Package
'PWMEnrich.Dmelanogaster.background'

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Title D. melanogaster background for PWMEnrich

Type Package

LazyLoad yes

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

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Depends methods, PWMEnrich

R topics documented:

PWMEnrich.Dmelanogaster.background-package
PWMEnrich.Dmelanogaster.background package overview

Description

This package provides a set of pre-compiled genomic background files for the PWMEnrich 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 JAS-
  PAR 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, PPWMPvalueCutoff1e3.dm3.MotifDb.Dmel, PPWMPvalueCutoff1e4.dm
  - pre-compiled Z-score background with P-value cutoff of 0.01, 0.001, and 0.0001 for JAS-
  PAR 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).
- PWMGEV.dm3.MotifDb.Dmel - pre-compiled generalized extreme value (GEV) distribution
  with location, scale and shape parameters fitted using linear regression on fragments of size
  200-2000bp on all unique 2kb Drosophila Melanogaster (dm3) promoters.

Usage

```
data(MotifDb.Dmel.PFM)
data(MotifDb.Dmel)
data(PWMLogn.dm3.MotifDb.Dmel)
data(PWMCutoff4.dm3.MotifDb.Dmel)
data(PWMCutoff5.dm3.MotifDb.Dmel)
data(PWMGEV.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 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.

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See Also

makeBackground, makePWMLognBackground, makePWMCutoffBackground, makePWMEmpiricalBackground.

Examples

```
data(PWMLogn.dm3.MotifDb.Dmel)

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

head(motifRankingForGroup(res))
```

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