



# Projecting PamChip® data on CORAL Kinome Tree: Inferring Group differences on phylogenetic tree

Peptides on PamChip (PTK 86402 and STK 87102) can be phosphorylated by a number of kinases. The Upstream Kinase Tool is a functional scoring method that ranks the Top kinases. Visualization of the data on a phylogenetic tree can be useful.

## Kinase Score Tables from PamChip Data (Upstream Kinase Analysis PamApp Tool)

From the BioNavigator Upstream Kinase Tool, a Table of the Kinase scores and stats is generated for each comparison; Data extracted from this Table are used to plot Coral Kinome map.

### Columns to use for Kinome tree

Combine the trees from the PTK and STK assay, or use them separately, using excel/ notepad. There are several Column headers in the Kinase Score Table, of which the ones listed below will be used. A thresh hold cut-off is generally defined at 1.2 of the Median Final Score, however the value depends on sample numbers (N) and specificity scores. You can also take the Top 10 from the list.

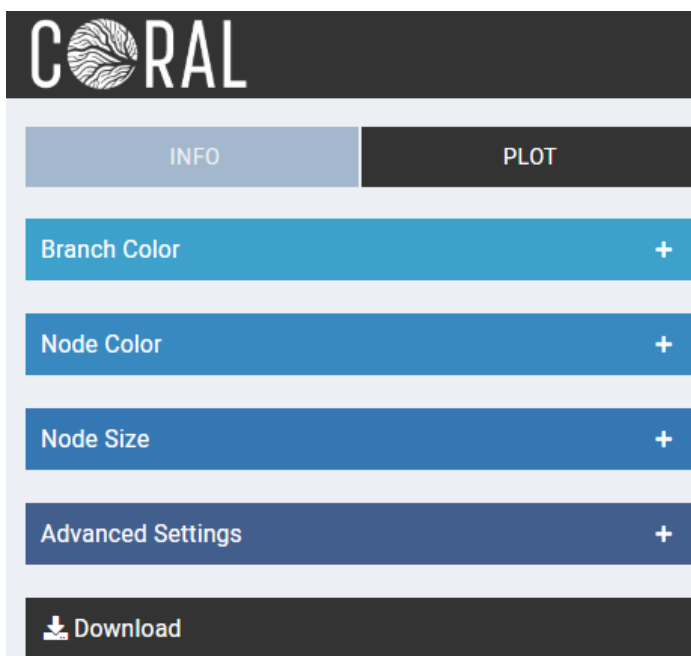
Column header	Description
Kinase Uniprot ID	Required for pathway analysis etc.
Kinase Name	As derived from Databases
Median Final score	Used for Scoring/ Ranking/ Ordering the Kinases
Median Kinase Statistic	Used for Effect size and direction (<0= inhibition; >0 =stim.)

### Mapping using Web-based Tool

Use the URL: <http://phanstiel-lab.med.unc.edu/CORAL/>. Go to the PLOT Tab.

### Configuring the Kinome tree with PamChip data

Each sub section under the PLOT Tab can be independently configured. You can choose how to colour the tree. Use the pull down menus, and select manual settings to configure.





# Projecting PamChip® data on CORAL Kinome Tree: Inferring Group differences on phylogenetic tree

Peptides on PamChip (PTK 86402 and STK 87102) can be phosphorylated by a number of kinases. The Upstream Kinase Tool is a functional scoring method that ranks the Top kinases. Visualization of the data on a phylogenetic tree can be useful.

## Configuring the Kinome tree with PamChip data

Each sub-section under the PLOT Tab can be independently configured. You can choose how to colour the tree. Use the pull down menus, and select manual settings to configure color scheme and labels.

Copy-paste the 2 relevant columns from the Score Table. Choose identifier uniprot.

**NODE COLOR:** UniProt ID and Median Kinase Statistic. This provides the effect size and direction. You can choose colors, scales and rename the labels.

**NODE SIZE:** UniProt ID and Median Final Score. Size provides the Rank order of the Kinases. You can choose colors, scales and rename the labels.

**ADVANCED SETTINGS:** Add Titles. For Labels, use the Manual setting and copy-paste the Uniprot ID Only, and select identifier uniprot.

**DOWNLOAD:** After the tree image is created you can download the image as hi-res SVG.. You can switch to Circle or Force views as well.

Tree Circle Force

Node Color	Node Size	Advanced Settings
<b>Color Scheme</b> Manual	<b>Scaling Scheme</b> Quantitative	<input type="radio"/> Title <input checked="" type="radio"/> Labels <input type="radio"/> Node
<b>Input Method</b> <input type="radio"/> browse <input checked="" type="radio"/> paste	<input type="radio"/> load example data	<b>Label Identifier</b> Default
<b>Kinases</b> <div style="border: 1px solid #ccc; height: 40px;"></div>	<b>Kinases &amp; Value</b> <div style="border: 1px solid #ccc; height: 40px;"></div>	<b>Font</b> Helvetica
<b>Identifier</b> uniprot	<b>Identifier</b> uniprot	<b>Label Color Scheme</b> Manual
<b>Default Color</b> #D3D3D3	<b>Legend Subtitle</b> <div style="border: 1px solid #ccc; height: 20px;"></div>	<b>Kinases</b> <div style="border: 1px solid #ccc; height: 40px;"></div>
<b>Selection Color</b> #FA6958	<b>Size Range</b> 0 3 9 20	<b>Identifier</b> uniprot
<b>Default Label</b> not selected	<input checked="" type="radio"/> show <input type="radio"/> hide	<b>Default Color</b> #D3D3D3
<b>Selection Label</b> selected	<input checked="" type="radio"/> manually set data range	<b>Selection Color</b> #000000
<input type="button" value="Reverse Palette"/>	<b>Min Value</b> 0	<b>Default Size</b> 0 3 8
<input checked="" type="radio"/> color intermediate nodes	<b>Max Value</b> 1	<b>Selection Size</b> 0 6 8
		<b>Group Color</b> #000000
		<input type="button" value="Download"/>

