

Package ‘cnvGSAdata’

April 1, 2025

Title Data used in the vignette of the cnvGSA package

Version 1.42.0

Author Joseph Lugo <joseph.r.lugo@gmail.com>

Description This package contains the data used in the vignette of the cnvGSA package.

Maintainer Joseph Lugo <joseph.r.lugo@gmail.com>

License LGPL

biocViews ExperimentData, Genome, CopyNumberVariationData

Depends R (>= 2.10), cnvGSA

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

git_branch RELEASE_3_20

git_last_commit a952f3a

git_last_commit_date 2024-10-29

Repository Bioconductor 3.20

Date/Publication 2025-04-01

Contents

cnvGSAdata-package	2
cnvGSA_input_example.RData	2
cnvGSA_output_example.RData	3
cnv_AGP_demo.txt	3
enrGeneric_AGP_demo.txt	4
enrGMT_AGP_demo.gmt	4
gene_ID_demo.txt	5
gs_data_example.RData	5
kl_gene_AGP_demo.txt	6
kl_loci_AGP_demo.txt	6
ph_AGP_demo.txt	7

Index	8
--------------	----------

cnvGSAdata-package

Data used in the examples and vignette of the cnvGSA package

Description

This package contains data used in the examples and vignette of the cnvGSA package.

Details

Raw input files: [cnv_AGP_demo.txt](#) - CNV data [enrGeneric_AGP_demo.txt](#) - enrichment generic data [enrGMT_AGP_demo.gmt](#) - enrichment GMT data [kl_gene_AGP_demo.txt](#) - genes of interest data [kl_loci_AGP_demo.txt](#) - known loci data [ph_AGP_demo.txt](#) - phenotype/covariate data [gene_ID_demo.txt](#) - gene ID file

Pre-built input: [cnvGSA_input_example.RData](#)

Saved output: [cnvGSA_output_example.RData](#)

Pre-built Gene-set data: [gs_data_example.RData](#)

Author(s)

Joseph Lugo <joseph.r.lugo@gmail.com>

cnvGSA_input_example.RData

cnvGSA example input

Description

Pre-built input used in the full workflow example in the cnvGSA vignette.

Usage

```
data("cnvGSA_input_example")
```

Details

The dataset contains `cnvGSA.in`, a single object of class `CnvGSAInput` as defined in the `cnvGSA` package. When processed by `cnvGSAlogRegTest()` – the main function in that package – it produces as its output an object of class `CnvGSAOutput` (such as the one stored in `cnvGSA_output_example.RData`).

cnvGSA_output_example.RData
cnvGSA example output

Description

Saved output from the full workflow example in the cnvGSA vignette.

Usage

```
data("cnvGSA_output_example")
```

Details

The dataset contains `cnvGSA.out`, a single object of class `CnvGSAOutput` as defined in the `cnvGSA` package. `CnvGSAOutput` is a simple S4 class containing a slot for each data structure output by `cnvGSAlogRegTest` (the main function in the package):

```
res.ls  
gsTables.ls  
gsData.ls  
phData.ls  
config.df
```

`res.ls` contains the output from the regression tests, `gsTables.ls` contains the the gene-set tables, `gsData.ls` contains the gene-set data needed for other scripts, `phData.ls` contains the phenotype/covariate data and `config.df` contains the config data frame that allows the other scripts to read in the params.

See the `cnvGSA` vignette for complete details and discussion.

cnv_AGP_demo.txt *Rare CNV data from Pinto et al. 2014 ASD study*

Description

The file contains rare CNV data similar to that used in the Pinto et al. 2014 ASD study.

Details

The data is stored in a similar format as the Genome Variation Format <http://www.sequenceontology.org/resources/gvf.html>. See the user manual for more information.

Source

Pinto, D et al. Convergence of Genes and Cellular Pathways Dysregulated in Autism Spectrum Disorders. *Am J Hum Genet.* 2014 May 1; 94(5): 677–694.

Examples

```
cnvFile <- system.file( "extdata", "cnv_AGP_demo.txt", package="cnvGSAdata" )  
cnv.df <- read.table (cnvFile, header = TRUE, sep = "\t", quote = "\"", stringsAsFactors = FALSE)
```

enrGeneric_AGP_demo.txt

Generic file for Enrichment Map with data from Pinto et al. 2014 ASD study

Description

The file contains gene-sets with their FDR and p-values similar to that used in the Pinto et al. 2014 ASD study.

Details

The data is stored in a generic file format which can be seen here http://www.baderlab.org/Software/EnrichmentMap/UserManual#Generic_results_files

Source

Pinto, D et al. Functional impact of global rare copy number variation in autism spectrum disorders. *Nature*. 2010 Jul 15; 466(7304): 368–72.

Examples

```
enrFile      <- system.file( "extdata", "enrGeneric_AGP_demo.txt", package="cnvGSadata" )
enrGeneric.df <- read.table( enrFile, header = TRUE, sep = "\t", quote = "\"", stringsAsFactors = FALSE)
```

enrGMT_AGP_demo.gmt

Gene-set data from Pinto et al. 2014 ASD study

Description

The file contains gene-set data similar to that used in the Pinto et al. 2014 ASD study.

Details

The data is stored in the Gene Matrix Transposed format http://www.baderlab.org/Software/EnrichmentMap/UserManual#Gene_sets_file_.28GMT_file.29.

Source

Pinto, D et al. Convergence of Genes and Cellular Pathways Dysregulated in Autism Spectrum Disorders. *Am J Hum Genet*. 2014 May 1; 94(5): 677–694.

Examples

```
gmtFile <- system.file( "extdata", "enrGMT_AGP_demo.gmt", package="cnvGSadata" )
no_col  <- max(count.fields(gmtFile, sep = "\t"))
gmt.df  <- read.table(gmtFile, sep="\t", fill=TRUE, col.names=1:no_col)
```

gene_ID_demo.txt *Gene System data*

Description

The file contains Entrez gene ID's

Details

The data is stored in a format that look like (geneID) -tab- (Symbol) -tab- (Name).

Examples

```
geneIDfile <- system.file( "extdata", "gene_ID_demo.txt", package="cnvGSAdata" )
geneID.df <- read.table (geneIDfile, header = TRUE, sep = "\t", quote = "\"", stringsAsFactors = FALSE)
```

gs_data_example.RData *gsData example output*

Description

Saved gsData described in the cnvGSA vignette.

Usage

```
data("gs_data_example")
```

Details

The dataset contains gsData. It contains the gene-sets analyzed in the cnvGSA vignette as well as the gene set names.

gs_all.ls

gsid2name.chv

gs_all.ls contains the gene-sets used in the analysis and gsid2name.chv contains the gene-set names.

See the cnvGSA vignette for complete details and discussion.

kl_gene_AGP_demo.txt *Genes of interest used in the Pinto et al. 2014 ASD study*

Description

Contains the genes of interest that were also used in the Pinto et al. 2014 ASD study.

Details

This file is used to provide the genes of interest that will be looked at in the testing.

Source

Pinto, D et al. Convergence of Genes and Cellular Pathways Dysregulated in Autism Spectrum Disorders. *Am J Hum Genet.* 2014 May 1; 94(5): 677–694.

Examples

```
klGeneFile <- system.file( "extdata", "kl_gene_AGP_demo.txt", package="cnvGSAdata" )
kl_gene.df <- read.table( klGeneFile, header = TRUE, sep = "\t", quote = "\"", stringsAsFactors = FALSE)
```

kl_loci_AGP_demo.txt *Known loci of genes in the Pinto et al. 2014 ASD study*

Description

Contains the known loci of genes as in the Pinto et al. 2014 ASD study.

Details

This file is used to provide the loci of certain genes and this will affect the results from the test.

Source

Pinto, D et al. Convergence of Genes and Cellular Pathways Dysregulated in Autism Spectrum Disorders. *Am J Hum Genet.* 2014 May 1; 94(5): 677–694.

Examples

```
klLociFile <- system.file( "extdata", "kl_loci_AGP_demo.txt", package="cnvGSAdata" )
kl_loci.df <- read.table( klLociFile, header = TRUE, sep = "\t", quote = "\"", stringsAsFactors = FALSE)
```

ph_AGP_demo.txt

Covariate/phenotype data from Pinto et al. 2014 ASD study

Description

The file contains covariate/phenotype data similar to that used in the Pinto et al. 2014 ASD study.

Details

The data is stored in a format that is a subset of the the CNV data. It includes all the covariates and phenotypes that the user wants.

Source

Pinto, D et al. Convergence of Genes and Cellular Pathways Dysregulated in Autism Spectrum Disorders. *Am J Hum Genet.* 2014 May 1; 94(5): 677–694.

Examples

```
phFile <- system.file( "extdata", "ph_AGP_demo.txt", package="cnvGSAdata" )
ph.df <- read.table (phFile, header = TRUE, sep = "\t", quote = "\"", stringsAsFactors = FALSE)
```

Index

cnv_AGP_demo.txt, [2](#), [3](#)
cnvGSA.in (cnvGSA_input_example.RData),
[2](#)
cnvGSA.out
 (cnvGSA_output_example.RData),
 [3](#)
cnvGSA_input_example.RData, [2](#), [2](#)
cnvGSA_output_example.RData, [2](#), [3](#)
cnvGSAdata (cnvGSAdata-package), [2](#)
cnvGSAdata-package, [2](#)

enrGeneric_AGP_demo.txt, [2](#), [4](#)
enrGMT_AGP_demo.gmt, [2](#), [4](#)

gene_ID_demo.txt, [2](#), [5](#)
gs_data_example.RData, [2](#), [5](#)
gsData (gs_data_example.RData), [5](#)

kl_gene_AGP_demo.txt, [2](#), [6](#)
kl_loci_AGP_demo.txt, [2](#), [6](#)

ph_AGP_demo.txt, [2](#), [7](#)