references or Used For (UF)), in Portuguese:

```
<synonym_list>
  <synonym>Macaco Rhesus</synonym>
</synonym_list>
```

List of hierarchical codes:

```
<tree_id_list>
  <tree_id>B01.050.150.900.649.801.400.112.199.120.510.550</tree_id>
</tree_id_list>
```

Definition or scope note:

```
<definition>
  <occ n="Espécie do gênero MACACA que habita a Índia, China e outras partes da
  Ásia. A espécie é utilizada
  extensamente em pesquisa biomédica e se adapta bem a viver com humanos."/>
</definition>
```

Indexing annotation:

```
<indexing_annotation>macaco do Velho Mundo; secundário quando animal de
laboratório: sem qualif; quando primário,
permite qualif; doenças: coord como primário com DOENÇAS DOS MACACOS (como
primário)</indexing_annotation>
```

List of pharmacological actions: (used only with chemicals)

```
<pharmacological_action_list/>
```

Consider also terms at (other Greek and Latin prefixes and bases, with equal meaning):

```
<consider_also_terms_at/>
```

List of entry combinations:

```
<entry_combination_list/>
```

List of related descriptors from other hierarchical branches. This example has none:

```
<see_related_list/>
```

List of allowable qualifier two letter abbreviations:

```
<allowable_qualifier_list>
  <allowable_qualifier>AB</allowable_qualifier>
  <allowable_qualifier>AH</allowable_qualifier>
  <allowable_qualifier>BL</allowable_qualifier>
  <allowable_qualifier>CF</allowable_qualifier>
  <allowable_qualifier>CL</allowable_qualifier>
  <allowable_qualifier>EM</allowable_qualifier>
  <allowable_qualifier>GD</allowable_qualifier>
  <allowable_qualifier>GE</allowable_qualifier>
  <allowable_qualifier>IM</allowable_qualifier>
  <allowable_qualifier>IN</allowable_qualifier>
  <allowable_qualifier>ME</allowable_qualifier>
  <allowable_qualifier>MI</allowable_qualifier>
  <allowable_qualifier>PH</allowable_qualifier>
  <allowable_qualifier>PS</allowable_qualifier>
```

```
<allowable_qualifier>PX</allowable_qualifier>  
<allowable_qualifier>SU</allowable_qualifier>  
<allowable_qualifier>UR</allowable_qualifier>  
<allowable_qualifier>VI</allowable_qualifier>  
</allowable_qualifier_list>
```

MeSH's unique identifier code:

```
<unique_identifier_nlm>D008253</unique_identifier_nlm>
```

End of the record:

```
</record>
```

End of the list of records:

```
</record_list>  
</decsws_response>  
</decsvmx>
```