

## Methods in package GSAR

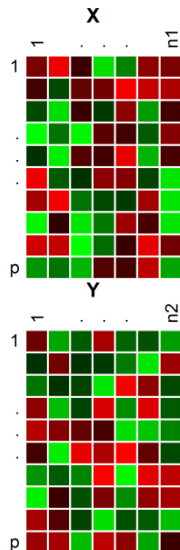


List of gene sets

Matrix of gene expression data

TestGeneSets

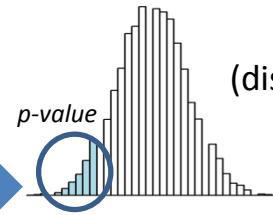
Gene expression data for a single or multiple gene sets with sample labels



**WWtest**

$$H_0: F_X = F_Y$$

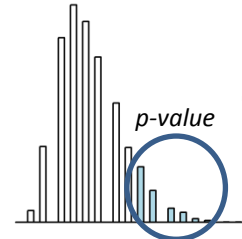
$$H_1: F_X \neq F_Y$$



**KStest & MDtest**

$$H_0: \bar{\mu}_X = \bar{\mu}_Y$$

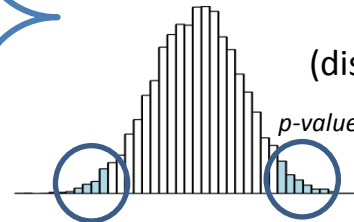
$$H_1: \bar{\mu}_X \neq \bar{\mu}_Y$$



**RKStest & RMDtest**

$$H_0: \bar{\sigma}_X = \bar{\sigma}_Y$$

$$H_1: \bar{\sigma}_X \neq \bar{\sigma}_Y$$

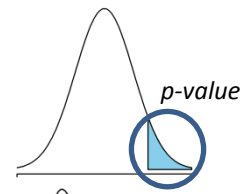


**GSNCAtest & MST2**

$$H_0: w_X = w_Y$$

$$H_1: w_X \neq w_Y$$

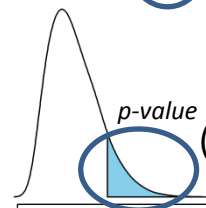
$W_{\text{GSNCA}}$  statistic (continuous Normal-like distribution)



**AggrFtest**

$$H_0: \forall i: \bar{\sigma}_{X_i} = \bar{\sigma}_{Y_i}$$

$$H_1: \exists i: \bar{\sigma}_{X_i} \neq \bar{\sigma}_{Y_i}$$



Fisher-combined F-statistic (continuous Chi-square-like distribution)

