

Package ‘HCADData’

April 14, 2020

Type Package

Title Accessing The Datasets Of The Human Cell Atlas in R/Bioconductor

Version 1.2.0

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Description This package allows a direct access to the dataset generated by the Human Cell Atlas project for further processing in R and Bioconductor, in the comfortable format of SingleCellExperiment objects (available in other formats here: <http://preview.data.humancellatlas.org/>).

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Encoding UTF-8

biocViews RNASeqData, SingleCellData, ExperimentData, ExpressionData, ExperimentHub

Depends R (>= 3.6), SingleCellExperiment

Imports ExperimentHub, AnnotationHub, HDF5Array, utils

Suggests knitr, rmarkdown, BiocStyle, scran (>= 1.11.4), BiocSingular, scater, igraph, iSEE, testthat

VignetteBuilder knitr

RoxygenNote 6.1.1

git_url <https://git.bioconductor.org/packages/HCADData>

git_branch RELEASE_3_10

git_last_commit ea8dc7b

git_last_commit_date 2019-10-29

Date/Publication 2020-04-14

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HCADData

Download data from the HCA via ExperimentHub

Description

Download HDF5 (dense assay) and RDS (row and column annotations) files from the HCA via ExperimentHub, composing them together as a SingleCellExperiment object

Usage

```
HCADData(dataset = NULL)
```

Arguments

dataset A character string: which dataset should be retrieved?

Details

This current release includes the following datasets:

Census of Immune Cells - Umbilical cord blood UMI counts from the 10x (droplet) single-cell RNA-seq data. The object contains counts for 33694 genes in 384000 cells.

Census of Immune Cells - Bone marrow UMI counts from the 10x (droplet) single-cell RNA-seq data. The object contains counts for 33694 genes in 378000 cells.

Value

A SingleCellExperiment object with a HDF5Matrix in the counts assay, containing the UMI counts for each gene in each cell. Row- and column-level metadata are also provided.

Examples

```
HCADData()  
sce_cordblood <- HCADData("ica_cord_blood")
```

HCADData-pkg*HCADData: Accessing The Datasets Of The Human Cell Atlas in R/Bioconductor*

Description

HCADData is an ExperimentHub package which provides access to the single-cell RNA-seq data from the Human Cell Atlas project (<https://www.humancellatlas.org>)

Author(s)

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References

If you use the data in this package, please refer to the original sources (Human Cell Atlas Data Portal, <https://preview.data.humancellatlas.org>) as well (plus the related publications, which will be listed here when they will be out), which are licensed under a Creative Commons Attribution 4.0 International License.

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