Full genome sequences for Bos taurus (Cow) as provided by UCSC (bosTau3, Aug. 2006) and stored in Biostrings objects.

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

all the *.fa.gz files from http://hgdownload.cse.ucsc.edu/goldenPath/bosTau3/chromosomes/

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

The Bioconductor Dev Team

- 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.

```r
BSgenome.Btaurus.UCSC.bosTau3
genome <- BSgenome.Btaurus.UCSC.bosTau3
seqlengths(genome)
genome$chr1  # same as genome[["chr1"]]
```

## Upstream sequences
## The upstream sequences for bosTau3 (i.e. the sequences 1000 bases upstream of annotated transcription starts) can easily be extracted from the full genome sequences with something like:

```r
library(GenomicFeatures)
txdb <- makeTranscriptDbFromUCSC("bosTau3", "refGene")
gn <- sort(genes(txdb))
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:

if (interactive())
  vignette("GenomeSearching", package="BSgenome")
Index

*Topic data
  BSgenome.Btaurus.UCSC.bosTau3, 1

*Topic package
  BSgenome.Btaurus.UCSC.bosTau3, 1

available.genomes, /

BSgenome, /
BSgenome.Btaurus.UCSC.bosTau3, 1
BSgenome.Btaurus.UCSC.bosTau3-package
  (BSgenome.Btaurus.UCSC.bosTau3), 1

BSgenomeForge, /
Btaurus
  (BSgenome.Btaurus.UCSC.bosTau3), 1

DNAString, /