**BSgenome.Dmelanogaster.UCSC.dm2**

November 18, 2016

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**Description**

Full genome sequences for Drosophila melanogaster (Fly) as provided by UCSC (dm2, Apr. 2004) and stored in Biostrings objects.

**Note**

This BSgenome data package was made from the following source data files:

chromFa.zip from http://hgdownload.cse.ucsc.edu/goldenPath/dm2/bigZips/

See ?BSgenomeForge and the BSgenomeForge vignette (vignette("BSgenomeForge")) in the BSgenome software package for how to make a BSgenome data package.

**Author(s)**

The Bioconductor Dev Team

**See Also**

- **BSgenome** objects and the available.genomes function in the BSgenome software package.
- **DNAString** objects in the Biostrings package.
- The BSgenomeForge vignette (vignette("BSgenomeForge")) in the BSgenome software package for how to make a BSgenome data package.
Examples

```r
BSgenome.Dmelanogaster.UCSC.dm2
genome <- BSgenome.Dmelanogaster.UCSC.dm2
seqlengths(genome)
genome$chr2L # same as genome[["chr2L"]]
```

### Upstream sequences

Starting with BioC 3.0, the upstream1000, upstream2000, and upstream5000 sequences for dm2 are not included in the BSgenome data package anymore. However they can easily be extracted from the full genome sequences with something like:

```r
library(GenomicFeatures)
txdb <- makeTranscriptDbFromUCSC("dm2", "refGene")
up1000 <- flank(gn, width=1000)
up1000seqs <- getSeq(genome, up1000)
```

IMPORTANT: Make sure you use a TxDb package (or TranscriptDb object), that contains a gene model based on the exact same reference genome as the BSgenome object you pass to getSeq(). Note that you can make your own custom TranscriptDb object from various annotation resources. See the makeTranscriptDbFromUCSC(), makeTranscriptDbFromBiomart(), and makeTranscriptDbFromGFF() functions in the GenomicFeatures package.

### Genome-wide motif searching

See the GenomeSearching vignette in the BSgenome software package for some examples of genome-wide motif searching using Biostrings and the BSgenome data packages:

```r
if (interactive())
vignette("GenomeSearching", package="BSgenome")
```
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