



Signals VitroVivo Tackles 100+ of Customer's Assay Modalities

THE CHALLENGE

Analyze a Wide Range of Assays: "The List"

Do Them All. Do Them Well.

In labs across the world, a wide range of tests are being completed. Each test creates its unique raw data format and has specific analysis requirements. A customer challenged Revvity Signals to bring these disparate data sets together, analyze them efficiently, and allow reusable workflows and results.

THE RESULT

Signals VitroVivo Successfully Analyzed All Assays on The List

All Done. All Done Well.

The Revvity Signals team received the customer data, understood the goals, analyzed the files, and presented the results & methods to the customer. Each item on the list took less than 2 days to complete. The competition couldn't even attempt it in the time allotted. Their methods were too rigid and too slow. The customer purchased Signals VitroVivo and implemented it across their lab workflows.

The Revvity Signals team took on the challenge for this customer, but Signals VitroVivo's powerful scientific solutions empower users to build their own analysis workflows. End users can turn their raw data to actionable results with no black boxes and no IT support needed.

THE DETAILS

There is a pattern across all labs by which certain methods and instruments are used to make discoveries to push research forward. Each lab often has "The List", a set of assays they run.

Example Assay List

1. Amplified Luminescent Proximity Homogenous Assay (AlphaScreen)
2. Thermal Shift (Boltzmann)
3. Isothermal titration calorimetry (ITC)
4. Enzyme-linked Immunosorbent Assay (ELISA)
5. Quantitative Polymerase Chain Reaction (qtPCR)
6. High Content Screening (HCS)
7. High Throughput Screening (HTS)
8. Fluorescence Imaging Plate Reader (FLIPR)
9. Kinetic
10. Microscale Thermophoresis (MST)
11. Multiplex
12. Radioligand Binding Assay
13. Surface Plasmon Resonance (SPR)
14. Stopped Flow
15. Schild Analysis
16. Multiparametric

Most labs have various methods and tools to take their list from data to results. These disparate tools often lead to unfavorable results:

- Data silos
- Scientists having to learn many tools
- Inconsistent algorithms across data sets
- Rigid black box analysis
- Limited data visualizations & interactions
- Difficulty onboarding of new analysis methods
- Lack of scalability with data or organization
- Results are not leveraged to their fullest

THE SOLUTION

Signals VitroVivo is built to address all these pain points. It provides scientists with one unified tool to get from data to results. And it does this while following F.A.I.R guidelines (Findable, Accessible, Interoperable, Reusable). Signals VitroVivo is built on the concept of Apps. Each App performs a specific function and can be run in sequence to build a workflow. Screening, In Vivo, and Surface Plasmon Resonance Apps are shown below.

Screening



Surface plasmon resonance



In vivo



One App worth special mention is the Calculation Explorer. This app allows a user to capture transformations, calculations, and visualizations. In addition, it includes a large suite of curve fitting routines (while also allowing the end user to add their own). Once these complex data processing steps are captured, a template is used to automate these steps in a single App within a workflow. The end user has incredible flexibility to build their ideal data processing template while also allowing the next data set to be analyzed consistently by applying the same template again. Flexibility & Repeatability

Signals VitroVivo provides unparalleled data visualization and analysis capabilities. In addition, all the data is accessible and all the functionality of Spotfire is there for the end user to extend their analysis as desired. Interact and Visualize Data Powerfully

Signals VitroVivo doesn't just analyze raw data, it includes Signals Inventa which leverages these results to make discoveries. Analysis results are published to a data lake that can be searched with near instantaneous results. These down selected and compiled results can be further analyzed with the Signals Inventa Apps shown below. Reusable & Fully Leveraged Results

Signals Inventa

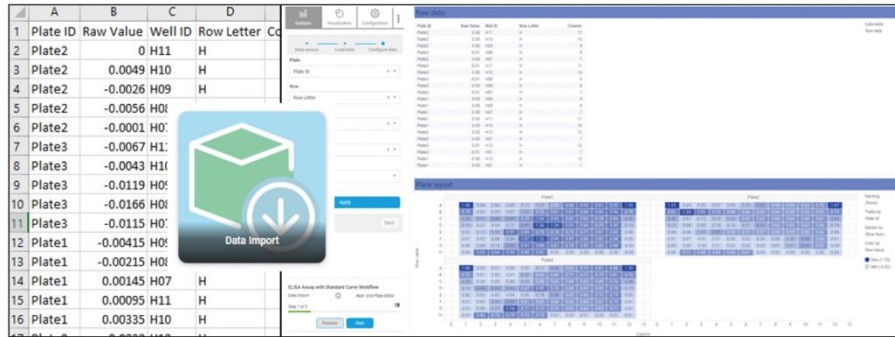


Users are empowered to build their own systems of analysis, but that doesn't mean they are only left to their own devices. Revvity Signals Informatics offers education and support to maximize our suite of software solutions and an extensive services team to help throughout the onboard process and beyond.

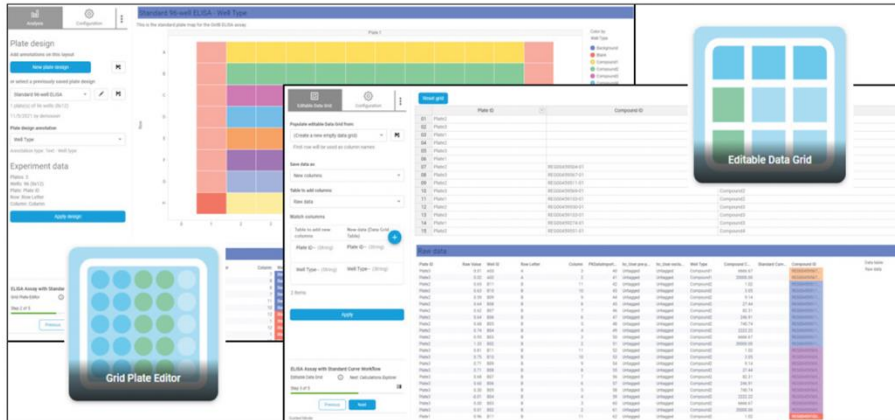
"THE LIST" EXAMPLES

#4 - ELISA

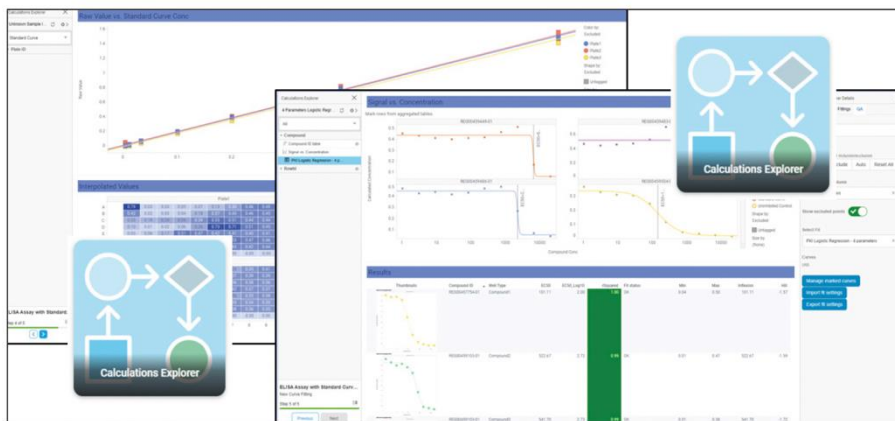
This workflow enables an assay scientist to perform a routine ELISA assay.



Easily load raw data from an instrument.



Load plate map and plate specific information.



Process the ELISA results interpreted from the standards curves quickly and efficiently.

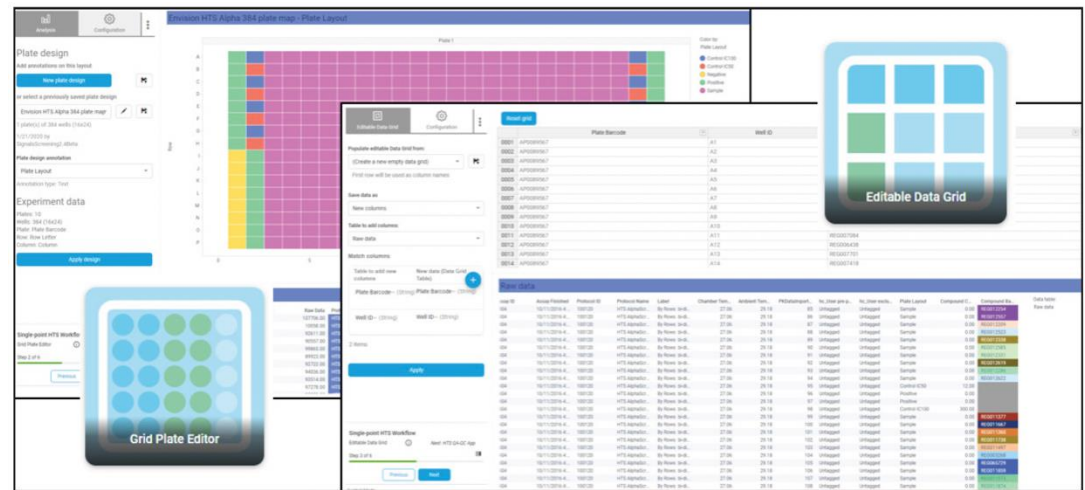
"THE LIST" EXAMPLES

#7 - HIGH THROUGHPUT SCREENING (HTS)

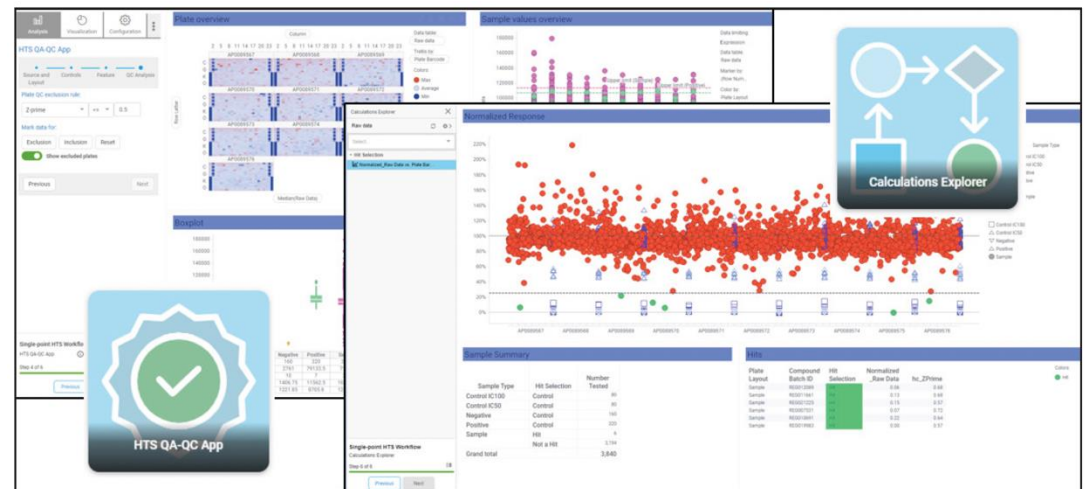
This workflow enables an assay scientist to perform a single-point high-throughput assay.



Easily load raw data from an instrument.



Load plate specific information.

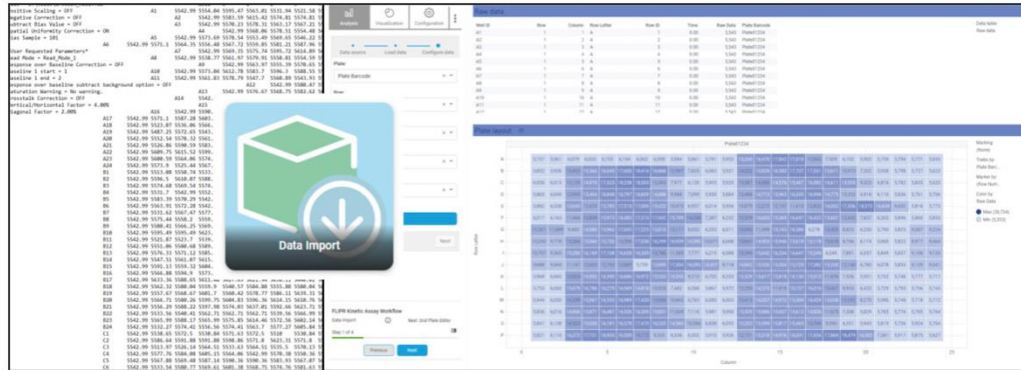


Process the HTS results quickly and efficiently and select hits to advance to confirmatory

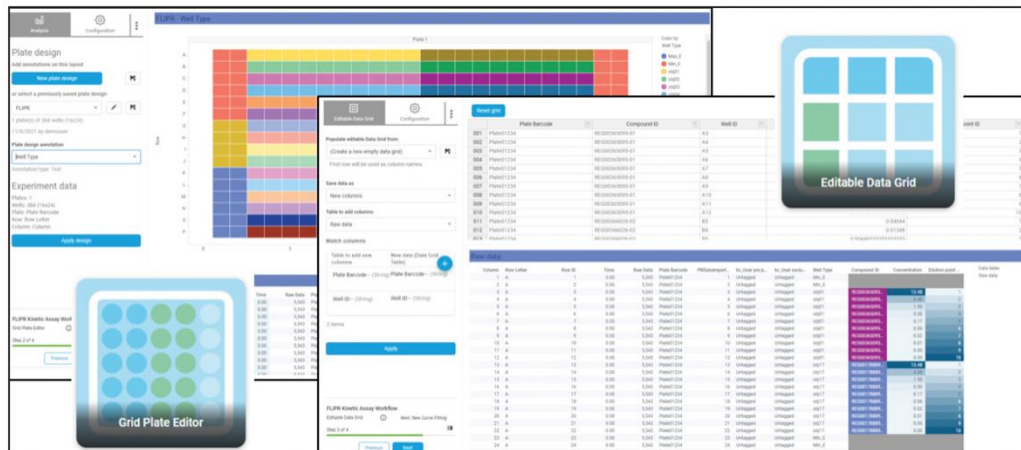
"THE LIST" EXAMPLES

#9 - KINETIC

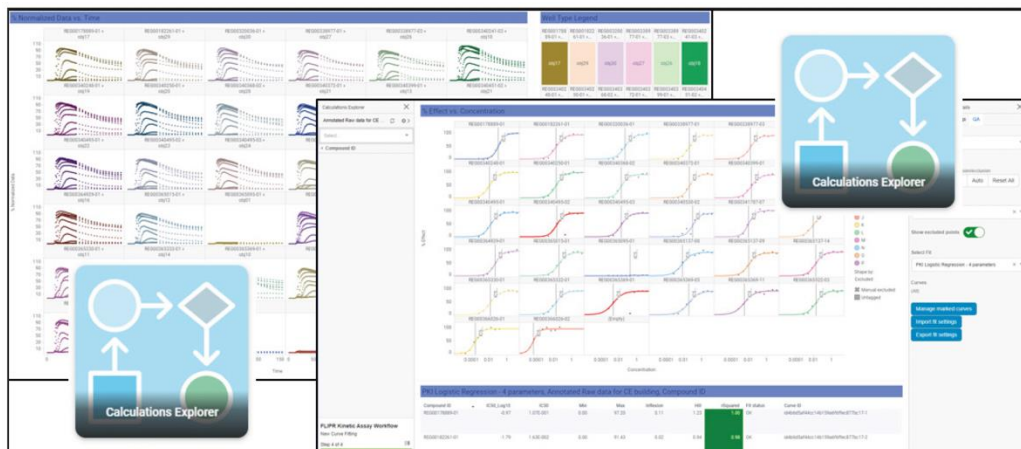
This workflow enables an assay scientist to perform a routine FLIPR assay.



Easily load raw data from an instrument.



Load plate map and plate specific information.




Process the FLIPR results from the full kinetic curve, extract key value(s), and calculate a final IC50.

Signals VitroVivo is flexible enough for one-off assay work during assay development, comprehensive enough for more sophisticated assays, and diverse enough to support a long and growing list of techniques. Scientists can now leverage a consistent, repeatable pattern for data acquisition as well as the data processing workflows to serve their individual needs. [Schedule a demo today.](#)

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