

Package ‘PCHiCdata’

April 16, 2024

Type Package

Title Promoter Capture Hi-C data

Version 1.30.0

Date 2015-05-22

Author Paula Freire-Pritchett, Jonathan Cairns, Steven Wingett, Mikhail Spivakov

Maintainer Mikhail Spivakov <mikhail.spivakov@lms.mrc.ac.uk>

Description Subsets of Promoter Capture Hi-C data conveniently packaged for Chicago users. Data includes interactions detected for chromosomes 20 and 21 in GM12878 cells and for chromosomes 18 and 19 in mESC.

License Artistic-2.0

Depends R (>= 3.2), Chicago

Suggests testthat, BiocStyle, knitr

VignetteBuilder knitr

LazyData true

biocViews ExperimentData, SequencingData, Homo_sapiens_Data, Mus_musculus_Data, StemCell

git_url <https://git.bioconductor.org/packages/PCHiCdata>

git_branch RELEASE_3_18

git_last_commit 95d1911

git_last_commit_date 2023-10-24

Repository Bioconductor 3.18

Date/Publication 2024-04-16

R topics documented:

| | |
|-----------------------------|---|
| PCHiCdata-package | 2 |
| sGM12878 | 3 |
| smESC | 4 |

| | |
|--------------|----------|
| Index | 5 |
|--------------|----------|

PCHiCdata-package

Promoter Capture Hi-C data

Description

Promoter Capture data Hi-C conveniently packaged for consumption by R users. Data includes interactions detected for chromosomes 20 and 21 in GM12878 cells and for chromosomes 18 and 19 in mESC.

Details

Package: PCHiCdata
Type: Package
Version: 0.1
Date: 2015-05-22
License: Artistic-2.0
Depends: R (>= 3.1.2), Chicago
LazyData: true

Index:

| | |
|----------|--|
| sGM12878 | Promoter Capture data for chromosomes 20 and 21 in GM12878 |
| smESC | Promoter Capture data for chromosomes 18 and 19 in smESC |

Author(s)

Mikhail Spivakov, Jonathan Cairns, Paula Freire Pritchett, Steven Wingett

Maintainer: Paula Freire-Pritchett <paula.freire-pritchett@babraham.ac.uk>

References

Mifsud, B. et al. "Mapping long-range promoter contacts in human cells with high-resolution capture Hi-C." *Nature Genetics* (2015) doi:10.1038/ng.3286

Schoenfelder, S. et al. "The pluripotent regulatory circuitry connecting promoters to their long-range interacting elements." *Genome research* 25.4 (2015): 582-597.

Examples

```
data(sGM12878)
data(smESC)
```

sGM12878

Promoter Capture data for chromosomes 20 and 21 in GM12878

Description

Promoter Capture data to be used as a toy example to run all steps of Chicago. This data only incorporates read pairs including both chromosomes 20 and 21 in order to minimize processing time and memory storage. Thus, this data set includes all cis read pairs for these two chromosomes and all trans read pairs between them.

The hg19 genome was used.

The package includes ChIP-seq data from the ENCODE consortium, also restricted to chr20 and chr21. (The ENCODE Project Consortium, 2012 "An Integrated Encyclopedia of DNA Elements in the Human Genome." Nature 489 (September): 57-74. Data accession numbers: Bernstein lab GSM733752, GSM733772, GSM733708, GSM733664, GSM733771, GSM733758)

Usage

```
sGM12878
```

Format

A ChicagoData object.

Value

A [chicagoData](#) object.

Source

Mifsud, B. et al. "Mapping long-range promoter contacts in human cells with high-resolution capture Hi-C." Nature Genetics (2015) doi:10.1038/ng.3286

See Also

[chicagoData](#)

Examples

```
data(sGM12878)
##modifications to sGM12878, ensuring it uses correct design directory
designDir <- file.path(system.file("extdata", package="PChICdata"), "hg19TestDesign")
sGM12878 <- modifySettings(cd = sGM12878, designDir=designDir)
```

smESC

Promoter Capture data for chromosomes 18 and 19 in smESC

Description

Promoter Capture data to be used as a toy example to run all steps of Chicago. This data only incorporates read pairs including both chromosomes 18 and 19 in order to minimize processing time and memory storage. Thus, this data set includes all cis read pairs for these two chromosomes and all trans read pairs between them.

The mm9 genome was used.

The package includes ChIP-seq data from the ENCODE consortium, also restricted to chr18 and chr19. (The ENCODE Project Consortium, 2012 "An Integrated Encyclopedia of DNA Elements in the Human Genome." Nature 489 (September): 57-74. Data accession numbers: Snyder lab GSM1003750, GSM1003756, GSM1003751; Ren lab GSM1000126, Hardison lab ENCFF001ZJO, ENCFF001ZQY)

Usage

smESC

Format

A ChicagoData object.

Value

A [chicagoData](#) object.

Source

Schoenfelder, S. et al. "The pluripotent regulatory circuitry connecting promoters to their long-range interacting elements." Genome research 25.4 (2015): 582-597.

See Also

[chicagoData](#)

Examples

```
data(smESC)
##modifications to smESC, ensuring it uses correct design directory
designDir <- file.path(system.file("extdata", package="PChICdata"), "mm9TestDesign")
smESC <- modifySettings(cd = smESC, designDir=designDir)
```

Index

* **datasets**

sGM12878, [3](#)

smESC, [4](#)

chicagoData, [3](#), [4](#)

PChiCdata (PChiCdata-package), [2](#)

PChiCdata-package, [2](#)

sGM12878, [3](#)

smESC, [4](#)