

# Package ‘fuzzyFDR’

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**Type** Package

**Title** Exact calculation of fuzzy decision rules for multiple testing

**Version** 1.0

**Date** 2007-10-16

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**Description** Exact calculation of fuzzy decision rules for multiple testing. Choose to control FDR (false discovery rate) using the Benjamini and Hochberg method, or FWER (family wise error rate) using the Bonferroni method. Kulinsakaya and Lewin (2007).

**License** GPL

**NeedsCompilation** no

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## Description

Exact calculation of fuzzy decision rules for multiple testing. Choose to control FDR (false discovery rate) using the Benjamini and Hochberg method, or FWER (family wise error rate) using the Bonferroni method. Kulinsakaya and Lewin (2007).

**Details**

Package: fuzzyFDR  
Type: Package  
Version: 1.0  
Date: 2007-10-16  
License: GPL

~~ An overview of how to use the package, including the most important functions ~~

**Author(s)**

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**References**

Kulinskaya and Lewin (2007).

**Examples**

```
data(example1)
names(example1)
fuzzyBHexact(example1$pvals, example1$pprev, alpha=0.05)
data(example2)
names(example2)
fuzzyBHexact(example2$pvals, example2$pprev, alpha=0.05)
```

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example1

*Examples 1 and 3 of Kulinskaya and Lewin*

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**Description**

Observed and previously attainable p-values used in Examples 1 and 3 of Kulinskaya and Lewin.

**Usage**

```
data(example1)
```

**Format**

A data frame with 7 observations on the following 2 variables.

pvals a numeric vector

pprev a numeric vector

**Source**

Kulinskaya and Lewin (2007).

**Examples**

```
data(example1)
fuzzyBHexact(example1$pvals, example1$pprev, alpha=0.05)
```

example2

*Example 2 of Kulinskaya and Lewin***Description**

Observed and previously attainable p-values used in Example 2 of Kulinskaya and Lewin.

**Usage**

```
data(example2)
```

**Format**

A data frame with 10 observations on the following 2 variables.

pvals a numeric vector

pprev a numeric vector

**Source**

Kulinskaya and Lewin (2007).

**Examples**

```
data(example2)
fuzzyBHexact(example2$pvals, example2$pprev, alpha=0.05)
```

fuzzyBHexact

*Exact calculation of fuzzy decision rules (Benjamini and Hochberg FDR)***Description**

Exact calculation of fuzzy decision rules for multiple testing. Controls the FDR (false discovery rate) using the Benjamini and Hochberg method.

**Usage**

```
fuzzyBHexact(pvals, pprev, alpha = 0.05, tol = 1e-05, q.myuni = T, dp = 20)
```

**Arguments**

pvals	observed discrete p-values
pprev	previously attainable p-values under the null distribution
alpha	significance level of the FDR procedure
tol	tolerance for my.match and my.unique
q.myuni	logical. Use my.match instead of match?
dp	no. decimal places to round p-values to

**Details**

my.match and my.unique may be used instead of match and unique if there is a problem with calculating the unique set of p-values (sometimes a problem with very small p-values)

**Value**

Data frame containing the p-values and previously attainable p-values input to the function, and the tau (fuzzy decision rule) output. Also contains the minimum and maximum ranks over allocations for each p-value.

**Author(s)**

Alex Lewin

**References**

Kulinsakaya and Lewin (2007).

**Examples**

```
data(example1)
names(example1)
fuzzyBHexact(example1$pvals,example1$pprev,alpha=0.05)
data(example2)
names(example2)
fuzzyBHexact(example2$pvals,example2$pprev,alpha=0.05)
```

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