

Package 'PWMEnrich.Mmusculus.background'

January 16, 2025

Maintainer Diego Diez <diego10ruiz@gmail.com>

License GPL-3

Title M. musculus background for PWMEnrich

Type Package

LazyLoad yes

Author Robert Stojnic

Description PWMEnrich pre-compiled background objects for M.musculus (mouse) and MotifDb M. musculus motifs.

Version 4.40.0

biocViews Mus_musculus_Data

Date 2015-09-30

Depends R (>= 2.10), methods, PWMEnrich

git_url <https://git.bioconductor.org/packages/PWMEnrich.Mmusculus.background>

git_branch RELEASE_3_20

git_last_commit f935125

git_last_commit_date 2024-10-29

Repository Bioconductor 3.20

Date/Publication 2025-01-16

Contents

PWMEnrich.Mmusculus.background-package	2
Index	4

PWMErich.Mmusculus.background-package

PWMErich.Mmusculus.background package overview

Description

This package provides a set of pre-compiled genomic background files for the PWMErich package and *M. musculus* (mouse). The backgrounds were pre-compiled using unique 2kb promoters in mouse.

- MotifDb.Mmus.PFM - a list of position frequency matrices (PFMs) from MotifDb
- MotifDb.Mmus - the corresponding PWMs generated by using the background frequencies of A,C,G,T in a set of 2kb mouse (mm9) promoters.
- PWMLogn.mm9.MotifDb.Mmus - pre-compiled threshold-free lognormal background for MotifDb mouse PWMs. The lognormal distribution is fitted to 500bp chunks of 2kb mouse (mm9) promoters.
- PWMCutoff4.mm9.MotifDb.Mmus, PWMCutoff5.mm9.MotifDb.Mmus - pre-compiled Z-score background with cutoff of 4 and 5 (base e) for MotifDb mouse PWMs. The number of hits is counted in 2kb mouse (mm9) promoters.
- PPWMPvalueCutoff1e2.mm9.MotifDb.Mmus, PPWMPvalueCutoff1e3.mm9.MotifDb.Mmus, PPWMPvalueCutoff1e4.mm9.MotifDb.Mmus - pre-compiled Z-score background with P-value cutoff of 0.01, 0.001, and 0.0001 for MotifDb mouse PWMs. The number of hits with smaller P-value than cutoff is counted in 2kb mouse (mm9) promoters.

Usage

```
data(MotifDb.Mmus.PFM)
data(MotifDb.Mmus)
data(PWMLogn.mm9.MotifDb.Mmus)
data(PWMCutoff4.mm9.MotifDb.Mmus)
data(PWMCutoff5.mm9.MotifDb.Mmus)
data(PPWMPvalueCutoff1e2.mm9.MotifDb.Mmus)
data(PPWMPvalueCutoff1e3.mm9.MotifDb.Mmus)
data(PPWMPvalueCutoff1e4.mm9.MotifDb.Mmus)
```

Details

All of these objects were created with the appropriate functions available in the PWMErich package (see Section 'See also'). We recommend using these functions to generate backgrounds for a custom set of background sequences and/or DNA motifs.

This package also contains the 2kb upstream sequences for mouse genes (mm9.upstream2000) which were removed from the BSgenome.Mmusculus.UCSC.mm9 package starting from Bioconductor version 3.0.

Author(s)

Robert Stojnic
Cambridge Systems Biology Centre
University of Cambridge, UK

Maintainer: Robert Stojnic <robert.stojnic@gmail.com>

See Also

[makeBackground](#), [makePWMLognBackground](#), [makePWMCutoffBackground](#), [makePWMEmpiricalBackground](#).

Examples

```
data(PWMLogn.mm9.MotifDb.Mmus)

res = motifEnrichment(DNAString("TGCATCAAGTGTGTAGTCAAGTGAGTGATGAATGC"),
  PWMLogn.mm9.MotifDb.Mmus)

groupReport(res)[1:10]
```

Index

* package

- PWMErich.Mmusculus.background-package,
[2](#)

- makeBackground, [3](#)
- makePWMCutoffBackground, [3](#)
- makePWMEmpiricalBackground, [3](#)
- makePWMLognBackground, [3](#)
- mm9.upstream2000
(PWMErich.Mmusculus.background-package),
[2](#)
- MotifDb.Mmus
(PWMErich.Mmusculus.background-package),
[2](#)

- PWMCutoff4.mm9.MotifDb.Mmus
(PWMErich.Mmusculus.background-package),
[2](#)
- PWMCutoff5.mm9.MotifDb.Mmus
(PWMErich.Mmusculus.background-package),
[2](#)
- PWMErich.Mmusculus.background
(PWMErich.Mmusculus.background-package),
[2](#)
- PWMErich.Mmusculus.background-package,
[2](#)
- PWMEV.mm9.MotifDb.Mmus
(PWMErich.Mmusculus.background-package),
[2](#)
- PWMLogn.mm9.MotifDb.Mmus
(PWMErich.Mmusculus.background-package),
[2](#)
- PWMPvalueCutoff1e2.mm9.MotifDb.Mmus
(PWMErich.Mmusculus.background-package),
[2](#)
- PWMPvalueCutoff1e3.mm9.MotifDb.Mmus
(PWMErich.Mmusculus.background-package),
[2](#)
- PWMPvalueCutoff1e4.mm9.MotifDb.Mmus
(PWMErich.Mmusculus.background-package),
[2](#)