Package ‘grndata’

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Type Package
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Availabledata  Available datasources

Description
Availabledata contains a character vector with the names of the datasources that the package contains.

Usage
data("Availabledata")

Format
A character vector with the names of the datasources.

Value
character vector with the names of the datasources.

Examples
data(Availabledata)
cat(Availabledata)

data
Datasource and underlying network loading

Description
Function to load a gene expression datasource and the network that have generate it.

Usage
gedata(datasource.name=NULL, getNet=TRUE)

Arguments
datasource.name
A character containing the name of network datasources to (default: NULL).

getNet
Logical specifying if the true underlying network should be returned (default: TRUE).

Details
If getNet is TRUE the function will return a list with two components:
1. A data.frame with the specified datasource.
2. A matrix with the true underlying network.
The function `getData` loads the specified datasource by `datasource.name` and its true underlying network if it is specified by `getNet`.

### Examples

```r
# Get only datasource
data <- getData(datasource.name="syntren300",getNet=FALSE)

# Get the datasource and network in a list
mydata <- getData(datasource.name="syntren1000")
data <- mydata[[1]]
et <- mydata[[2]]
```

---

**gnw1565.data**

**Simulated Gene Expression Data**

### Description

Dataset containing 1565 samples and 1565 genes generated by the publicly available GNW generator using an ecoli source network with no added noise.

### Usage

```r
data(gnw1565.data)
```

### Format

gnw1565.data is a data frame containing 1565 rows and 1565 columns. Each row contains a simulated microarray experiment and each column contains a gene. The dataset was generated with GNW generator which relies on ODEs for modeling gene regulation.

### Value

data.frame containg the data.

### Source

GNW v3.1 with source network : Ecoli

### References


### See Also

gnw1565.net, gnow2000.data, rogers1000.data, syntren300.data, syntren1000.data

### Examples

```r
data(gnw1565.data)
# Print size
print(dim(gnw1565.data))
```
**gnw1565.net**  
*Simulated Gene Expression Data*

**Description**

True underlying network used to generate the dataset at `gnw1565.data`.

**Usage**

```r
data(gnw1565.net)
```

**Format**

`true.net` is the true underlying network used to generate the dataset loaded at `gnw1565.data`.

**Value**

Matrix containing underlying network.

**Source**

GNW v3.1 with source network: Ecoli

**References**


**See Also**

`gnw1565.data`, `gnw2000.data`, `rogers1000.data`, `syntren300.data`, `syntren1000.data`

**Examples**

```r
data(gnw1565.net)
# Number of directed edges
nEdges<- sum(gnw1565.net)
```

---

**gnw2000.data**  
*Simulated Gene Expression Data*

**Description**

Dataset containing 2000 samples and 2000 genes generated by the publicly available GNW generator using a yeast source network with no added noise.

**Usage**

```r
data(gnw2000.data)
```
Format

`gnw2000.data` is a data frame containing 2000 rows and 2000 columns. Each row contains a simulated microarray experiment and each column contains a gene. The dataset was generated with GNW generator which relies on ODEs for modeling gene regulation.

Value

data.frame containing the data.

Source

GNW v3.1 with source network: Yeast

References


See Also

`gnw2000.net`, `gnw1565.data`, `rogers1000.data`, `syntren300.data`, `syntren1000.data`

Examples

```r
data(gnw2000.data)
# Print size
print(dim(gnw2000.data))
```

---

### Simulated Gene Expression Data

**Description**

True underlying network used to generate the dataset at `gnw2000.data`.

**Usage**

```r
data(gnw2000.net)
```

**Format**

`true.net` is the true underlying network used to generate the dataset loaded at `gnw2000.data`.

**Value**

matrix containing underlying network.

**Source**

GNW v3.1 with source network: Yeast
References


See Also

gnw2000.data, gnw1565.data, rogers1000.data, syntren300.data, syntren1000.data

Examples

data(gnw2000.net)
# Number of directed edges
nEdges<- sum(gnw2000.net)

data(rogers1000.data)  # Print size
print(dim(rogers1000.data))
rogers1000.net

Simulated Gene Expression Data

Description

True underlying network used to generate the dataset at rogers1000.data.

Usage

data(rogers1000.net)

Format

ture.net is the true underlying network used to generate the dataset loaded at rogers1000.data.

Value

matrix containg underlying network.

Source

sRogers with Power-law tail topology

References


See Also

rogers1000.data, gnw1565.data, gnw2000.data, syntren300.data, syntren1000.data

Examples

data(rogers1000.net)
# Number of directed edges
nEdges<- sum(rogers1000.net)

syntren1000.data

Simulated Gene Expression Data

Description

Dataset containing 1000 samples and 1000 genes generated by the publicly available SynTReN generator using an ecoli source network.

Usage

data(syntren1000.data)
**syntren1000.net**

**Format**

`syntren1000.data` is a data frame containing 1000 rows and 1000 columns. Each row contains a simulated microarray experiment and each column contains a gene.

**Value**

data.frame containg the data.

**Source**

SynTReN 1.1.3 with source network : ecoli\_nn.sif

**References**


**See Also**

gnw1565.data, gnw2000.data, rogers1000.data, syntren300.data

**Examples**

```r
data(syntren1000.data)
# Print size
print(dim(syntren1000.data))
```

**syntren1000.net Simulated Gene Expression Data**

**Description**

True underlying network used to generate the dataset at `syntren1000.data`.

**Usage**

data(syntren1000.net)

**Format**

`syntren1000.net` is the true underlying network used to generate the dataset loaded at `syntren1000.data`.

**Value**

matrix containg underlying network.

**Source**

SynTReN 1.1.3 with source network : ecoli\_nn.sif
References


See Also

syntren1000.data, gnw1565.data, gnw2000.data, rogers1000.data, syntren300.data

data(syntren1000.net)
# Number of directed edges
nEdges<- sum(syntren1000.net)

Examples

data(syntren300.data)
# Print size
print(dim(syntren300.data))
syntren300.net  Simulated Gene Expression Data

Description

True underlying network used to generate the dataset at syntren300.data.

Usage

data(syntren300.net)

Format

true.net is the true underlying network used to generate the dataset loaded at syntren300.data.

Value

matrix containing underlying network.

Source

SynTReN 1.1.3 with source network: ecoli\_nn.sif

References


See Also

syntren300.data, syntren1000.data, rogers1000.data, gnw1565.data, gnw2000.data

Examples

data(syntren300.net)
# Number of directed edges
nEdges<-sum(syntren300.net)

---

toy.data  Simulated Toy example of Gene Expression Data

Description

Dataset containing 64 samples and 64 genes generated by the publicly available GNW generator using an ecoli source network.

Usage

data(toy.data)
toy.net

Format

toy.data is a data frame containing 64 rows and 64 columns. Each row contains a simulated microarray experiment and each column contains a gene.

Value

data.frame containg the data.

Source

GNW v3.1 with source network : Example (Ecoli)

References


See Also

toy.net

Examples

data(toy.data)
# Print size
print(dim(toy.data))

---

toy.net  Simulated Toy example of Gene Expression Data

Description

True underlying network used to generate the dataset at toy.data.

Usage

data(toy.net)

Format

toy.net is the true underlying network used to generate the dataset loaded at toy.data.

Value

matrix containg underlying network.

Source

GNW v3.1 with source network : Example (Ecoli)
References


See Also
toy.data

Examples

data(toy.net)
# Print size
nEdges<- sum(toy.net)
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