PerkinElmer Signals™ Screening

At a Glance

Signals™ Screening is an intuitive, configurable flexible screening workflow processor coupled with the unparalleled data visualization and analysis capabilities of TIBCO Spotfire®. Once a screening protocol is set up, raw data from the instruments can be imported directly and processed in a consistent manner.

Benefits

- Protocol templates: once set up, can be used multiple times
- One software package for multiple instruments and assay types saves time and increases data accuracy
- Graphics driven by TIBCO Spotfire® enable meaningful visualization of data
- Standard Statistical Analysis driven by TIBCO Spotfire® provides cluster analyses and unsupervised machine learning
- Simplified reporting with easy export into Powerpoint, Excel and PDF format

Spend less time and money generating data, and more time studying it, with Signals Screening

In the lengthy, complex and costly process of drug discovery, technologies to screen compounds must empower scientists to create a sufficient quantity and quality of leads. Often, screening software is limiting because one package does not do it all: data processing, statistical analysis, and informative graphics along with desired export options.

To better achieve their goals, scientists require an accessible and intuitive solution that lets them analyze and review data from multiple outputs within a single platform. By facilitating the comparison of data from different assay types, scientists then have confidence that those assays are giving accurate results, leading to substantial improvements in the drug discovery process, and ultimately health outcomes.

PerkinElmer Signals Screening is an intuitive, configurable flexible screening workflow processor coupled with the unparalleled data visualization and analysis capabilities of TIBCO Spotfire®. Once a screening protocol is set up, raw data from the instruments can be imported directly and processed in a consistent manner. The initial offering of Signals Screening addresses three key drug discovery functions:

- Basic Screening (HTS) (Figure 1)
- High Content Screening (HCS) (Figure 2)
- Surface Plasmon Resonance (SPR) (Figure 3)
**SIGNALS SCREENING APPS**

The PerkinElmer Signals Screening solution can import raw or processed data from most of the widely performed assay platforms — plate reader, high content reader, surface plasmon resonance, and more. The innovative apps concept allows scientists to create a screening workflow from data import and analysis, to reporting, for assay development and execution, without the reliance on software developers. Built on the TIBCO Spotfire® platform, the PerkinElmer Signals Screening solution offers unparalleled capability to analyze and visualize high-content/high-throughput assays that aligns with the life sciences research moving towards multiplexing and big data screens.

**Signals Screening Apps** bring direct instrument, experiment type and screening analysis functionality to TIBCO Spotfire®. A Data Lake holds raw data in its native format providing data structure and requirements when it is needed.

**SIGNALS SCREENING - BASIC SCREENING**

**SIGNALS SCREENING - HIGH CONTENT SCREENING (HCS)**

**Figure 1.** Curve Fitting App visualizations are interactive such that selection of a data point of interest highlights it the other visualizations. Data points can be excluded and curve re-fit.

**Figure 2.** HCS SOM Map machine learning to group samples based on their phenotypic profile.
CONCLUSION

With the large volumes of data generated by high-throughput and phenotypic screening, you need software solutions that can quickly apply experiment appropriate data transformations and statistical analyses and then graphically output into impactful data visualizations that help you interpret the results to make informed, confident decisions. Signals Screening delivers scalable platforms that make it easy to access and manage all relevant data for enhanced speed and efficiency in drug discovery.