Package 'rcellminerData'

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Title rcellminerData: Molecular Profiles and Drug Response for the NCI-60 Cell Lines

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Description The NCI-60 cancer cell line panel has been used over the course of several decades as an anti-cancer drug screen. This panel was developed as part of the Developmental Therapeutics Program (DTP, http://dtp.nci.nih.gov/) of the U.S. National Cancer Institute (NCI). Thousands of compounds have been tested on the NCI-60, which have been extensively characterized by many platforms for gene and protein expression, copy number, mutation, and others (Reinhold, et al., 2012). The purpose of the CellMiner project (http://discover.nci.nih.gov/cellminer) has been to integrate data from multiple platforms used to analyze the NCI-60 and to provide a powerful suite of tools for exploration of NCI-60 data.

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Depends R (>= 3.1.1), Biobase

Suggests knitr, testthat, BiocStyle, rcellminer

LazyData true

VignetteBuilder knitr

biocViews CancerData, CopyNumberVariationData, ExpressionData, SNPData, NCI, MicroarrayData, miRNAData

NeedsCompilation no

R topics documented:

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drugData   *CellMiner compound data: NCI-60 activity and metadata*

Description

The drugData object, of rcellminer package class DrugData, organizes data for 20861 compounds screened over the NCI-60 cancer cell lines by the NCI Developmental Therapeutics Program. These include activity profiles, as well as other information such as chemical structure, and where appropriate, name, mechanism of action, clinical testing status, etc.

Usage

```
data(drugData)
```

Details

The activity data has two forms. A standardized 'z-score' data set provides a single NCI-60 profile for each compound, possibly averaging data derived from multiple experiments (subject to quality standards described in Reinhold et al.). A repeat activity data set provides data at the level of individual NCI-60 profiling experiments.

Value

the drugData object that contains Cellminer drug information as a DrugData object

Source

CellMiner Website: <URL: http://discover.nci.nih.gov/cellminer/>

References

Reinhold, W.C., et al. (2012) CellMiner: a web-based suite of genomic and pharmacologic tools to explore transcript and drug patterns in the NCI-60 cell line set, Cancer Research, 72, 3499-3511

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molData   *CellMiner molecular profiling data for the NCI-60 cell lines.*

Description

The molData object, of rcellminer package class MolData, organizes CellMiner's molecular profiling data for the NCI-60 cancer cell lines. Also provided are cell line annotations, including tissue of origin, detailed histology, and source information.

Usage

```
data(molData)
```

Details

Data matrices for the following types of data are provided (see examples below for access details).

- cop: Copy Number
- mut: Mutation
- exp: Expression (Z-Score)
- xai: Expression (Avg. log2 Intensity)
- pro: Protein (RPLA)
- mir: MicroRNA
- mda: Metadata (Phenotype Data)
- swa: Protein (SWATH-MS)

Value

the molData object that contains Cellminer molecularp profiling information as a MolData object

Source

CellMiner Website: <URL: http://discover.nci.nih.gov/cellminer/>

References

Reinhold, W.C., et al. (2012) CellMiner: a web-based suite of genomic and pharmacologic tools to explore transcript and drug patterns in the NCI-60 cell line set, Cancer research, 72, 3499-3511

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