

# Package ‘MeSHDbi’

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**Title** DBI to construct MeSH-related package from sqlite file

**Description** The package is unified implementation of MeSH.db, MeSH.AOR.db, and MeSH.PCR.db and also is interface to construct GeneMeSH package (MeSH.XXX.eg.db). loadMeSHDbiPkg import sqlite file and generate MeSH.XXX.eg.db.

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**Depends** R (>= 3.0.1)

**Imports** methods, AnnotationDbi (>= 1.31.19), RSQLite, Biobase

**Suggests** testthat

**License** Artistic-2.0

**biocViews** Annotation, AnnotationData, Infrastructure

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## Description

MeSHDb is the simple class for providing the relationship between Entrez gene IDs and MeSH IDs. It provides the database connection and easily accessible with `columns`, `keytypes`, `keys` and `select`. Some users may use additional functions such as `dbconn`, `dbfile`, `dbschema`, `dbInfo`, `species`, `nomenclature`, `listDatabases`, and `meshVersion` for much complex data acquisition.

`columns` shows which kinds of data can be returned for the MeSHDb object.

`keytypes` allows the user to discover which keytypes can be passed in to `select` or `keys` and the keytype argument.

`keys` returns keys for the database contained in the MeSHDb object . This method is already documented in the keys manual page but is mentioned again here because it's usage with `select` is so intimate. By default it will return the primary keys for the database, but if used with the keytype argument, it will return the keys from that keytype.

`select` will retrieve the data as a `data.frame` based on parameters for selected keys, columns, and keytype arguments.

`dbconn` returns the connection with database in the package.

`dbfile` returns the absolute path sqlite file is saved.

`dbschema` returns the database schema.

`dbInfo` returns the many meta information about the package.

`species` returns the species name.

`nomenclature` returns the scientific name.

`listDatabases` returns the list of databases to correspond Gene ID and MeSH ID.

`meshVersion` returns the version of MeSH.

## Usage

```
columns(x)
keytypes(x)
keys(x, keytype, ...)
select(x, keys, columns, keytype, ...)
dbconn(x)
dbfile(x)
dbschema(x, file = "", show.indices = FALSE)
dbInfo(x)
species(object)
nomenclature(x)
listDatabases(x)
meshVersion(x)
```

## Arguments

|                      |                                                                                                                                                                                 |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>x</code>       | the MeSHDb object converted by <code>MeSHDbi::MeSHDb</code> .                                                                                                                   |
| <code>object</code>  | same as <code>x</code>                                                                                                                                                          |
| <code>keys</code>    | the keys to select records for from the database. All possible keys are returned by using the <code>keys</code> method.                                                         |
| <code>columns</code> | the columns or kinds of things that can be retrieved from the database. As with <code>keys</code> , all possible columns are returned by using the <code>columns</code> method. |

|              |                                                                                                                                                                                                                                  |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| keytype      | the keytype that matches the keys used. For the select methods, this is used to indicate the kind of ID being used with the keys argument. For the keys method this is used to indicate which kind of keys are desired from keys |
| ...          | other arguments.                                                                                                                                                                                                                 |
| file         | The file argument must be a connection, or a character string naming the file to print to (see the file argument of the <a href="#">cat</a> function for the details).                                                           |
| show.indices | The CREATE INDEX statements are not shown by default. Use show.indices=TRUE to get them.                                                                                                                                         |

## Value

keys, columns, keytypes, dbfile, dbInfo, species, and nomenclature each return a character vector or possible values. select, dbschema, listDatabases, and meshVersion each return a data.frame. dbconn returns database connection.

## Author(s)

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## See Also

[dbConnect](#)

## Examples

```
# library("MeSHDbi")
# library("AnnotationHub")

# # Data retrieval from AnnotationHub
# ah <- AnnotationHub()
# dbfile <- query(ah, c("MeSHDb", "Bombyx mori", "v001"))[[1]]

# # Constructor
# MeSH.Sil.eg.db <- MeSHDbi::MeSHDb(dbfile)

# # show
# MeSH.Sil.eg.db

# # dbconn
# dbconn(MeSH.Sil.eg.db)

# # dbfile
# dbfile(MeSH.Sil.eg.db)

# # dbschema
# dbschema(MeSH.Sil.eg.db)

# # dbInfo
# dbInfo(MeSH.Sil.eg.db)

# # species
# species(MeSH.Sil.eg.db)

# # nomenclature
# nomenclature(MeSH.Sil.eg.db)
```

```
# # listDatabases
# listDatabases(MeSH.Sil.eg.db)

# # meshVersion
# meshVersion(MeSH.Sil.eg.db)

# # columns
# cols <- columns(MeSH.Sil.eg.db)

# # keytypes
# kys <- keytypes(MeSH.Sil.eg.db)

# # keys
# ks <- keys(MeSH.Sil.eg.db, keytype="GENEID")[seq(10)]

# # select
# out <- select(MeSH.Sil.eg.db,
#   columns=cols,
#   keys=ks,
#   keytype="GENEID")
```

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