

Perform calculations on plate-based data.

Apply to both plate and well level operations.

Easily build complex data analysis procedures, such as for analyzing the results of a screening experiment.

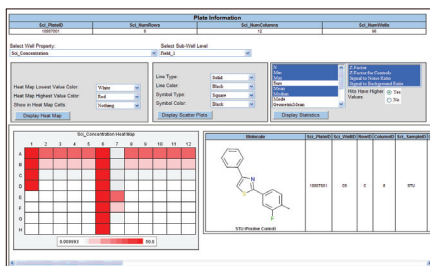
# Plate Data Analytics Component Collection

The Plate Data Analytics Collection provides a data model for plate-based data within SciTeGic Enterprise Server, and provides methods to read, write, report, visualize, manipulate and perform calculations on plate data. The collection allows each record on the data pipeline to carry an entire plate and its associated wells, as well as perform both plate and well level operations. Harnessing the power of the SciTeGic Pipeline Pilot graphical protocol building capabilities, complex data analysis procedures, such as analyzing the results of a screening experiment, can be easily constructed without the need to develop code. Coupled with the Integration Collection, this plate-based data can easily be inserted into or retrieved from a database.

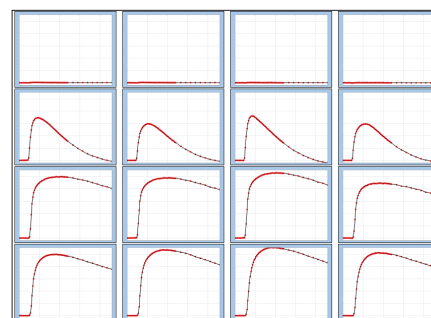
## With the Plate Data Analytics Collection you can:

- Define automated procedures to analyze the results of various types of screening experiments.
- Perform statistical calculations within or across plates, including normalizations and calculations of assay quality.
- Perform dose-response calculations using SciTeGic, R-statistics, or GraphPad Prism™\* methods.
- Visualize large collections of plates and interactively drill-down to plate and well level details.
- When coupled with the Integration Collection, insert or retrieve plate data from databases.

\* GraphPad Prism is not included; this must be purchased separately.



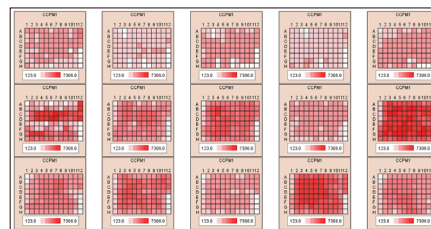
Individual plates may be visualized in an individual plate view that allows all the properties of plates and wells to be viewed along with statistics



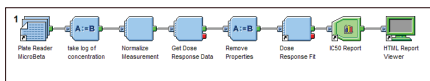
Display of kinetic data



An interactive IC<sub>50</sub> plot viewer is provided to allow for visualization and manipulation of IC<sub>50</sub> curves



Multiple plates may be viewed as a grid of heat maps with drill-down capabilities



Protocol to read microbeta plates, normalize and calculate IC<sub>50</sub> curves

## Plate Data Analytics Component Collection

### Plate Readers

There is no standard file format for plate-based data. The component collection provides readers for standard plate formats including EnVision™, FLIPPR, GE InCell, MicroBeta™ and generic matrix formats. A “Plate from Data” component allows new data readers to be constructed graphically using standard file or database reader components and Pipeline Pilot graphical data manipulation components when a novel file format is encountered.

### Plate Viewers

A variety of static and interactive plate viewers are provided. Multiple plates may be viewed as a grid of heat maps with drill-down ability. Individual plates may be visualized in an individual plate view that allows all the properties of plates and wells to be viewed along with statistics. An interactive IC50 plot viewer is provided to allow for visualization and manipulation of IC50 curves (e.g. knocking out points and recalculating). Visualizers can provide views into the contents of wells, whether they are numeric, textual, images or molecules. All viewers are constructed using the Reporting Collection and so can be modified and customized as desired.

### Plate Manipulators

These components provide a variety of methods to easily modify plate data. These include the ability to split large plates into smaller plates, to combine small plates into larger formats and to merge plates together. Wells may be tagged as controls,

as empty or with other user defined attributes. Custom expressions such as calculations may be applied to all wells within a plate.

### Plate Math and Statistics

Components are available to calculate dose-response curves using algorithms from SciTegic, from the R-statistics package and from GraphPad Prism. The Normalize Measurement component provides a variety of common methods to normalize response properties within or across plates. Plate and Well Statistics components provide a variety of common statistical calculations across wells or across multiple values with a well. A Z-Factors component provides a variety of common methods to calculate assay quality metrics.