R documentation

of 'ProbMatrixCellTypes-class.Rd'

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ProbMatrixCellTypes-class
The Class ProbMatrixCellTypes.

Description

The ProbMatrixCellTypes class is a data storage class that stores information concerning to cell composition matrix used for the simulation of bulk samples. This matrix corresponds with `prob.matrix` slot. The rest of slots are additional information generated during the process and required for subsequent steps.

Details

As described in Torroja and Sanchez-Cabo, 2019, the proportions are built by five different methods in order to avoid biases due to the composition of the bulk samples. In `plots` slot, different representations of these probabilities are stored with the aim of offering a method to monitor the different sets of samples generated during the process. These plots can be displayed with `showProbPlot` function. See documentation for details.

Slots

`prob.matrix` Matrix of cell proportions generated for the simulation of bulk samples. Rows correspond with bulk samples which will be generated (i), columns are the cell types present in single-cell data provided (j) and each entry is the proportion of j cell type in i sample.

`cell.names` Matrix in which names of cells that will compound each bulk samples are stored.

`set.list` List of cells ordered according to the cell type to which they belong.

`set` Vector with the names of cells present in the object.

`exclusive.types` Optional slot that contains the exclusive cell types on the experiment if they are provided. NULL by default.

`plots` List of lists with plots showing the distribution of cell proportions generated by each method during the process.

`type.data` Character with the type of data contained: training or test.

References

Torroja, C. y Sánchez-Cabo, F. (2019). digitalDLSorter: A Deep Learning algorithm to quantify immune cell populations based on scRNA-Seq data. Frontiers in Genetics 10, 978. doi: 10.3389/fgene.2019.00978

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