

Package ‘microRNAome’

August 4, 2022

Version 1.19.0

Date 2022-04-08

Title SummarizedExperiment for the microRNAome project

Description This package provides a SummarizedExperiment object of read counts for microRNAs across tissues, cell-types, and cancer cell-lines. The read count matrix was prepared and provided by the author of the study: Towards the human cellular microRNAome.

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Depends R (>= 3.4), SummarizedExperiment

Suggests BiocGenerics, RUnit

biocViews ExperimentData, CellCulture, CancerData, SequencingData, RNASeqData, miRNAData

License GPL (>= 2)

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microRNAome

MicroRNAome Data

Description

Read counts per miRNA for the microRNAome collection of RNA-Seq experiments

Usage

```
data("microRNAome")
```

Format

SummarizedExperiment

Details

New small RNA-seq data from 39 primary cells obtained by culture, flow cytometry or centrifugation were augmented with Sequence Read Archive (SRA) small RNA-seq read data from 496 samples with over 1 million microRNA reads, and the data from FANTOM5 and the Hemmrich-Stanisak lab. All samples were processed through miRge (Baras et al. 2015), which uses modified microRNA libraries and multiple Bowtie steps for optimal alignments on multiplexed runs.

Source

Read count matrix prepared and provided by authors of the study

References

Matthew N McCall, Min-Sik Kim, Mohammed Adil, Arun H Patil, Yin Lu, Christopher J Mitchell, Pamela Leal-Rojas, Jinchong Xu, Manoj Kumar, Valina L Dawson, Ted M Dawson, Alexander S Baras, Avi Z Rosenberg, Dan E Arking, Kathleen H Burns, Akhilesh Pandey, Marc Halushka (2017). Toward the human cellular microRNAome. *Genome Research*. 27(10):1769-1781.

Examples

```
data(microRNAome)
## the microRNAome SummarizedExperiment object contains only one matrix
## in the assays field: a matrix of miRNA counts
names(assays(microRNAome))
assays(microRNAome)$counts[1:3,1:3]
```

microRNAome_v2	<i>MicroRNAome Data</i>
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Description

Read counts per miRNA for version 2 of the microRNAome collection of RNA-Seq experiments

Usage

```
data("microRNAome_v2")
```

Format

SummarizedExperiment

Details

Small RNA-seq data on 2377 samples from the Sequence Read Archive (SRA) processed using the miRge3 pipeline.

Source

Read count matrix prepared and provided by authors of the study

References

Matthew N McCall, Min-Sik Kim, Mohammed Adil, Arun H Patil, Yin Lu, Christopher J Mitchell, Pamela Leal-Rojas, Jinchong Xu, Manoj Kumar, Valina L Dawson, Ted M Dawson, Alexander S Baras, Avi Z Rosenberg, Dan E Arking, Kathleen H Burns, Akhilesh Pandey, Marc Halushka (2017). Toward the human cellular microRNAome. *Genome Research*. 27(10):1769-1781.

Examples

```
data(microRNAome_v2)
## the microRNAome_v2 SummarizedExperiment object contains only one matrix
## in the assays field: a matrix of miRNA counts
names(assays(microRNAome_v2))
assays(microRNAome_v2)$counts[1:3,1:3]
```

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