

RefineBio Search

Performing a basic search

In order to perform a basic search, run the `rb_search_list()` function with your search terms. This example will be searching with for experiments involving Medulloblastoma.

```
x = rb_search_list(search = "Medulloblastoma")
```

Performing a filtered search

You can apply filtered searches in the following filter categories:

- organism
- technology
- platform
- has_publication

```
x = rb_search_list(search = "Medulloblastoma",  
                  organism = "HOMO_SAPIENS",  
                  technology = "rna-seq",  
                  platform = "IlluminaHiSeq2500")  
# has_publication=TRUE)
```

These categories, excluding “has_publication” can also take multiple values to further the search.

```
x = rb_search_list(search = "Medulloblastoma",  
                  organism = "HOMO_SAPIENS",  
                  technology = "rna-seq",  
                  platform = "IlluminaHiSeq2500")  
# has_publication=TRUE)
```

Viewing results

You can view your results by accessing the following elements of the data frame.

The following is an example for accessing elements of the dataset.

Returning number of search hits:

```
x$count
```

```
## [1] 324
```

Through the use of facets you can further specify your search by previewing the number of hits you would obtain if you had applied another filter. For this example, we will look up the number of hits for different platforms.

```
x$facets$platform_accession_codes
```

```
##      IlluminaHiSeq2500 IlluminaHiSeq2000 IlluminaHiSeq4000 HiSeqXTen NextSeq550
## 1           4412           64           0           0           22
##      AB5500GeneticAnalyzer IlluminaGenomeAnalyzer IlluminaHiSeq3000 IlluminaMiSeq
## 1           0           0           0           0
##      IonTorrentProton NextSeq500
## 1           16           0
```

To access results from the data frame, you can look for the following categories: -id -title -publication_title -description -technology -accession_code -alternate_accession_code -submitter_institution -has_publication -publication_doi -publication_authors -sample_metadata_fields -platform_names -platform_accession_codes -organism_names -pubmed_id -num_total_samples -num_processed_samples -num_downloadable_samples -source_first_published

The following are some examples of result accession.

```
x$results$id
```

```
## [1] 40501 44990 45074 40044 41091 44977 11481 47822 39705 12395 40605 41921
## [13] 43795 41179 41969 42648 39405 41593 43113 42903 40796 41290 39878 41801
## [25] 11512
```

```
x$results$sample_metadata_fields
```

```
## [[1]]
## [1] "specimen_part" "disease"          "disease_stage" "treatment"
## [5] "subject"
##
## [[2]]
## [1] "cell_line" "subject"      "time"
##
## [[3]]
## [1] "cell_line" "subject"
##
## [[4]]
## [1] "specimen_part" "cell_line"      "subject"
##
## [[5]]
## [1] "specimen_part" "cell_line"      "treatment"      "subject"
## [5] "time"
##
## [[6]]
## [1] "specimen_part" "subject"
##
## [[7]]
## character(0)
##
## [[8]]
## [1] "specimen_part" "subject"
##
## [[9]]
```

```

## [1] "subject"
##
## [[10]]
## character(0)
##
## [[11]]
## [1] "sex"          "specimen_part" "disease"       "cell_line"
##
## [[12]]
## [1] "age"          "specimen_part" "disease"       "disease_stage"
## [5] "subject"
##
## [[13]]
## [1] "specimen_part" "disease"       "disease_stage" "subject"
##
## [[14]]
## [1] "specimen_part" "subject"
##
## [[15]]
## [1] "treatment" "subject"
##
## [[16]]
## [1] "specimen_part" "subject"
##
## [[17]]
## [1] "specimen_part" "disease"       "subject"
##
## [[18]]
## [1] "sex"          "age"          "specimen_part" "subject"
## [5] "time"
##
## [[19]]
## [1] "specimen_part" "cell_line"     "subject"
##
## [[20]]
## [1] "specimen_part" "disease"       "subject"
##
## [[21]]
## [1] "specimen_part" "subject"
##
## [[22]]
## [1] "cell_line" "treatment" "subject"
##
## [[23]]
## [1] "specimen_part" "treatment"     "subject"
##
## [[24]]
## [1] "specimen_part" "cell_line"     "treatment"     "subject"
##
## [[25]]
## character(0)

```

```
x$results$pubmed_id
```

```
## [1] "30355798" "30135308" "28728983" "31018144" "30926929" "31021818"
## [7] "26051178" "30044992" "29903879" "26482878" "" "29298978"
## [13] "29348297" "28446595" "30678304" "28257516" "" ""
## [19] "" "30242258" "28658220" "" "" "31043489"
## [25] "26416763"
```

Viewing specific result

If you would like to see the results for a specific search hit, then you can access the data frame as follows: