Package ‘ABAData’

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Type Package

Title Averaged gene expression in human brain regions from Allen Brain Atlas

Version 1.4.0

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Description Provides the data for the gene expression enrichment analysis conducted in the package ‘ABAEnrichment’. The package includes three datasets which are derived from the Allen Brain Atlas: (1) Gene expression data from Human Brain (adults) averaged across donors, (2) Gene expression data from the Developing Human Brain pooled into five age categories and averaged across donors and (3) a developmental effect score based on the Developing Human Brain expression data. All datasets are restricted to protein coding genes.

License GPL (>= 2)

Depends R (>= 3.2)

Suggests BiocStyle, knitr

VignetteBuilder knitr

biocViews ExpressionData, Homo_sapiens_Data, MicroarrayData, RNASeqData

NeedsCompilation no

R topics documented:

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Description

This package provides the data used in the gene expression enrichment package 'ABAEnrichment'. It contains three datasets on gene expression in adult and developing human brains which base on data provided by the Allen Brain Atlas project [1-4]. The data and its processing is described in the package vignette. For usage of the data for gene expression enrichment analyses please refer to the 'ABAEnrichment' vignette.

Details

Package: ABAData
Type: Package
Version: 0.99.3
Date: 2015-08-06
License: GPL (>= 2)

For details see vignette("ABAData",package="ABAData").

Author(s)

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References


See Also

vignette("ABAData",package="ABAData")
vignette("ABAEnrichment",package="ABAEnrichment")
datasets_ABAData

Examples

## require averaged gene expression data (microarray) from adult human brain regions
data(dataset_adult)
## look at first lines
Description

These datasets are used in the enrichment analysis package 'ABAEnrichment'. They contain data on gene expression in human brain regions which base on datasets provided by the Allen Brain Atlas project[1-4]. 'dataset_adult' contains microarray expression data from six adult individuals, 'dataset_5_stages' contains RNA-seq data from 42 individuals grouped into five developmental stages (prenatal to adult) and 'dataset_dev_effect' contains scores measuring the age effect on expression per gene and brain region. The expression data in 'dataset_adult' and 'dataset_5_stages' are averaged across donors.

Usage

```
data(dataset_adult)
data(dataset_5_stages)
data(dataset_dev_effect)
```

Details

For details on the data and its processing see the package vignette.

Value

All three datasets in the package are represented in a data frame with the following columns:

- `hgnc_symbol`: HGNC-symbols
- `entrezgene`: Entrez-IDs
- `ensembl_gene_id`: Ensembl-IDs
- `structure`: brain region ID as used in the ontology from Allen Brain Atlas
- `signal`: normalized microarray data, RNA-seq data or developmental effect score
- `age_category`: developmental stage. 0: all stages, 1: prenatal, 2: infant (0-2 yrs), 3: child (3-11), 4: adolescent (12-19 yrs), 5: adult (>19 yrs)

Source


References

See Also

vignette("ABAData",package="ABAData")
vignette("ABAEEnrichment",package="ABAEEnrichment")

Examples

data(dataset_adult)
head(dataset_adult)

data(dataset_5_stages)
head(dataset_5_stages)

data(dataset_dev_effect)
head(dataset_dev_effect)
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