

guildifyR

July 1, 2019

`get.species.info` *Get info on available species and tissues*

Description

Get info on available species and tissues

Usage

```
get.species.info()
```

Value

result List containing available species tax ids and names for tissue-specific networks

Examples

```
result = get.species.info()
```

`query` *Get protein/gene info associated with the query keywords*

Description

Get protein/gene info associated with the query keywords

Usage

```
query(keywords, species = "9606", tissue = "all",  
      network.source = "BIANA", quote.keywords = T)
```

Arguments

<code>keywords</code>	Text containing description of a phenotype or list of genes (seperated by ";")
<code>species</code>	Species tax identifier (9606: human, 10090: mouse, etc., see <code>get.species.info</code> method)
<code>tissue</code>	Tissue identifier (all, liver, lung, etc., see <code>get.species.info</code> method)
<code>network.source</code>	Interaction network source (BIANA, STRING, HIPPIE, etc.)
<code>quote.keywords</code>	Quotes the keywords to treat whitespaces as ANDs (e.g., "Muscular Dystrophy")

Value

result.table Data frame containing list of matching proteins/genes and their description

Examples

```
result.table = query("alzheimer", species="10090", tissue="all", network.source="BIANA")
```

retrieve.job	<i>Retrieve results using job id</i>
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Description

Retrieve results using job id

Usage

```
retrieve.job(job.id, n.top = NULL, fetch.files = F,
             output.dir = NULL)
```

Arguments

job.id	Job id
n.top	Number of top proteins to retrieve. If NULL top functionally enriched proteins are provided (upto 500 proteins)
fetch.files	Flag to fetch result files from server and save them locally in output.dir (If NULL files for top functionally enriched proteins are provided, otherwise files for top-ranking 1% are provided)
output.dir	Directory to save the ranking, function, subnetwork and drug info files fetched from the server. If NULL, a folder with the same as name as the job.id is created in the current working directory

Value

result List containing scores of top-ranking proteins, functions enriched among top-ranking proteins, drugs targeting top-ranking proteins, top-ranking subnetwork cutoff

Examples

```
result = retrieve.job(job.id)
getSlots(class(result))
#Scores
head(gScores(result))
#Functions of top ranking genes
head(gFunctions(result))
#Functions of seeds
head(gFunctions2(result))
#Drugs
head(gDrugs(result))
```

retrieve.overlap	<i>Retrieve overlap between two results using two job ids</i>
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Description

Retrieve overlap between two results using two job ids

Usage

```
retrieve.overlap(job.id1, job.id2, top.validated = T, fetch.files = F,  
output.dir = NULL)
```

Arguments

job.id1	Job id 1
job.id2	Job id 2
top.validated	Flag to get overlap between either top-ranking functionally validated proteins (default) or top top-ranking 1%
fetch.files	Flag to fetch result files (for top-ranking 1%) from server and save them locally in output.dir
output.dir	Directory to save the ranking, function, subnetwork and drug info files fetched from the server

Value

result List containing scores of common top-ranking proteins, common functions enriched among top-ranking proteins, drugs targeting common top-ranking proteins (Note that the number of top-ranking proteins and common functions are limited to 500)

Examples

```
result = retrieve.overlap(job.id1, job.id2)  
getSlots(class(result))  
#Scores  
head(gScores(result))  
#Common functions between top ranking genes of two results  
head(gFunctions(result))  
#Functions of top ranking common genes of two results  
head(gFunctions2(result))  
#Drugs  
head(gDrugs(result))
```

submit.job

Submit job using the guildifyR query result table

Description

Submit job using the guildifyR query result table

Usage

```
submit.job(result.table, species, tissue, network.source,
           scoring.options = list(netcombo = T))
```

Arguments

species	Species tax identifier (9606: human, 10090: mouse, etc., see get.species.info method)
tissue	Tissue identifier (all, liver, lung, etc., see get.species.info method)
network.source	Interaction network source (BIANA, STRING, HIPPIE, etc.)
scoring.options	Prioritization method options (default NetCombo)
query.table	Data frame containing information from guildifyR query (user entity info, network info, source etc...)

Value

job id

Examples

```
species="10090"
tissue="all"
network.source="BIANA"
result.table = query("alzheimer", species, tissue, network.source)
#Diamond
scoring.options = list(diamond=T)
#NetScore
scoring.options = list(netscore=T, repetitionSelector=3, iterationSelector=2)
#NetZcore
scoring.options = list(netzcore=T, repetitionZelector=3)
#NetShort
scoring.options = list(netshort=T)
#NetCombo
scoring.options = list(netcombo=T)
job.id = submit.job(result.table, species, tissue, network.source, scoring.options)
```

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