



Revvity Signals Research Suite Data Processing

AT A GLANCE

Revvity Signals Research Suite Data Processing: All Your Data in One Platform

From assay development and data management, to in vitro and in vivo analysis, Signals Data Processing allows scientists to quickly apply experiment-appropriate data transformations and statistical analyses, then graphically output them to impactful data visualizations to interpret the results.

But it does not end there, Signals Data Processing includes Signals Research Suite Data-Driven Analytics allowing data publication, data staging, and data discovery. See the Signals Research Suite Data-Driven Analytics data sheet for more information.

Spend less time and money generating results and make decisions faster with Signals Data Processing

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.

Revvity Signals Data Processing is an intuitive, configurable flexible screening workflow processor coupled with the unparalleled data visualization and analysis capabilities of Spotfire®. Once a screening workflow is set up, raw data from the instruments can be imported directly and processed in a consistent manner. Signals Data Processing contains modular apps specifically designed for key drug discovery functions:

- Basic Screening (HTS) (Figure 1)
- High Content Screening (HCS) (Figure 2)
- Surface Plasmon Resonance (SPR) (Figure 3)
- In Vivo (Figure 4)

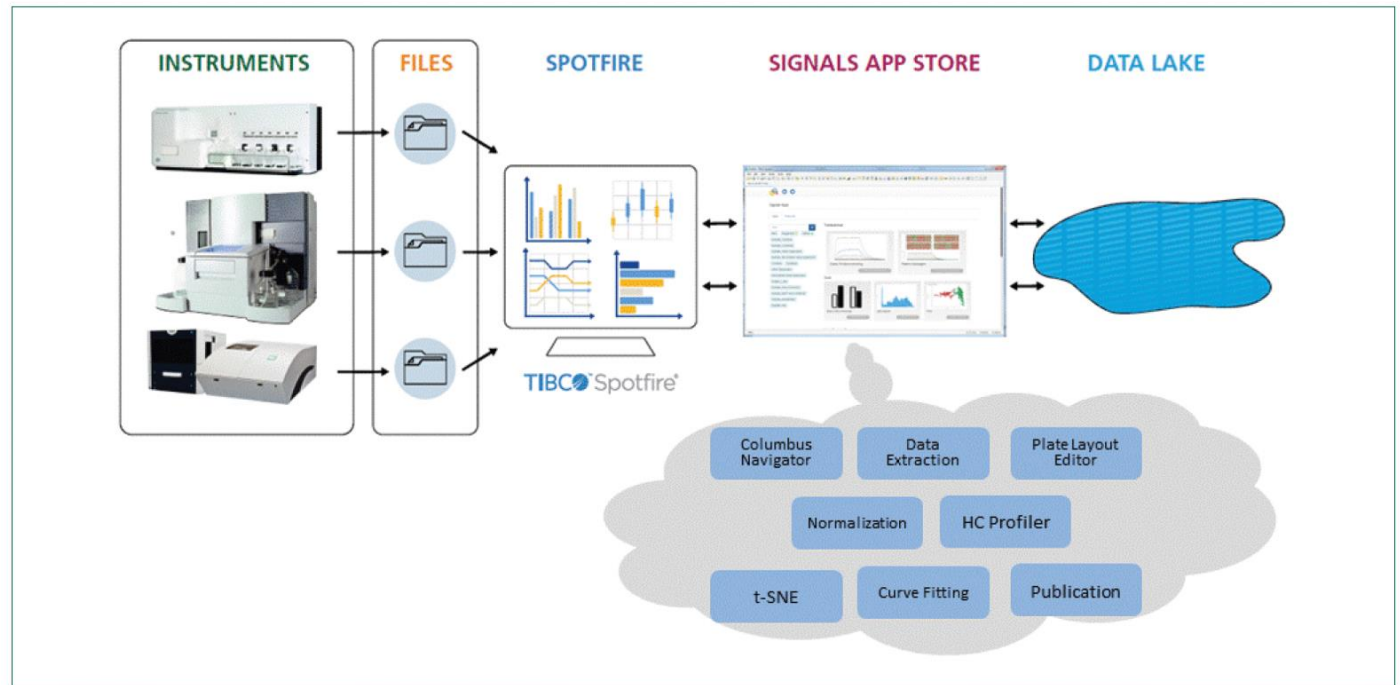
Benefits

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

Signals Data Processing Apps

The Revvity Signals Data Processing 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 workflow from data import and analysis, to reporting, for assay development and execution, without the reliance on software developers. Built on the Spotfire platform, the Revvity Signals Data Processing 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 Data Processing Apps bring direct instrument, experiment type and screening analysis functionality to Spotfire®. The results are published to a data lake while maintaining the connection to the original analysis. These results can be searched and leveraged for additional insights.



Signals Data Processing - Basic Screening

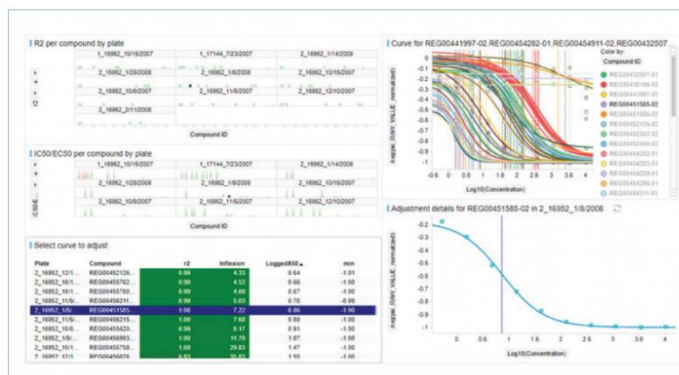


Figure 1. Curve Fitting App - Visualizations are interactive such that selection of a data point of interest highlights it in the other visualizations. Data points can be automatically or manually excluded and curve parameters have the option to be bounded or fixed.

Signals Data Processing - High Content Screening (HCS)

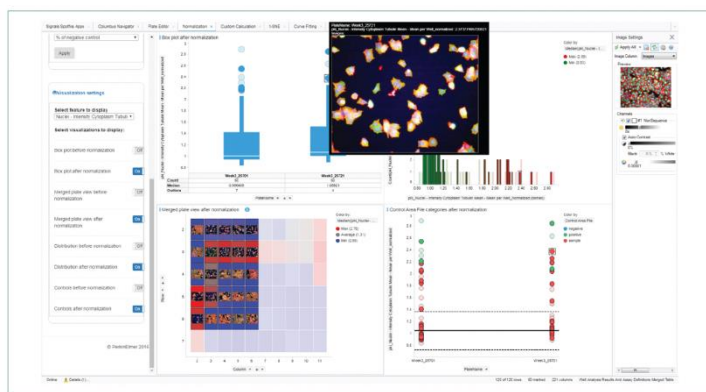


Figure 2. HCS SOM Map - Machine learning to group samples based on their phenotypic profile.

Signals Data Processing – Surface Plasmon Resonance (SPR)

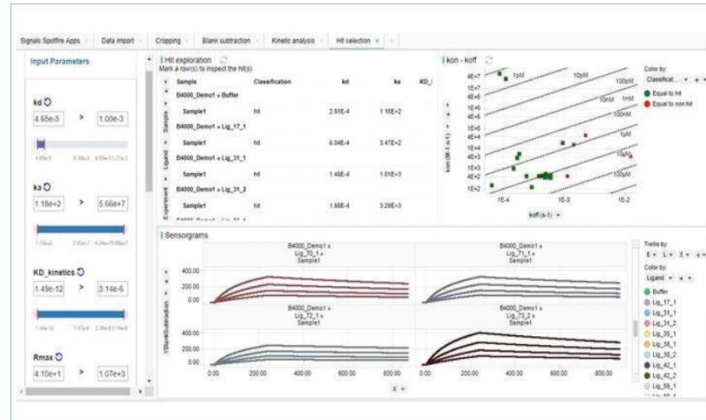


Figure 3. SPR Hit Selection App – Interactive isoaffinity plot allows hits of interest to be selected for associated sensorgram inspection. Hits can be filtered based on ka, kd, KD or Rmax values.

Signals Data Processing – In Vivo



Figure 4. Sequence of Events App - Novel view of in vivo experiment as it progresses. Capture the different event data and observations for each time point as the study progresses.

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 Data Processing delivers a scalable platform that make it easy to access and manage all relevant data for enhanced speed and efficiency in drug discovery.