tables

Marie Moriarty

2023-02-28

```
# Import MAGeCK data set
library(readr)
library(ggplot2)

mageck <- read_delim("mageckRRA.gene_summary.txt",
    delim = "\t", escape_double = FALSE,
    trim_ws = TRUE)
```

```
## Rows: 19672 Columns: 14
## -- Column specification --------------------------------------------------------
## Delimiter: "\t"
## chr  (1): id
## dbl (13): num, neg|score, neg|p-value, neg|fdr, neg|rank, neg|goodsgrna, neg...
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
# Reassign column names
colnames(mageck) <- c("id",
                      "num",
                      "neg.score",
                      "neg.p_value",
                      "neg.fdr",
                      "neg.rank",
                      "neg.goodsgrna",
                      "neg.lfc",
                      "pos.score",
                      "pos.p_value",
                      "pos.fdr",
                      "pos.rank",
                      "pos.goodsgrna",
                      "lfc"
                      )

# Convert goodsgrna to factor
mageck$num <- as.factor(mageck$num)
mageck$neg.goodsgrna <- as.factor(mageck$neg.goodsgrna)
mageck$pos.goodsgrna <- as.factor(mageck$pos.goodsgrna)

# Delete neg.lfc
mageck <- mageck[,-8]
```

```
selection <- NULL

# Sort values based on p-values to see which selection p-value is lower
for (i in 1:length(mageck$id)){
  if (mageck$neg.p_value[i] > mageck$pos.p_value[i]){
    selection[i] <- "positive"
  } else {
    selection[i] <- "negative"
  }
}

# Append to mageck data frame as factor
mageck$selection <- as.factor(selection)
summary(mageck$selection)
```

```
## negative positive
##     6901    12771
```

```
# view data summary
summary(mageck)
```

```
##       id             num          neg.score       neg.p_value
##  Length:19672       1:   11   Min.   :0.0000   Min.   :0.0000002
##  Class :character   2:   10   1st Qu.:0.1466   1st Qu.:0.3637900
##  Mode  :character   3:  159   Median :0.4151   Median :0.6424600
##                     4:19490   Mean   :0.4624   Mean   :0.6012542
##                     8:    2   3rd Qu.:0.7843   3rd Qu.:0.8687800
##                               Max.   :1.0000   Max.   :1.0000000
##     neg.fdr           neg.rank     neg.goodsgrna   pos.score
##  Min.   :0.000381   Min.   :    1   0:5337        Min.   :0.0000
##  1st Qu.:1.000000   1st Qu.: 4919   1:7395        1st Qu.:0.1667
##  Median :1.000000   Median : 9836   2:4928        Median :0.4388
##  Mean   :0.993202   Mean   : 9836   3:1693        Mean   :0.4731
##  3rd Qu.:1.000000   3rd Qu.:14754   4: 319        3rd Qu.:0.7905
##  Max.   :1.000000   Max.   :19672                 Max.   :1.0000
##   pos.p_value          pos.fdr           pos.rank     pos.goodsgrna
##  Min.   :0.0000048   Min.   :0.001763   Min.   :    1   0:5157
##  1st Qu.:0.1433900   1st Qu.:0.591756   1st Qu.: 4919   1:7318
##  Median :0.3493300   Median :0.731480   Median : 9836   2:4732
##  Mean   :0.4113567   Mean   :0.714705   Mean   : 9836   3:1810
##  3rd Qu.:0.6704100   3rd Qu.:0.935922   3rd Qu.:14754   4: 655
##  Max.   :1.0000000   Max.   :1.000000   Max.   :19672
##       lfc              selection
##  Min.   :-1.781400   negative: 6901
##  1st Qu.:-0.151500   positive:12771
##  Median :-0.004924
##  Mean   : 0.026433
##  3rd Qu.: 0.154968
##  Max.   : 3.622500
```

```
knitr::kable(mageck[1:5,])
```

id	num	neg.score	neg.p_value	neg.fdr	neg.rank	neg.goodsgrna	pos.score	pos.p_value	pos.fdr	pos.rank	pos.goodsgrna	lfc	selection
Tsc1	4	1	1	1	19672	0	0	4.8e-06	0.001763	1	4	3.0073	positive
Flcn	4	1	1	1	19671	0	0	4.8e-06	0.001763	2	4	2.7020	positive
Lamtor2	4	1	1	1	19670	0	0	4.8e-06	0.001763	3	4	2.2819	positive
Tsc2	4	1	1	1	19669	0	0	4.8e-06	0.001763	4	4	2.8931	positive
Lamtor4	4	1	1	1	19668	0	0	4.8e-06	0.001763	5	4	1.7039	positive