

STATISTICAL ANALYSIS AND BIOINFORMATICS

Analysing multi-marker data often requires advanced biostatistical methods to translate raw output data into credible and substantiated interpretation and biological knowledge.

BioXpedia offer statistical analysis of your data, for example gene expression or protein screening data. We can provide a standard statistical service, or you can choose a customized biostatistical analysis for more complex project designs and analyses. The biostatistical analyses are performed by bioinformatic professionals experienced in handling data output from the technologies that BioXpedia offers.

Our biostatistical analysis and consultancy ensure that you acquire the maximal value and information output from the bioanalytical data of your project. A fast and reliable way to get the most out of your experiment!

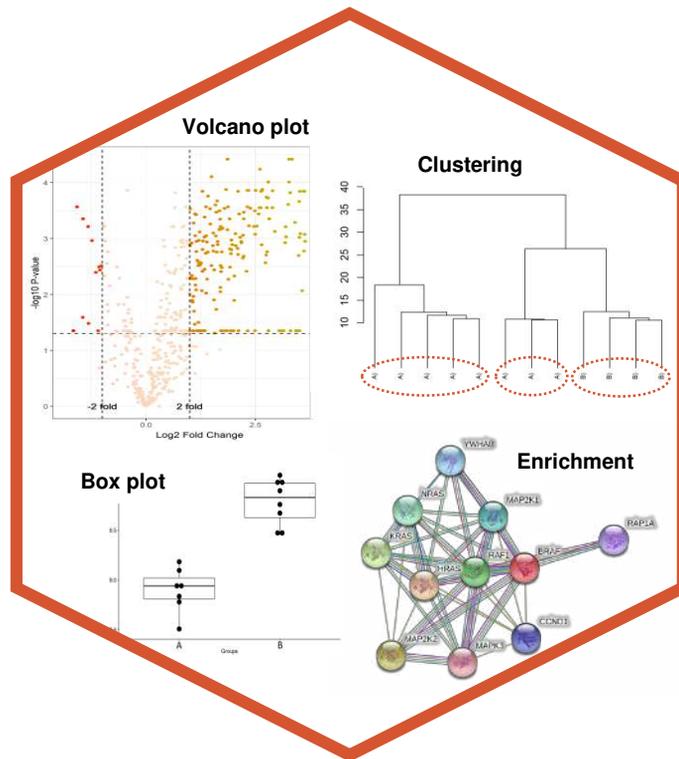
STANDARD BIostatistical SERVICE

The standard statistical service includes an investigation of which biomarkers are significantly different between groups of interest, for example between a disease and control group.

The standard biostatistical service includes:

- Tests for investigating assumptions for the applied statistical methods.
- Cluster analysis, PCA or K-means, to investigate how the profile of all samples group together.
- Identification of significant differential markers between groups (maximum 3 groups), either by parametric or non-parametric tests. Correction for multiple testing is performed using false discovery rate.
- Visual presentation of all significant markers and fold change in a Volcano plot for each group comparison.
- Standard report including detailed description of statistical analysis, boxplots of significant markers and a table listing significance and fold change of all markers.

Detailed information on our services can be found at bioxpedia.com/Services/#BiostatisticalService



CUSTOM BIostatistical SERVICE

If you have a project with a more complex experimental design, for example time-series data, or need additional statistical analyses and bioinformatics, we can tailor our biostatistical service targeted specifically to your project.

We also offer analyses to support decision on project and experimental design, for example power analysis and sample size calculation.

Customized biostatistics is for example:

- Univariate and multivariate statistical analyses, for example ANOVA, linear mixed effects models, Principal Component Analysis (PCA) etc.
- Cluster analysis, for example heat-map, K-means clustering for response profile clustering to identify markers that respond similar for example during a time course.
- Network analysis for visualization of the correlation, interaction or association among markers in a complex biological system.
- Gene Ontology annotation and enrichment analysis for example of KEGG pathways.
- Model development and fitting for identification of predictive markers and validation of discovered markers.