# PamAcademy ●○○○●

# Inferring Pathways and Networks for PamChip® data: Free Online Tools

Peptides on PamChip (PTK 86402 and STK 87102) can be differentially phosphorylated when comparing 2 or more conditions. How can this data be interpreted?

## Statistically Significant Peptides List from PamChip Data

From T-tests and ANOV-Dunnett tests, of comparative phosphorylation profiles, a list of the Log2 Fold Change (LFC; also called Log2 Ratios or Delta) are generated and exported to excel. A typical file contains the columns PamChip ID, UniPROT ID (of the peptide/ substrate protein, as provided in the Array layout file), Sequence (optional export), LFC, and p-value of comparing Treatment vs. Control. (Treatment refers to the Condition compared to Control). The file should generally be saved as tab delimited text.

## Statistically Significant Peptides List for import to mapping tools

Using the desired p-value threshold, you can select the UNIQUE UniPROT IDs using excel together with LFC and / OR p-values to import into the corresponding pathway analysis Tool. Some Tools require only UniPROT IDs as input. Links are provided for each Tool and instructions for specific tools can be accessed at the respective website. Please note, some tools may require conversion of UniPROT IDs to other accession numbers (use DAVID).

## Free Online Tools

For publication of figures please acknowledge and cite the source as specified in the respective websites.

**DAVID:** *For Annotation conversion, functional clustering and pathway analysis*
https://david.ncifcrf.gov/

**KEGG:** *For Pathway and Network analysis*
https://www.genome.jp/kegg/

**Panther:** *For Pathway analysis*
http://www.pantherdb.org/

**PathViSIO:** *For creating and editing pathways*
https://www.pathvisio.org/

**Reactome:** *For Pathway and Network analysis*
https://reactome.org/

**Webgestalt:** *For Pathway and Network analysis*
http://www.webgestalt.org/

**STRING:** *For Network analysis*
https://string-db.org/

**Genemania:** *For Network analysis*
https://genemania.org/

**PamWiki Link for Biological analysis**