

Package: BonEV (via r-universe)

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Type Package

Title An Improved Multiple Testing Procedure for Controlling False Discovery Rates

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Author Dongmei Li

Maintainer Dongmei Li <dongmei_li@urmc.rochester.edu>

Depends R (>= 3.2.0), qvalue

Description An improved multiple testing procedure for controlling false discovery rates which is developed based on the Bonferroni procedure with integrated estimates from the Benjamini-Hochberg procedure and the Storey's q-value procedure. It controls false discovery rates through controlling the expected number of false discoveries.

License GPL (>= 2)

NeedsCompilation no

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BonEV-package

BonEV: An Improved Multiple Testing Procedure for Controlling False Discovery Rates

Description

BonEV is an improved multiple testing procedure for controlling false discovery rates which is developed based on the Bonferroni procedure with integrated estimates from the Benjamini-Hochberg procedure and the Storey's q-value procedure. It controls false discovery rates through controlling the expected number of false discoveries.

Details

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Version: 1.0.0
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Depends: R (>= 3.2.0), qvalue
License: GPL (>= 2)

Author(s)

Dongmei Li Maintainer: Dongmei Li <dongmei_li@urmc.rochester.edu>

See Also

The [Bon_EV](#) function defined in this package. The [qvalue](#) package.

Examples

```
library(qvalue)
data(hedenfalk)
summary(hedenfalk)
pvalues <- hedenfalk$p
adjp <- Bon_EV(pvalues, 0.05)
summary(adjp)
results <- cbind(adjp$raw_P_value, adjp$BH_adjp, adjp$Storey_adjp, adjp$Bon_EV_adjp)
results

##Compare with Benjamini-Hochberg and Storey's q-value procedures
sum(adjp$raw_P_value <= 0.05)
sum(adjp$BH_adjp <= 0.05)
sum(adjp$Storey_adjp <= 0.05)
sum(adjp$Bon_EV_adjp <= 0.05)
```

Bon_EV

Bon_EV: A R Function of Improved Multiple Testing Procedure for Controlling False Discovery Rates

Description

Bon_EV is an improved multiple testing procedure for controlling false discovery rates which is developed based on the Bonferroni procedure with integrated estimates from the Benjamini-Hochberg procedure and the Storey's q-value procedure. It controls false discovery rates through controlling the expected number of false discoveries.

Usage

```
Bon_EV(pvalue, alpha)
```

Arguments

pvalue	The input data is a vector of P-values ranged from 0 to 1
alpha	The alpha is the level of false discovery rates (FDR) to control for

Details

Bon_EV is a function for getting adjusted P-values with FDR controlled at level alpha.

Value

Bon_EV produces a named list with the following components:

raw_P_value	Vector of raw P-values
BH_adjp	Adjusted P-values from the Benjamini-Hochberg procedure
Storey_adjp	Adjusted P-values from the Storey's q-value procedure
Bon_EV_adjp	Adjusted P-values from the Bon-EV multiple testing procedure

Author(s)

Dongmei Li

See Also

The qvalue package.

Examples

```
library(qvalue)
data(hedenfalk)
summary(hedenfalk)
pvalues <- hedenfalk$p
adjp <- Bon_EV(pvalues, 0.05)
summary(adjp)
sum(adjp$Bon_EV_adjp <= 0.05)
```

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