Package ‘ccTutorial’

April 11, 2024

Type Package

Title Data package for ChIP-chip tutorial

Version 1.40.0

Date 2009-09-14

Author Joern Toedling, Wolfgang Huber

Maintainer Joern Toedling <joern.toedling@curie.fr>

Depends R (>= 2.10), Ringo(>= 1.9.8), affy(>= 1.23.4), topGO(>= 1.13.1)

Imports Biobase

Suggests biomaRt, Biobase(>= 2.5.5), xtable

Description This is a data package that accompanies a ChIP-chip tutorial, which has been published in PLoS Computational Biology. The data and source code in this package allow the reader to completely reproduce the steps in the tutorial.


License Artistic-2.0

biocViews ExperimentData, Mus_musculus_Data, MicroarrayData, ChipOnChipData

PackageStatus Deprecated

git_url https://git.bioconductor.org/packages/ccTutorial

git_branch RELEASE_3_18

git_last_commit 6feba2b

git_last_commit_date 2023-10-24

Repository Bioconductor 3.18

Date/Publication 2024-04-11

1
R topics documented:

- ccTutorial-package ......................................................... 2
- arrayGenesToProbeSets .................................................. 3
- barreraExpressionX ....................................................... 3
- chersX ................................................................. 4
- mm9.g2p ............................................................... 5
- mm9.gene2GO ........................................................... 5
- mm9genes ............................................................. 6
- probeAnno ............................................................. 7
- X ................................................................. 8

Index 9

---

ccTutorial-package What the package does (short line)

Description

Data package for a Bioconductor ChIP-chip tutorial

Details

- Package: ccTutorial
- Type: Package
- Version: 1.0
- Date: 2008-04-29
- License: Artistic License 2.0

Author(s)

Joern Toedling, Wolfgang Huber

Maintainer: Joern Toedling <toedling@ebi.ac.uk>
arrayGenesToProbeSets  

**Mapping of Ensembl mm9 genes to Affymetrix Mouse 430v2 probe sets**

**Description**

This is a mapping of Ensembl mm9 genes to Affymetrix Mouse 430v2 probe sets. Only Ensembl mm9 genes that mapped at least one probe set on the array are included in the list. This mapping was created using biomaRt on 27 May 2008. Users can create this list themselves and the supplement contains the source code for doing this. For convenience sake, this object is given as a data object.

**Usage**

```r
data(arrayGenesToProbeSets)
```

**Format**

A list with 14643 entries.

**Details**

created using biomaRt package in May 2008

**Examples**

```r
data(arrayGenesToProbeSets)
head(arrayGenesToProbeSets)
table(listLen(arrayGenesToProbeSets))
```

---

barreraExpressionX  

**Barrera expression data**

**Description**

Preprocessed expression data for five *M. musculus* tissues. Samples were hybridized to Affymetrix’s mouse430v2 array platform, preprocessed using the MAS5 method, as implemented in Bioconductor’s package affy.

**Usage**

```r
data(barreraExpressionX)
```

**Format**

Preprocessed expression data as an ExpressionSet with 45101 features, 5 samples.
Details

see the supplement for the code chunk that was used to read in the CEL files that are in the expression directory of the package and to preprocess them.

See Also

ExpressionSet, mas5

Examples

data(barreraExpressionX)
show(barreraExpressionX)
## the raw data is here:
dir(system.file("expression", package="ccTutorial"))

| chersX               | List of found ChIP-enriched regions |

Description

This is the list of found ChIP-enriched regions. The package contains all the data to recreate the list and this list is merely given for convenience sake.

Usage

data(chersX)

Format

A cherList, a list of cher objects.

See Also

cher-class

Examples

data(chersX)
head(chersX)
**mm9.g2p**  
*Mapping of Ensembl mm9 genes and reporter match positions*

**Description**

A list holding for each mm9 gene annotated in the Ensembl database, which reporter - if any - have been mapped into its upstream or transcribed region. Users can create this list themselves and the manuscript contains the source code for doing this. For convenience sake, this list is also given as a data object.

**Usage**

```
data(mm9.g2p)
```

**Format**

A list with 27434 entries.

**See Also**

`features2Probes`

**Examples**

```
data(mm9.g2p)
head(mm9.g2p)
## how many reporters are mapped per gene:
if (interactive())
  hist(listLen(mm9.g2p))
```

**mm9.gene2GO**  
*GO annotation of Ensembl mm9 genes*

**Description**

A list holding the GO terms annotated for each mm9 gene annotated in Ensembl, as retrieved using biomaRt. Users can create this list themselves and the supplement contains the source code for doing this. For convenience sake, this is also given as a data object.

**Usage**

```
data(mm9.gene2GO)
```

**Format**

A list with 10526 entries.
Details

created using biomaRt package in March 2008

Examples

data(mm9.gene2GO)
head(mm9.gene2GO)
## how many genes are annotated per GO term:
mean(listLen(mm9.gene2GO))
table(listLen(mm9.gene2GO))

mm9genes: data frame of mm9 genes in Ensembl

Description

~~ A concise (1-5 lines) description of the dataset. ~~

Usage

data(mm9genes)

Format

A data frame with 27434 observations on the following 8 variables.

name: a character vector
chr: a character vector
strand: a numeric vector
start: a numeric vector
end: a numeric vector
description: a character vector
feature: a character vector

Details

created using biomaRt package in March 2008

Source

~~ reference to a publication or URL from which the data were obtained ~~

References

~~ possibly secondary sources and usages ~~
Examples

```
data(mm9genes)
## maybe str(mm9genes); plot(mm9genes) ...
```

---

**probeAnno**

**probeAnno object holding mapping of reporters to genomic positions**

Description

This object of class `probeAnno` holds the mapping of the reporters on the tiling microarrays to positions in the mouse genome (assembly: mm9).

Usage

```
data(probeAnno)
```

Format

The format is: Formal class ‘probeAnno’ [package “Ringo”]

Details

The package’s supplementary vignette shows how this object is constructed from the output of the alignment tool Exonerate. For sake of speed and for computers with small amounts of RAM, we also provide it as a data object here.

See Also

`probeAnno-class`

Examples

```
## Not run:
data("probeAnno")
show(probeAnno)
chromosomeNames(probeAnno)

## End(Not run)
```
X  

ExpressionSet containing ChIP-chip data

Description
Preprocessed ChIP-chip expression data from *M. musculus* brain and heart cells. H3K4me3 ChIP and input samples were hybridized to a set of four custom NimbleGen microarrays with non-overlapping sets of 390k reporters each. The results were preprocessed per array type and the result fold changes were combined via `rbind` afterwards, resulting in this ExpressionSet with 1.5m reporters.

Usage
```r
data(X)
```

Format
Preprocessed ChIP-chip data as an ExpressionSet with 1495582 features, 2 samples.

Details
This ExpressionSet is created in the vignette, but for purposes of speed and for computers with small RAM, we provide it as a data object here as well.

See Also
- `ExpressionSet`
- `preprocess`

Examples
```r
data("X")
show(X)
pData(X)
```
Index

* datasets
  - arrayGenesToProbeSets, 3
  - barreraExpressionX, 3
  - chersX, 4
  - mm9.g2p, 5
  - mm9.gene2GO, 5
  - mm9genes, 6
  - probeAnno, 7
  - X, 8

* package
  - ccTutorial-package, 2

arrayGenesToProbeSets, 3
barreraExpressionX, 3
ccTutorial (ccTutorial-package), 2
ccTutorial-package, 2
chersX, 4
ExpressionSet, 4, 8
features2Probes, 5
mas5, 4
mm9.g2p, 5
mm9.gene2GO, 5
mm9genes, 6
preprocess, 8
probeAnno, 7
X, 8