Package 'IsoGeneGUI'

October 9, 2013

Type Package

Title A graphical user interface to conduct a dose-response analysis of microarray data

Version 1.16.0

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Description The IsoGene Graphical User Interface (IsoGene-GUI) is a user friendly interface of the IsoGene package which is aimed to identify for genes with a monotonic trend in the expression levels with respect to the increasing doses using several test statistics: global likelihood ratio test (E2), Bartholomew 1961, Barlow et al. 1972 and Robertson et al. 1988), Williams (1971, 1972), Marcus (1976), the M (Hu et al. 2005) and the modified M (Lin et al. 2007). The p-values of the global likelihood ratio test (E2) are obtained using the excat distribution and permutation. The other four test statistics are obtained using permutation . Several p-values adjustment are provided: Bonferroni, Holm (1979), Hochberg (1988), and Sidak procedures for controlling the family-wise Type I error rate (FWER), and BH (Benjamini and Hochberg 1995) and BY (Benjamini and Yekutieli 2001) procedures are used for controlling the FDR. the inference is based on resampling methods, which control the False Discovery Rate (FDR) (both permutations (Ge et al., 2003) and the Significance Analysis of Microarrays (SAM), Tusher et al., 2001).

Depends tcltk, tkrplot, IsoGene

Imports multtest, relimp, WriteXLS,gdata, RColorBrewer, geneplotter

Suggests RUnit

biocViews Microarray, DifferentialExpression, GUI

References Lin, D., Shkedy, Z., Yekutieli, D., Amaratunga, D., and Bijnens, L. (Editors) (2012). Modeling Dose-response Microarray Data in Early Drug Development Experiments Using R, Springer.

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LazyLoad yes

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URL <http://www.ibiostat.be/software/IsoGeneGUI/index.html>

R topics documented:

IsoGeneGUI-package   *IsoGeneGUI Graphical User Interface for the IsoGene package*

Description

The IsoGene Graphical User Interface (IsoGene-GUI) is a user friendly interface of the IsoGene package which is aimed to identify for genes with a monotonic trend in the expression levels with respect to the increasing doses using several test statistics: global likelihood ratio test (E2), Bartholomew 1961, Barlow et al. 1972 and Robertson et al. 1988), Williams (1971, 1972), Marcus (1976), the M (Hu et al. 2005) and the modified M (Lin et al. 2007).

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Details

The IsoGene Graphical User Interface (IsoGene-GUI) is a user friendly interface of the IsoGene package.

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References

Pramana S., Haldermans P., and Verbeke, T. (2012) A User Friendly Interface for Analyzing Dose-response Studies in Microarray Experiments: The IsoGeneGUI package. A Book Chapter in Lin, D., Shkedy, Z., Amaratunga,D., Yekutieli, D and Bijnens, L. (Editors), "Modeling of Dose-response Microarray Data in Early Drug Development Experiments Using R", Springer.

Barlow, R., Bartholomew, D., Bremner, M. and Brunk, H. (1972) Statistical Inference Under Order Restriction. New York: Wiley.

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Williams, D. (1972) The comparison of several dose levels with a zero dose control. Bio- metrics, 28, 519-531.

Examples

```
## Not run:
library(IsoGeneGUI)
IsoGeneGUI()

## End(Not run)
```

IsoGeneGUI   *IsoGeneGUI*

Description

This function will load the IsoGeneGUI package.

Usage

```
IsoGeneGUI()
```

Details

To run the package, we use the function: IsoGeneGUI().

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Examples

```
## Not run:
library(IsoGeneGUI)
IsoGeneGUI()

## End(Not run)
```

IsoGeneGUIHelp   *IsoGeneGUI Help*

Description

Function to for opening the IsoGeneGUI help.

Usage

```
IsoGeneGUIHelp()
```

Details

To run the package, we use the function: IsoGeneGUI().

Author(s)

Author: Setia Pramana Maintainer: Setia Pramana <setia.pramana@ki.be>

Examples

```
## Not run:
library(IsoGeneGUI)
IsoGeneGUIHelp()

## End(Not run)
```

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