Package 'PWMEnrich.Mmusculus.background'

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Title M. musculus background for PWMEnrich

Type Package

LazyLoad yes

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

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PWMEnrich.Mmusculus.background package overview

Description

This package provides a set of pre-compiled genomic background files for the PWMEnrich 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.
- PWMPvalueCutoff1e2.mm9.MotifDb.Mmus, PPWMPvalueCutoff1e3.mm9.MotifDb.Mmus, PPWMPvalueCutoff1e4.mm - 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(PWMPvalueCutoff1e2.mm9.MotifDb.Mmus)
data(PWMPvalueCutoff1e3.mm9.MotifDb.Mmus)
data(PWMPvalueCutoff1e4.mm9.MotifDb.Mmus)
```

Details

All of these objects were created with the appropriate functions available in the PWMEnrich 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.

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See Also

makeBackground, makePWMLognBackground, makePWMCutoffBackground, makePWMEmpiricalBackground.

Examples

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

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

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

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