org.Hs.eg.db

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org.Hs.egACCNUM  Map Entrez Gene identifiers to GenBank Accession Numbers

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Description

org.Hs.egACCNUM is an R object that contains mappings between Entrez Gene identifiers and GenBank accession numbers.
Details


Examples

```r
x <- org.Hs.egACCNUM
# Get the entrez gene identifiers that are mapped to an ACCNUM
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
  # Get the ACCNUM for the first five genes
  xx[1:5]
  # Get the first one
  xx[[1]]
}
# For the reverse map ACCNUM2EG:
# Convert to a list
xx <- as.list(org.Hs.egACCNUM2EG)
if(length(xx) > 0){
  # Gets the entrez gene identifiers for the first five Entrez Gene IDs
  xx[1:5]
  # Get the first one
  xx[[1]]
}
```

org.Hs.egALIAS2EG Map between Common Gene Symbol Identifiers and Entrez Gene

Description

org.Hs.egALIAS is an R object that provides mappings between common gene symbol identifiers and entrez gene identifiers.

Details

Each gene symbol maps to a named vector containing the corresponding entrez gene identifier. The name of the vector corresponds to the gene symbol. Since gene symbols are sometimes redundantly assigned in the literature, users are cautioned that this map may produce multiple matching results for a single gene symbol. Users should map back from the entrez gene IDs produced to determine which result is the one they want when this happens.

Because of this problem with redundant assignment of gene symbols, it is never advisable to use gene symbols as primary identifiers.

This mapping includes ALL gene symbols including those which are already listed in the SYMBOL map. The SYMBOL map is meant to only list official gene symbols, while the ALIAS maps are meant to store all used symbols.

**org.Hs.eg.db**

**Bioconductor annotation data package**

**Description**

Welcome to the org.Hs.eg.db annotation Package. This is an organism specific package. The purpose is to provide detailed information about the species abbreviated in the second part of the package name org.Hs.eg.db. "Hs" is for Homo sapiens. This package is updated biannually.

You can learn what objects this package supports with the following command:

```r
ls("package:org.Hs.eg.db")
```

Each of these objects has their own manual page detailing where relevant data was obtained along with examples of how to use it. Many of these objects also have a reverse map available. When this is true, expect to usually find relevant information on the same manual page as the forward map.

**Examples**

```r
ls("package:org.Hs.eg.db")
```
Examples

```r
tt <- org.Hs.egCHRLENGTHS
# Length of chromosome 1
tt[*1*]
```

---

### Description

`org.Hs.egCHRLOC` is an R object that maps entrez gene identifiers to the starting position of the gene. The position of a gene is measured as the number of base pairs.

The CHRLOCEND mapping is the same as the CHRLOC mapping except that it specifies the ending base of a gene instead of the start.

### Details

Each entrez gene identifier maps to a named vector of chromosomal locations, where the name indicates the chromosome.

Chromosomal locations on both the sense and antisense strands are measured as the number of base pairs from the p (5' end of the sense strand) to q (3' end of the sense strand) arms. Chromosomal locations on the antisense strand have a leading "-" sign (e.g. -1234567).

Since some genes have multiple start sites, this field can map to multiple locations.

Mappings were based on data provided by: UCSC Genome Bioinformatics (Homo sapiens) (ftp://hgdownload.cse.ucsc.edu/goldenPath/currentGenomes/Homo_sapiens) on 2008-Sep3

### Examples

```r
x <- org.Hs.egCHRLOC
# Get the entrez gene identifiers that are mapped to chromosome locations
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
  # Get the CHRLOC for the first five genes
  xx[1:5]
  # Get the first one
  xx[[1]]
}
```
**org.Hs.egCHR**  
*Map Entrez Gene IDs to Chromosomes*

**Description**

`org.Hs.egCHR` is an R object that provides mappings between entrez gene identifiers and the chromosome that contains the gene of interest.

**Details**

Each entrez gene identifier maps to a vector of a chromosome.


**Examples**

```r
x <- org.Hs.egCHR
# Get the entrez gene identifiers that are mapped to a chromosome
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
  # Get the CHR for the first five genes
  xx[1:5]
  # Get the first one
  xx[[1]]
}
```

**org.Hs.eg_dbconn**  
*Collect information about the package annotation DB*

**Description**

Some convenience functions for getting a connection object to (or collecting information about) the package annotation DB.

**Usage**

```r
org.Hs.eg_dbconn()
org.Hs.eg_dbfile()
org.Hs.eg_dbschema(file = "", show.indices = FALSE)
org.Hs.eg_dbInfo()
```

**Arguments**

- `file` A connection, or a character string naming the file to print to (see the file argument of the `cat` function for the details).
- `show.indices` The CREATE INDEX statements are not shown by default. Use `show.indices=TRUE` to get them.
Details

org.Hs.eg_dbconn returns a connection object to the package annotation DB. IMPORTANT: Don’t call `dbDisconnect` on the connection object returned by `org.Hs.eg_dbconn` or you will break all the `AnnDbObj` objects defined in this package!

org.Hs.eg_dbfile returns the path (character string) to the package annotation DB (this is an SQLite file).

org.Hs.eg_dbschema prints the schema definition of the package annotation DB.

org.Hs.eg_dbInfo prints other information about the package annotation DB.

Value

- org.Hs.eg_dbconn: a DBIConnection object representing an open connection to the package annotation DB.
- org.Hs.eg_dbfile: a character string with the path to the package annotation DB.
- org.Hs.eg_dbschema: none (invisible NULL).
- org.Hs.eg_dbInfo: none (invisible NULL).

See Also

dbGetQuery, dbConnect, dbconn, dbfile, dbschema, dbInfo

Examples

```r
## Count the number of rows in the "genes" table:
dbGetQuery(org.Hs.eg_dbconn(), "SELECT COUNT(*) FROM genes")

## The connection object returned by org.Hs.eg_dbconn() was created with:
dbConnect(SQLite(), dbname=org.Hs.eg_dbfile(), cache_size=64000, synchronous=0)
org.Hs.eg_dbschema()
org.Hs.eg_dbInfo()
```

---

**org.Hs.egENSEMBLPROT**

**Map Ensembl protein accession numbers with Entrez Gene identifiers**

Description

`org.Hs.egENSEMBL` is an R object that contains mappings between Entrez Gene identifiers and Ensembl protein accession numbers.

Details


Mappings were based on data provided by:
Examples

```r
x <- org.Hs.egENSEMBLPROT
# Get the entrez gene IDs that are mapped to an Ensembl ID
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
    # Get the Ensembl gene IDs for the first five proteins
    xx[1:5]
    # Get the first one
    xx[[1]]
}
```

For the reverse map ENSEMBLPROT2EG:

```r
xx <- as.list(org.Hs.egENSEMBLPROT2EG)
if(length(xx) > 0) {
    # Gets the entrez gene IDs for the first five Ensembl IDs
    xx[1:5]
    # Get the first one
    xx[[1]]
}
```

### org.Hs.egENSEMBL

**Description**

`org.Hs.egENSEMBL` is an R object that contains mappings between Entrez Gene identifiers and Ensembl gene accession numbers.

### Details


This mapping is a combination of NCBI to ensembl IDs from BOTH NCBI and ensembl. Users who wish to only use mappings from NCBI are encouraged to see the ncbi2ensembl table in the appropriate organism package. Users who wish to only use mappings from ensembl are encouraged to see the ensembl2ncbi table which is also found in the appropriate organism packages. These mappings are based upon the ensembl table which contains data from BOTH of these sources in an effort to maximize the chances that you will find a match.

### Examples

```r
x <- org.Hs.egENSEMBL
# Get the entrez gene IDs that are mapped to an Ensembl ID
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
    # Get the Ensembl gene IDs for the first five genes
    xx[1:5]
    # Get the first one
    xx[[1]]
}
```
xx[1:5]
# Get the first one
xx[[1]]
#
#For the reverse map ENSEMBL2EG:
# Convert to a list
xx <- as.list(org.Hs.egENSEMBL2EG)
if(length(xx) > 0){
  # Gets the entrez gene IDs for the first five Ensembl IDs
  xx[1:5]
  # Get the first one
  xx[[1]]
}

Description

org.Hs.egENSEMBL TRANS is an R object that contains mappings between Entrez Gene identifiers and Ensembl transcript accession numbers.

Details


Examples

x <- org.Hs.egENSEMBL TRANS
# Get the entrez gene IDs that are mapped to an Ensembl ID
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
  # Get the Ensembl gene IDs for the first five proteins
  xx[1:5]
  # Get the first one
  xx[[1]]
}
#
#For the reverse map ENSEMBLTRANS2EG:
# Convert to a list
xx <- as.list(org.Hs.egENSEMBLTRANS2EG)
if(length(xx) > 0){
  # Gets the entrez gene IDs for the first five Ensembl IDs
  xx[1:5]
  # Get the first one
  xx[[1]]
}
**Description**

`org.Hs.egENZYME` is an R object that provides mappings between entrez gene identifiers and EC numbers.

**Details**

Each entrez gene identifier maps to a named vector containing the EC number that corresponds to the enzyme produced by that gene. The name corresponds to the entrez gene identifier. If this information is unknown, the vector will contain an `NA`.

Enzyme Commission numbers are assigned by the Nomenclature Committee of the International Union of Biochemistry and Molecular Biology [http://www.chem.qmw.ac.uk/iubmb/enzyme/](http://www.chem.qmw.ac.uk/iubmb/enzyme/) to allow enzymes to be identified.

An Enzyme Commission number is of the format EC x.y.z.w, where x, y, z, and w are numeric numbers. In `org.Hs.egENZYME2EG`, EC is dropped from the Enzyme Commission numbers.

Enzyme Commission numbers have corresponding names that describe the functions of enzymes in such a way that EC x is a more general description than EC x.y that in turn is a more general description than EC x.y.z. The top level EC numbers and names are listed below:

- EC 1 oxidoreductases
- EC 2 transferases
- EC 3 hydrolases
- EC 4 lyases
- EC 5 isomerases
- EC 6 ligases

The EC name for a given EC number can be viewed at [http://www.chem.qmul.ac.uk/iupac/jcbn/index.html#6](http://www.chem.qmul.ac.uk/iupac/jcbn/index.html#6).


For the reverse map, each EC number maps to a named vector containing the entrez gene identifier that corresponds to the gene that produces that enzyme. The name of the vector corresponds to the EC number.

**References**


**Examples**

```r
x <- org.Hs.egENZYME
# Get the entrez gene identifiers that are mapped to an EC number
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
```
org.Hs.egGENENAME

Map between Entrez Gene IDs and Genes

Description

org.Hs.egGENENAME is an R object that maps entrez gene identifiers to the corresponding gene name.

Details

Each entrez gene identifier maps to a named vector containing the gene name. The vector name corresponds to the entrez gene identifier. If the gene name is unknown, the vector will contain an NA.

Gene names currently include both the official (validated by a nomenclature committee) and preferred names (interim selected for display) for genes. Efforts are being made to differentiate the two by adding a name to the vector.


Examples

```r
x <- org.Hs.egGENENAME
# Get the gene names that are mapped to an entrez gene identifier
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
  # Get the GENE NAME for the first five genes
  xx[1:5]
  # Get the first one
  xx[[1]]
}
Description

org.Hs.egGO2ALLEGS is an R object that provides mappings between a given GO identifier and all Entrez Gene identifiers annotated at that GO term or one of its children in the GO ontology.

Details

GO consists of three ontologies—molecular function (MF), biological process (BP), and cellular component (CC). All ontologies are structured as directed acyclic graphs (DAGs). Each node in each DAG (tree) is a GO term (id) associated with a named vector of manufacturer identifiers. The name associated with each Entrez Gene id corresponds to the evidence code for that GO identifier. This object org.Hs.egGO2ALLEGS maps between a given GO identifier and all Entrez Gene identifiers annotated at that GO term or one of its children in the GO ontology.

The evidence code indicates what kind of evidence supports the association between the GO and Entrez Gene identifiers. Evidence codes currently in use include:

- IMP - inferred from mutant phenotype
- IGI - inferred from genetic interaction
- IPI - inferred from physical interaction
- ISS - inferred from sequence similarity
- IDA - inferred from direct assay
- IEP - inferred from expression pattern
- IEA - inferred from electronic annotation
- TAS - traceable author statement
- NAS - non-traceable author statement
- ND - no biological data available
- IC - inferred by curator

A GO identifier may be mapped to the same Entrez Gene identifier more than once but the evidence code can be different. Mappings between Gene Ontology identifiers and Gene Ontology terms and other information are available in a separate data package named GO.


References


Examples

# Convert to a list
xx <- as.list(org.Hs.egGO2ALLEGS)
if(length(xx) > 0){
  # Gets the Entrez Gene identifiers for the top 2nd and 3nd GO identifiers
goids <- xx[2:3]
# Gets all the Entrez Gene identifiers for the first element of goids
goids[[1]]
# Evidence code for the mappings
names(goids[[1]])

---

**org.Hs.egGO**  
*Map between Entrez Gene IDs and Gene Ontology (GO)*

**Description**

*org.Hs.egGO* is an R object that provides mappings between entrez gene identifiers and the GO identifiers that they are directly associated with. This mapping and its reverse mapping do NOT associate the child terms from the GO ontology with the gene. Only the directly evidenced terms are represented here.

**Details**

Each Entrez Gene identifier is mapped to a list of lists. The names on the outer list are GO identifiers. Each inner list consists of three named elements: GOID, Ontology, and Evidence.

The GOID element matches the GO identifier named in the outer list and is included for convenience when processing the data using 'lapply'.

The Ontology element indicates which of the three Gene Ontology categories this identifier belongs to. The categories are biological process (BP), cellular component (CC), and molecular function (MF).

The Evidence element contains a code indicating what kind of evidence supports the association of the GO identifier to the Entrez Gene id. The evidence codes in use include:

- **IMP**: inferred from mutant phenotype
- **IGI**: inferred from genetic interaction
- **IPI**: inferred from physical interaction
- **ISS**: inferred from sequence similarity
- **IDA**: inferred from direct assay
- **IEP**: inferred from expression pattern
- **IEA**: inferred from electronic annotation
- **TAS**: traceable author statement
- **NAS**: non-traceable author statement
- **ND**: no biological data available
- **IC**: inferred by curator

Mappings between entrez gene identifiers and GO information were obtained through their mappings to Entrez Gene identifiers. NAs are assigned to entrez gene identifiers that can not be mapped to any Gene Ontology information. Mappings between Gene Ontology identifiers an Gene Ontology terms and other information are available in a separate data package named GO.

Mappings were based on data provided by: Gene Ontology (ftp://ftp.geneontology.org/pub/go/godatabase/archive/latest) on 200903

For the reverse map GO2EG, each GO term maps to a named vector of entrez gene identifiers. A GO identifier may be mapped to the same entrez gene identifier more than once but the evidence code can be different. Mappings between Gene Ontology identifiers and Gene Ontology terms and other information are available in a separate data package named GO.
org.Hs.egMAPCOUNTS

Number of mapped keys for the maps in package org.Hs.eg.db

Description

org.Hs.egMAPCOUNTS provides the "map count" (i.e. the count of mapped keys) for each map in package org.Hs.eg.db.

Details

This "map count" information is precalculated and stored in the package annotation DB. This allows some quality control and is used by the checkMAPCOUNTS function defined in AnnotationDbi to compare and validate different methods (like count(mappedkeys(x)) or sum(!is.na(as.list(x)))) for getting the "map count" of a given map.

See Also

mappedkeys, count(mappedkeys), checkMAPCOUNTS
Examples

```r
org.Hs.egMAPCOUNTS
mapnames <- names(org.Hs.egMAPCOUNTS)
org.Hs.egMAPCOUNTS[mapnames[1]]
x <- get(mapnames[1])
sum(!is.na(as.list(x)))
count.mappedkeys(x)  # much faster!
```

```r
## Check the "map count" of all the maps in package org.Hs.eg.db
checkMAPCOUNTS("org.Hs.eg.db")
```

---

**Description**

`org.Hs.egMAP` is an R object that provides mappings between entrez gene identifiers and cytoband locations.

**Details**

Each entrez gene identifier is mapped to a vector of cytoband locations. The vector length may be one or longer, if there are multiple reported chromosomal locations for a given gene. An NA is reported for any entrez gene identifiers that cannot be mapped to a cytoband at this time.

Cytogenetic bands for most higher organisms are labeled p1, p2, p3, q1, q2, q3 (p and q are the p and q arms), etc., counting from the centromere out toward the telomeres. At higher resolutions, sub-bands can be seen within the bands. The sub-bands are also numbered from the centromere out toward the telomere. Thus, a label of 7q31.2 indicates that the band is on chromosome 7, q arm, band 3, sub-band 1, and sub-sub-band 2.

The physical location of each band on a chromosome can be obtained from another object named "organism"CYTOLOC in a separate data package for human(humanCHRLOC), mouse(mouseCHRLOC), and rat(ratCHRLOC).


**References**


**Examples**

```r
x <- org.Hs.egMAP
# Get the entrez gene identifiers that are mapped to any cytoband
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
  # Get the ids for the first five genes
  xx[1:5]
  # Get the first one
  xx[[1]]
}
org.Hs.egOMIM

Map between Entrez Gene Identifiers and Mendelian Inheritance in Man (MIM) identifiers

Description

org.Hs.egOMIM is an R object that provides mappings between entrez gene identifiers and OMIM identifiers.

Details

Each entrez gene identifier is mapped to an OMIM identifier. An NA is reported for any entrez gene identifier that cannot be mapped to an OMIM identifier at this time.

OMIM is based upon the book Mendelian Inheritance in Man (V. A. McKusick) and focuses primarily on inherited or heritable genetic diseases. It contains textual information, pictures, and reference information that can be searched using various terms, among which the MIM number is one.


References


Examples

```r
x <- org.Hs.egOMIM
# Get the entrez gene identifiers that are mapped to a OMIM ID
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
  # Get the OMIM for the first five genes
  xx[1:5]
  # Get the first one
  xx[[1]]
}
```

# For the reverse map:
\texttt{x <- org.Hs.egOMIM2EG}

\texttt{# Get the OMIM IDs that are mapped to the entrez gene IDs}
\texttt{mapped_OMIMs <- mappedkeys(x)}

\texttt{# Convert to a list}
\texttt{xx <- as.list(x[mapped_OMIMs])}

\texttt{if(length(xx) > 0) {}
  \texttt{# Get the entrez gene ID for the first five genes}
  \texttt{xx[1:5]}
  \texttt{# Get the first one}
  \texttt{xx[[1]]}
\texttt{}}

---

\textbf{org.Hs.egORGANISM} \quad \textit{The Organism for org.Hs.eg}

\textbf{Description}

\emph{org.Hs.egORGANISM} is an R object that contains a single item: a character string that names the organism for which \texttt{org.Hs.eg} was built.

\textbf{Details}

Although the package name is suggestive of the organism for which it was built, \texttt{org.Hs.egORGANISM} provides a simple way to programmatically extract the organism name.

\textbf{Examples}

\texttt{org.Hs.egORGANISM}

---

\textbf{org.Hs.egPATH} \quad \textit{Mappings between Entrez Gene identifiers and KEGG pathway identifiers}

\textbf{Description}

KEGG (Kyoto Encyclopedia of Genes and Genomes) maintains pathway data for various organisms. \texttt{org.Hs.egPATH} maps entrez gene identifiers to the identifiers used by KEGG for pathways.

\textbf{Details}

Each KEGG pathway has a name and identifier. Pathway name for a given pathway identifier can be obtained using the KEGG data package that can either be built using AnnBuilder or downloaded from Bioconductor \url{http://www.bioconductor.org}.

Graphic presentations of pathways are searchable at url \url{http://www.genome.ad.jp/kegg/pathway.html} by using pathway identifiers as keys.

Mappings were based on data provided by: KEGG GENOME (\url{ftp://ftp.genome.jp/pub/kegg/organisms}) on 2009-Mar10.

\textbf{References}

\url{http://www.genome.ad.jp/kegg/}
Examples

```r
x <- org.Hs.egPATH
# Get the entrez gene identifiers that are mapped to a KEGG pathway ID
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
    # Get the PATH for the first five genes
    xx[1:5]
    # Get the first one
    xx[[1]]
}

# For the reverse map:
# Convert the object to a list
xx <- as.list(org.Hs.egPATH2EG)
# Remove pathway identifiers that do not map to any entrez gene id
xx <- xx[!is.na(xx)]
if(length(xx) > 0) {
    # The entrez gene identifiers for the first two elements of XX
    xx[1:2]
    # Get the first one
    xx[[1]]
}
```

org.Hs.egPFAM

Map Entrez Gene IDs to Pfam IDs

Description

org.Hs.egPFAM is an R object that provides mappings between an entrez gene identifier and the associated Pfam identifiers.

Details

Each entrez gene identifier maps to a named vector of Pfam identifiers. The name for each Pfam identifier is the IPI accession numbe where this Pfam identifier is found.

If the Pfam is a named NA, it means that the associated Entrez Gene id of this entrez gene identifier is found in an IPI entry of the IPI database, but there is no Pfam identifier in the entry.

If the Pfam is a non-named NA, it means that the associated Entrez Gene id of this entrez gene identifier is not found in any IPI entry of the IPI database.

Mappings were based on data provided by: The International Protein Index (ftp://ftp.ebi.ac.uk/pub/databases/IPI/current) on 2009-Mar03

References

Examples

```r
x <- org.Hs.egPFAM
# Get the entrez gene identifiers that are mapped to any Pfam ID
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
# randomly display 10 genes
sample(xx, 10)
```

Description

org.Hs.egPMID is an R object that provides mappings between entrez gene identifiers and PubMed identifiers.

Details

Each entrez gene identifier is mapped to a named vector of PubMed identifiers. The name associated with each vector corresponds to the entrez gene identifier. The length of the vector may be one or greater, depending on how many PubMed identifiers a given entrez gene identifier is mapped to. An NA is reported for any entrez gene identifier that cannot be mapped to a PubMed identifier.

Titles, abstracts, and possibly full texts of articles can be obtained from PubMed by providing a valid PubMed identifier. The pubmed function of annotate can also be used for the same purpose.


References


Examples

```r
x <- org.Hs.egPMID
# Get the entrez gene identifiers that are mapped to any PubMed ID
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0){
  # The entrez gene identifiers for the first two elements of XX
  xx[1:2]
  # Get the first one
  xx[[1]]
  if(interactive() && !is.null(xx[[1]]) && !is.na(xx[[1]])
    && require(annotate)){
    # Gets article information as XML files
    xmls <- pubmed(xx[[1]], disp = "data")
    # Views article information using a browser
    pubmed(xx[[1]], disp = "browser")
  }
}
```
For the reverse map:
# Convert the object to a list
xx <- as.list(org.Hs.egPMID2EG)
if(length(xx) > 0){
    # The entrez gene identifiers for the first two elements of XX
    xx[1:2]
    # Get the first one
    xx[[1]]
    if(interactive() && require(annotate)){
        # Gets article information as XML files for a PubMed id
        xmls <- pubmed(names(xx)[1], disp = "data")
        # Views article information using a browser
        pubmed(names(xx)[1], disp = "browser")
    }
}

org.Hs.egPROSITE Map Entrez Gene IDs to PROSITE ID

Description

org.Hs.egPROSITE is an R object that provides mappings between a entrez gene identifier and the associated PROSITE identifiers.

Details

Each entrez gene identifier maps to a named vector of PROSITE identifiers. The name for each PROSITE identifier is the IPI accession number where this PROSITE identifier is found.

If the PROSITE is a named NA, it means that the associated Entrez Gene id of this entrez gene identifier is found in an IPI entry of the IPI database, but there is no PROSITE identifier in the entry.

If the PROSITE is a non-named NA, it means that the associated Entrez Gene id of this entrez gene identifier is not found in any IPI entry of the IPI database.

Mappings were based on data provided by: The International Protein Index (ftp://ftp.ebi.ac.uk/pub/databases/IPI/current) on 2009-Mar03

References


Examples

```
x <- org.Hs.egPROSITE
# Get the entrez gene identifiers that are mapped to any PROSITE ID
mapped_genes <- mappedkeys(x)
# Convert to a list
xxx <- as.list(x[mapped_genes])
# randomly display 10 genes
xxx[sample(1:length(xxx), 10)]
```
org.Hs.egREFSEQ  

Map between Entrez Gene Identifiers and RefSeq Identifiers

Description

org.Hs.egREFSEQ is an R object that provides mappings between entrez gene identifiers and RefSeq identifiers.

Details

Each entrez gene identifier is mapped to a named vector of RefSeq identifiers. The name represents the entrez gene identifier and the vector contains all RefSeq identifiers that can be mapped to that entrez gene identifier. The length of the vector may be one or greater, depending on how many RefSeq identifiers a given entrez gene identifier can be mapped to. An NA is reported for any entrez gene identifier that cannot be mapped to a RefSeq identifier at this time.

RefSeq identifiers differ in format according to the type of record the identifiers are for as shown below:

- NG_XXXXX: RefSeq accessions for genomic region (nucleotide) records
- NM_XXXXX: RefSeq accessions for mRNA records
- NC_XXXXX: RefSeq accessions for chromosome records
- NP_XXXXX: RefSeq accessions for protein records
- XR_XXXXX: RefSeq accessions for model RNAs that are not associated with protein products
- XM_XXXXX: RefSeq accessions for model mRNA records
- XP_XXXXX: RefSeq accessions for model protein records

Where XXXXX is a sequence of integers.


References


Examples

```r
x <- org.Hs.egREFSEQ
# Get the entrez gene identifiers that are mapped to any RefSeq ID
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
  # Get the REFSEQ for the first five genes
  xx[1:5]
  # Get the first one
  xx[[1]]
}

# For the reverse map:
```
Map between Entrez Gene Identifiers and Gene Symbols

Description

org.Hs.egSYMBOL is an R object that provides mappings between entrez gene identifiers and gene abbreviations.

Details

Each entrez gene identifier is mapped to the a common abbreviation for the corresponding gene. An NA is reported if there is no known abbreviation for a given gene.

Symbols typically consist of 3 letters that define either a single gene (ABC) or multiple genes (ABC1, ABC2, ABC3). Gene symbols can be used as key words to query public databases such as Entrez Gene.


References


Examples

x <- org.Hs.egSYMBOL
# Get the gene symbol that are mapped to an entrez gene identifiers
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
  # Get the SYMBOL for the first five genes
  xx[1:5]
  # Get the first one
  xx[[1]]
}

# For the reverse map:
x <- org.Hs.egSYMBOL2EG
# Get the entrez gene identifiers that are mapped to a gene symbol
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
    # Get the entrez gene ID for the first five genes
    xx[1:5]
    # Get the first one
    xx[[1]]
}

org.Hs.egUNIGENE  Map between Entrez Gene Identifiers and UniGene cluster identifiers

Description

org.Hs.egUNIGENE is an R object that provides mappings between entrez gene identifiers and UniGene identifiers.

Details

Each entrez gene identifier is mapped to a UniGene identifier. An NA is reported if the entrez gene identifier cannot be mapped to UniGene at this time.

A UniGene identifier represents a cluster of sequences of a gene. Using UniGene identifiers one can query the UniGene database for information about the sequences.


References


Examples

x <- org.Hs.egUNIGENE
# Get the Unigene identifiers that are mapped to an entrez gene id
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
    # Get the UNIGENE for the first five genes
    xx[1:5]
    # Get the first one
    xx[[1]]
}

# For the reverse map:
xx <- org.Hs.egUNIGENE2EG
# Get the entrez gene identifiers that are mapped to a Unigene id
mapped_genes <- mappedkeys(xx)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
    # Get the entrez gene for the first five genes
    xx[1:5]
    # Get the first one
    xx[[1]]
}
org.Hs.egUNIPROT

Map Uniprot accession numbers with Entrez Gene identifiers

Description

org.Hs.egUNIPROT is an R object that contains mappings between Entrez Gene identifiers and Uniprot accession numbers.

Details


Examples

```r
x <- org.Hs.egUNIPROT
# Get the entrez gene IDs that are mapped to a Uniprot ID
mapped_genes <- mappedkeys(x)
# Convert to a list
xx <- as.list(x[mapped_genes])
if(length(xx) > 0) {
  # Get the Uniprot gene IDs for the first five genes
  xx[1:5]
  # Get the first one
  xx[[1]]
}
```
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