

Package ‘DMRcatedata’

May 7, 2024

Type Package

Title Data Package for DMRcate

Version 2.22.0

Date 2024-08-03

Author Tim Peters

Maintainer Tim Peters <t.peters@garvan.org.au>

Description This package contains 9 data objects supporting functionality and examples of the Bioconductor package DMRcate.

License GPL-3

Depends R (>= 4.0), ExperimentHub

Imports GenomicFeatures, Gviz, readxl, plyr, rtracklayer,
IlluminaHumanMethylation450kanno.ilmn12.hg19,
IlluminaHumanMethylationEPICanno.ilm10b4.hg19

LazyData true

Suggests knitr

biocViews ExperimentHub, ExperimentData, SNPData, Homo_sapiens_Data,
Mus_musculus_Data, SequencingData, MicroarrayData, Genome

VignetteBuilder knitr

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

git_branch RELEASE_3_19

git_last_commit 709b821

git_last_commit_date 2024-04-30

Repository Bioconductor 3.19

Date/Publication 2024-05-07

Contents

| | |
|-------------------------------|---|
| DMRcatedata-package | 2 |
| ALLbetas | 2 |

| | |
|-------------------------|---|
| crosshyb | 3 |
| epicv2snps | 3 |
| hg19.geranges | 4 |
| hg19.grt | 4 |
| hg38.geranges | 5 |
| hg38.grt | 5 |
| mm10.geranges | 6 |
| mm10.grt | 6 |
| snpsall | 7 |
| XY.probes | 7 |

| | |
|--------------|----------|
| Index | 8 |
|--------------|----------|

| | |
|---------------------|---|
| DMRcatedata-package | <i>Dataset to use with the DMRcate pipeline</i> |
|---------------------|---|

Description

SNP annotation, cross-hybridising probes, XY probes, and gene annotation for hg19, hg38 and mm10

Author(s)

Tim Peters, Immunogenomics Laboratory, Garvan Institute of Medical Research

Maintainer: Tim Peters<t.peters@garvan.org.au>

Examples

```
data(crosshyb)
data(snpsall)
data(hg19.grt)
data(hg19.geranges)
```

| | |
|----------|---|
| ALLbetas | <i>EPICv2 beta values for DMR calling</i> |
|----------|---|

Description

Matrix of EPICv2 beta values from Noguera-Castells et al. (2023) consisting of five B cell acute lymphoblastic leukaemia (BALL) and five T cell acute lymphoblastic leukaemia (TALL) samples for DMR calling.

Usage

```
data(ALLbetas)
```

Format

data.frame

Source

https://ftp.ncbi.nlm.nih.gov/geo/series/GSE222nnn/GSE222919/suppl/GSE222919_processed_data.txt.gz

crosshyb

Potentially cross-hybridising Illumina probes

Description

This is a character vector of Illumina probes whose probe sequence promiscuously aligns to non-target sections of the genome with a matching of 47bp or higher.

Usage

data(crosshyb)

Format

character

Source

https://static-content.springer.com/esm/art%3A10.1186%2Fs13059-016-1066-1/MediaObjects/13059_2016_1066_MOESM2_ESM.csv (accessed September 2019) https://static-content.springer.com/esm/art%3A10.1186%2Fs13059-016-1066-1/MediaObjects/13059_2016_1066_MOESM3_ESM.csv (accessed September 2019) <http://www.sickkids.ca/MS-Office-Files/Research/WeksbergLab/48639-non-specific-probes-Illumina450k.xlsx> (accessed September 2019)

epicv2snps

SNP information for EPICv2 Illumina probes

Description

This is a data.frame of Illumina probes from EPICv2 whose target CpG lies on or near a known SNP. SNP ID, distance and minor allele frequency are all reported here.

Usage

data(snpsall)

Format

data.frame

Source

https://static-content.springer.com/esm/art%3A10.1186%2Fs12864-024-10027-5/MediaObjects/12864_2024_10027_MOESM4_ESM.csv

| | |
|-----------------|--|
| hg19.generanges | <i>Start and stop positions of all genes in hg19</i> |
|-----------------|--|

Description

This data set gives the genomic intervals of all gene regions in the Ensembl Release 75 of hg19.

Usage

```
data(hg19.generanges)
```

Format

A GRanges object with 57773 intervals.

Source

ftp://ftp.ensembl.org/pub/release-75/gtf/homo_sapiens/Homo_sapiens.GRCh37.75.gtf.gz

| | |
|----------|---------------------------------|
| hg19.grt | <i>GeneRegionTrack for hg19</i> |
|----------|---------------------------------|

Description

This is a GeneRegionTrack formulated from TxDb.Hsapiens.UCSC.hg19.knownGene.

Usage

```
data(hg19.grt)
```

Format

GeneRegionTrack

| | |
|-----------------|--|
| hg38.generanges | <i>Start and stop positions of all genes in hg38</i> |
|-----------------|--|

Description

This data set gives the genomic intervals of all gene regions in the Ensembl Release 102 of hg38.

Usage

```
data(hg38.generanges)
```

Format

A GRanges object with 60616 intervals.

Source

ftp://ftp.ensembl.org/pub/release-102/gtf/homo_sapiens/Homo_sapiens.GRCh38.102.chr.gtf.gz

| | |
|----------|---------------------------------|
| hg38.grt | <i>GeneRegionTrack for hg38</i> |
|----------|---------------------------------|

Description

This is a GeneRegionTrack formulated from TxDb.Hsapiens.UCSC.hg38.knownGene.

Usage

```
data(hg38.grt)
```

Format

GeneRegionTrack

| | |
|-----------------|--|
| mm10.generanges | <i>Start and stop positions of all genes in mm10</i> |
|-----------------|--|

Description

This data set gives the genomic intervals of all gene regions in the Ensembl Release 102 of mm10.

Usage

```
data(mm10.generanges)
```

Format

A GRanges object with 55401 intervals.

Source

```
ftp://ftp.ensembl.org/pub/release-96/gtf/mus\_musculus/Mus\_musculus.GRCm38.102.chr.gtf.gz
```

| | |
|----------|---------------------------------|
| mm10.grt | <i>GeneRegionTrack for mm10</i> |
|----------|---------------------------------|

Description

This is a GeneRegionTrack formulated from TxDb.Mmusculus.UCSC.mm10.knownGene.

Usage

```
data(mm10.grt)
```

Format

GeneRegionTrack

`snpsall`*SNP information for EPICv1 and 450K Illumina probes*

Description

This is a data.frame of Illumina probes from EPICv1 and 450K whose target CpG lies on or near a known SNP. SNP ID, distance and minor allele frequency are all reported here.

Usage

```
data(snpsall)
```

Format

```
data.frame
```

Source

https://static-content.springer.com/esm/art%3A10.1186%2Fs13059-016-1066-1/MediaObjects/13059_2016_1066_MOESM4_ESM.csv (accessed September 2019) https://static-content.springer.com/esm/art%3A10.1186%2Fs13059-016-1066-1/MediaObjects/13059_2016_1066_MOESM5_ESM.csv (accessed September 2019) https://static-content.springer.com/esm/art%3A10.1186%2Fs13059-016-1066-1/MediaObjects/13059_2016_1066_MOESM6_ESM.csv (accessed September 2019) <http://www.sickkids.ca/MS-Office-Files/Research/WeksbergLab/48640-polymorphic-CpGs-Illumina.xlsx> (accessed September 2019)

`XY.probes`*Sex chromosome Illumina probes*

Description

This is a character vector of Illumina probes whose target CpG site is on a sex chromosome.

Usage

```
data(XY.probes)
```

Format

```
character
```

Index

* datasets

- ALLbetas, [2](#)
- crosshyb, [3](#)
- DMRcatedata-package, [2](#)
- epicv2snps, [3](#)
- hg19.geranges, [4](#)
- hg19.grt, [4](#)
- hg38.geranges, [5](#)
- hg38.grt, [5](#)
- mm10.geranges, [6](#)
- mm10.grt, [6](#)
- snpsall, [7](#)
- XY.probes, [7](#)

ALLbetas, [2](#)

crosshyb, [3](#)

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

epicv2snps, [3](#)

hg19.geranges, [4](#)
hg19.grt, [4](#)
hg38.geranges, [5](#)
hg38.grt, [5](#)

mm10.geranges, [6](#)
mm10.grt, [6](#)

snpsall, [7](#)

XY.probes, [7](#)