

Package 'PWMErich.Dmelanogaster.background'

October 1, 2024

Maintainer Diego Diez <diego10ruiz@gmail.com>

License GPL-3

Title D. melanogaster background for PWMErich

Type Package

LazyLoad yes

Author Robert Stojnic

Description PWMErich pre-compiled background objects for Drosophila melanogaster and MotifDb D. melanogaster motifs.

Version 4.39.0

biocViews Drosophila_melanogaster_Data

Date 2015-09-30

Depends R (>= 2.10), methods, PWMErich

git_url <https://git.bioconductor.org/packages/PWMErich.Dmelanogaster.background>

git_branch devel

git_last_commit 23f59db

git_last_commit_date 2024-04-30

Repository Bioconductor 3.20

Date/Publication 2024-10-01

Contents

PWMErich.Dmelanogaster.background-package	2
Index	4

PWMErich.Dmelanogaster.background-package

PWMErich.Dmelanogaster.background package overview

Description

This package provides a set of pre-compiled genomic background files for the PWMErich package and *D. melanogaster*. The backgrounds were pre-compiled using unique promoters of *Drosophila melanogaster*.

- MotifDb.Dmel.PFM - a list of 740 position frequency matrices (PFMs) from MotifDb
- MotifDb.Dmel - the corresponding PWMs generated by using the background frequencies of A,C,G,T in a set of 10031 2kb promoters in *D. Melanogaster*.
- PWMLogn.dm3.MotifDb.Dmel - pre-compiled threshold-free lognormal background for JASPAR insects PWMs. The lognormal distribution is fitted to 1kb fragments of 10031 2kb *Drosophila Melanogaster* (dm3) promoters. For each gene one promoter is taken (from the first transcript).
- PWMcutoff4.dm3.MotifDb.Dmel, PWMcutoff5.dm3.MotifDb.Dmel - pre-compiled Z-score background with cutoff of 4 and 5 (base e) for JASPAR insects PWMs. The number of hits above the score cutoff is counted in 10031 2kb *Drosophila Melanogaster* (dm3) promoters. For each gene one promoter is taken (from the first transcript).
- PWMPvaluecutoff1e2.dm3.MotifDb.Dmel, PWMPvaluecutoff1e3.dm3.MotifDb.Dmel, PWMPvaluecutoff1e4.dm3.MotifDb.Dmel - pre-compiled Z-score background with P-value cutoff of 0.01, 0.001, and 0.0001 for JASPAR insects PWMs. The number of hits with smaller P-value than cutoff is counted in 10031 2kb *Drosophila Melanogaster* (dm3) promoters. For each gene one promoter is taken (from the first transcript).

Usage

```
data(MotifDb.Dmel.PFM)
data(MotifDb.Dmel)
data(PWMLogn.dm3.MotifDb.Dmel)
data(PWMcutoff4.dm3.MotifDb.Dmel)
data(PWMcutoff5.dm3.MotifDb.Dmel)
data(PWMPvaluecutoff1e2.dm3.MotifDb.Dmel)
data(PWMPvaluecutoff1e3.dm3.MotifDb.Dmel)
data(PWMPvaluecutoff1e4.dm3.MotifDb.Dmel)
```

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 *Drosophila* genes (dm3.upstream2000) which were removed from the BSgenome.Dmelanogaster.UCSC.dm3 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.dm3.MotifDb.Dmel)

res = motifEnrichment(DNAString("TGCATCAAGTGTGTAGTGGATGAATGC"), PWMLogn.dm3.MotifDb.Dmel)

head(motifRankingForGroup(res))
```

Index

* package

PWMEnrich.Dmelanogaster.background-package,
[2](#)

dm3.upstream2000
(PWMEnrich.Dmelanogaster.background-package),
[2](#)

makeBackground, [3](#)
makePWMCutoffBackground, [3](#)
makePWMEmpiricalBackground, [3](#)
makePWMLognBackground, [3](#)

MotifDb.Dmel
(PWMEnrich.Dmelanogaster.background-package),
[2](#)

PWMCutoff4.dm3.MotifDb.Dmel
(PWMEnrich.Dmelanogaster.background-package),
[2](#)

PWMCutoff5.dm3.MotifDb.Dmel
(PWMEnrich.Dmelanogaster.background-package),
[2](#)

PWMEnrich.Dmelanogaster.background
(PWMEnrich.Dmelanogaster.background-package),
[2](#)

PWMEnrich.Dmelanogaster.background-package,
[2](#)

PWMLogn.dm3.MotifDb.Dmel
(PWMEnrich.Dmelanogaster.background-package),
[2](#)

PWMPvalueCutoff1e2.dm3.MotifDb.Dmel
(PWMEnrich.Dmelanogaster.background-package),
[2](#)

PWMPvalueCutoff1e3.dm3.MotifDb.Dmel
(PWMEnrich.Dmelanogaster.background-package),
[2](#)

PWMPvalueCutoff1e4.dm3.MotifDb.Dmel
(PWMEnrich.Dmelanogaster.background-package),
[2](#)