Package ‘scperturbR’

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Type Package
Title E-Statistics for Seurat Objects
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License MIT + file LICENSE
URL https://github.com/sanderlab/scPerturb/tree/master/package_r
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Depends R (>= 3.5.0)
Imports Seurat, dplyr, rdist, energy, stats
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R topics documented:
edist ................................................................. 2
etest ................................................................. 3

Index 4
Description

Computes pairwise E-distances on a Seurat object. Computes E-distance between all groups in a Seurat object in space given by reduction.

Usage

```r
edist(
  seurat_object,
  groupby = "perturbation",
  reduction = "pca",
  sample_correction = FALSE,
  verbose = TRUE
)
```

Arguments

- **seurat_object**: An object of class Seurat.
- **groupby**: An object of class character. Points to the column in the Seurat object’s metadata that contains the group labels.
- **reduction**: An object of class character. The reduction / embedding in seurat_object that is used to compute the E-distance in.
- **sample_correction**: An object of class logical. If TRUE, the E-distances are corrected for sample size. Will make it not a proper distance, leads to negative values.
- **verbose**: An object of class logical. If TRUE, prints messages. Default is TRUE.

Value

Returns an object of class data.frame. For each group contains the E-test p-value and the E-distance to control group.

Examples

```r
# Add some code illustrating how to use the function
```
Description

Performs E-testing on a Seurat object. Computes E-test statistics for each group in a Seurat object, using the E-distance in space given by reduction to the group defined by control.

Usage

etest(
  seurat_object,
  groupby = "perturbation",
  control = "control",
  reduction = "pca",
  verbose = TRUE,
  permutations = 1000
)

Arguments

seurat_object An object of class Seurat.
groupby An object of class character. Points to the column in the Seurat object’s metadata that contains the group labels.
control An object of class character. The group that is used as the control.
reduction An object of class character. The reduction / embedding in seurat_object that is used to compute the E-distance in.
verbose An object of class logical. If TRUE, prints messages. Default is TRUE.
permutations An object of class integer. The number of permutations used to compute the p-value. Default is 1000.

Value

Returns an object of class data.frame. For each group contains the E-test p-value and the E-distance to control group.

Examples

# Add some code illustrating how to use the function
Index

edist, 2
etest, 3