BioNavigator, software to interpret PamChip® measurements

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Description
BioNavigator is a powerful software tool for interpretation of PamChip® measurements, its capabilities include: Visualization, Computation, Storage and Sharing (Fig. 1A). BioNavigator is the unique tool for performing data analysis for many types of PamChip® experiments. It treats data analysis as a connection of modular series of data transformation steps, called a data analysis protocol (Fig. 1B). BioNavigator creates and executes data analysis protocols. There is the choice of either using pre-existent standard data analysis protocols or creating customized versions. These can be extended with plug-ins called PamApps (Fig. 1D). Once a data analysis protocol is executed it produces a rich set of visualizations and computations. Each modular step in the protocol uses a unique and flexible visualization concept called a cross tab view (Fig. 1C for screenshot). The cross tab view is used to select and group the required data for visualization or computation.

Visualization
• Points
• Barchart
• Box plot
• Line graphs
• Heatmaps
• Peptide profiles
• Kinetic Curves
• Concentration Curves
• User defined using R

Computations
• Image analysis
• Basic stats(mean, median, stdev…)
• Univariate (t-test, anova…)
• Multivariate (pca, pls-da,…)
• Kinetic analysis (curvefitting…)
• Does Response Curves
• Extend by using plug-ins (PamApp)
• User defined stats using R
• User defined stats using Matlab

Storage; BioNavigator saves raw measurements, processed data and data analysis protocols*, and associated documents into a repository. The entire repository is searched quickly using one web based search interface. The repository is a great way to centralize all PamChip data in one location and thus easy sharing.

Sharing; The complete contents of a data analysis protocol or repository is easily shared with research colleagues by either:
• Exporting a data analysis protocol
• Direct link using a web address to the repository

“Author Quote”
In general, simply looking at your data is the most fundamental aspect of understanding your measurements.

Conclusion
PamGene’s BioNavigator is a comprehensive and easy to use software and is essential for the interpretation of PamGene’s unique measurements.

Figure 1A: Visualization
Figure 1B: Storage
Figure 1C: Computation
Figure 1D: Factors

Figure 1: A) BioNavigator capabilities: Visualization, Computation, Storage and Sharing; B) data analysis protocol; C) flexible visualization based on cross tab view which uses dragging and dropping of experimental factors; D) Wide range of PamApps (plug-ins available)