

Package ‘cfToolsData’

April 1, 2025

Title ExperimentHub data for the cfTools package

Version 1.4.0

Description The cfToolsData package supplies the data for the cfTools package. It contains two pre-trained deep neural network (DNN) models for the cfSort function. Additionally, it includes the shape parameters of beta distribution characterizing methylation markers associated with four tumor types for the CancerDetector function, as well as the parameters characterizing methylation markers specific to 29 primary human tissue types for the cfDeconvolve function.

License file LICENSE

LazyData False

Encoding UTF-8

Depends R (>= 4.3.0)

RoxygenNote 7.2.3

VignetteBuilder knitr

Imports utils, ExperimentHub

Suggests BiocStyle, knitr, rmarkdown, ExperimentHubData, testthat (>= 3.0.0)

biocViews ExperimentHub, ExperimentData, ReproducibleResearch, DiseaseModel, CancerData, Tissue

URL <https://github.com/jasminzhoulab/cfToolsData>

BugReports <https://github.com/jasminzhoulab/cfToolsData/issues>

git_url <https://git.bioconductor.org/packages/cfToolsData>

git_branch RELEASE_3_20

git_last_commit d77a17f

git_last_commit_date 2024-10-29

Repository Bioconductor 3.20

Date/Publication 2025-04-01

Author Ran Hu [aut, cre] (<<https://orcid.org/0000-0002-0563-8957>>),
Shuo Li [aut] (<<https://orcid.org/0000-0002-1960-6016>>),
Xianghong Jasmine Zhou [aut] (<<https://orcid.org/0000-0002-4522-7490>>),
Wenyuan Li [aut] (<<https://orcid.org/0000-0002-5029-8525>>)

Maintainer Ran Hu <huran@ucla.edu>

Contents

cfToolsData	2
COAD.tumorMarkerParams.hg19	2
DNN1	3
DNN2	3
LIHC.tumorMarkerParams.hg19	3
LUNG.tumorMarkerParams.hg19	4
STAD.tumorMarkerParams.hg19	4
tissueMarkerParams.annot	5
tissueMarkerParams.hg19	5

Index	6
--------------	----------

cfToolsData	<i>ExperimentHub datasets for the cfTools package</i>
-------------	---

Description

The cfToolsData package supplies data for the cfTools package. It contains two pre-trained deep neural network (DNN) models for the cfSort function. Additionally, it includes the shape parameters of beta distribution characterizing methylation markers associated with four cancer types and 29 primary human tissue types as example files for the CancerDetector and the cfDeconvolve function.

For more information, see <https://doi.org/10.1038/s41467-022-32995-6> and <https://doi.org/10.1073/pnas.2305236120>.

Value

Downloads and caches ‘.txt.gz’ or HDF5-formatted ‘.h5’ files.

Author(s)

Ran Hu

COAD.tumorMarkerParams.hg19	<i>Parameters of COAD markers</i>
-----------------------------	-----------------------------------

Description

The shape parameters of beta distribution characterizing methylation markers associated with colon adenocarcinoma (COAD)

Value

Downloads and caches a ‘.txt.gz’ file.

Examples

```
COADMarkerParams <- COAD.tumorMarkerParams.hg19()
COADMarkerParams
```

DNN1

Model DNN1

Description

The 1st deep neural network in cfSort.

Value

Downloads and caches a '.h5' file in HDF5 format.

Examples

```
modelDNN1 <- DNN1()  
modelDNN1
```

DNN2

Model DNN2

Description

The 2nd deep neural network in cfSort.

Value

Downloads and caches a '.h5' file in HDF5 format.

Examples

```
modelDNN2 <- DNN2()  
modelDNN2
```

LIHC.tumorMarkerParams.hg19

Parameters of LIHC markers

Description

The shape parameters of beta distribution characterizing methylation markers associated with liver hepatocellular carcinoma (LIHC)

Value

Downloads and caches a '.txt.gz' file.

Examples

```
LIHCMarkerParams <- LIHC.tumorMarkerParams.hg19()  
LIHCMarkerParams
```

LUNG.tumorMarkerParams.hg19

Parameters of lung cancer markers

Description

The shape parameters of beta distribution characterizing methylation markers associated with lung cancer

Value

Downloads and caches a '.txt.gz' file.

Examples

```
LUNGMarkerParams <- LUNG.tumorMarkerParams.hg19()  
LUNGMarkerParams
```

STAD.tumorMarkerParams.hg19

Parameters of STAD markers

Description

The shape parameters of beta distribution characterizing methylation markers associated with stomach adenocarcinoma (STAD)

Value

Downloads and caches a '.txt.gz' file.

Examples

```
STADMarkerParams <- STAD.tumorMarkerParams.hg19()  
STADMarkerParams
```

`tissueMarkerParams.annot`*Annotation of tissue markers*

Description

The annotation of strategies used to identify tissue markers.

Value

Downloads and caches a '.txt.gz' file.

Examples

```
tissueMarkerAnnot <- tissueMarkerParams.annot()
tissueMarkerAnnot
```

`tissueMarkerParams.hg19`*Parameters of tissue markers*

Description

The shape parameters of beta distribution characterizing methylation markers specific to 29 primary human tissue types

Value

Downloads and caches a '.txt.gz' file.

Examples

```
tissueMarkerParams <- tissueMarkerParams.hg19()
tissueMarkerParams
```

Index

cfToolsData, [2](#)
COAD.tumorMarkerParams.hg19, [2](#)

DNN1, [3](#)
DNN2, [3](#)

LIHC.tumorMarkerParams.hg19, [3](#)
LUNG.tumorMarkerParams.hg19, [4](#)

STAD.tumorMarkerParams.hg19, [4](#)

tissueMarkerParams.annot, [5](#)
tissueMarkerParams.hg19, [5](#)