

# Package ‘MediaK’

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**Type** Package

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**Title** Calculate MeDiA\_K Distance

**Version** 1.0

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**Description** Calculates MeDiA\_K (means Mean Distance Association by K-nearest neighbor) in order to detect nonlinear associations.

**License** GPL

**LazyData** TRUE

**Imports** Rcpp (>= 0.11.3)

**LinkingTo** Rcpp, RcppEigen

**NeedsCompilation** yes

**Repository** CRAN

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Media\_pvalue                      *functions to calculate pvalue*

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## Description

This function is created to calculate p values about MeDiA\_k

**Usage**

```
Media_pvalue(iTest, jTest, times, selectvec)
```

**Arguments**

iTest	a numeric matrix
jTest	a numeric matrix which has the same rows as iTest
selectvec	an integer vector which contains a series of K values you want to get
times	an integer indicates permutation times

**Value**

Media\_pvalue(iTest, jTest, times, selectvec) return a numeric vectors contains p values based on the selectvec(K value you want to select)

**Examples**

```
iTest <- matrix(rnorm(1000), 100)
jTest<- matrix(rnorm(200), 100)
times<- 100
selectvec <- c(1:10)
Media_pvalue(iTest, jTest, times, selectvec)
```

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RcppExports

*Set of functions in example RcppEigen package*


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**Description**

These two functions are created to calculate different values about MeDiA\_k

**Usage**

```
dis_value(iTest, jTest, select)
permute(iTest, jTest, times, selectvec)
```

**Arguments**

iTest	a numeric matrix
jTest	a numeric matrix which has the same rows as iTest
select	an integer which means get k values you want to get
selectvec	an integer vector which contains a series of K values you want to get
times	an integer indicates permutation times

**Value**

`dis_val(iTest, jTest, select)` returns a distance `permute(iTest, jTest, times, selectvec)`  
return a list contains mean and sd values based on the `selectvec`(K value you want to select)

**Examples**

```
iTest <- matrix(rnorm(1000),100)
jTest<- matrix(rnorm(200),100)
select<- 5
times<- 100
selectvec <- c(1:10)
dis_value(iTest, jTest, select)
permute(iTest, jTest, times, selectvec)
```

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