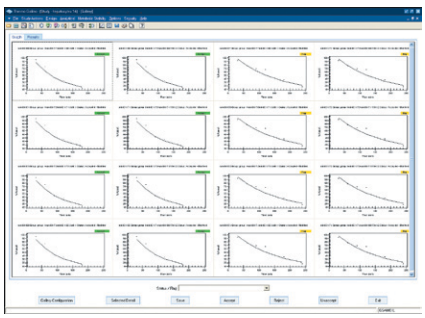
Software Solutions

Count on Thermo Scientific Galileo LIMS to improve screening and increase throughput for lead optimization. Galileo automatically designs, calculates and graphs In-vitro ADME/Tox experiments in a single database application.

Thermo Scientific Galileo LIMS™

Information Management for HTS ADME Laboratories

Multi-plot galleries allow rapid data review and acceptance. Automatic result flagging indicates acceptable (green), questionable (yellow) and failed (red) results. Data points that do not meet pre-defined criteria can be flagged, removed and the results re-calculated - automatically.



Challenge

The number of compounds that reach ADME/Tox profiling has dramatically increased in recent years. The result is a major bottleneck in the drug development process. With significant time and money devoted to each promising compound, proper and efficient ADME/Tox testing is critical to reducing risk and cutting drug development costs. Predicting the safety of a drug in the pre-clinical stage is necessary not only to ensure patient welfare, but to avoid costly late-stage failures in clinical trials.

Scientists conducting this essential laboratory testing are under pressure due to the ever increasing number of compounds to be analyzed and the need to provide a more flexible set of testing services. Laboratories must decide whether to standardize on a single workflow and gain increased capacity, or to provide more rigorous results at the expense of reduced throughput.

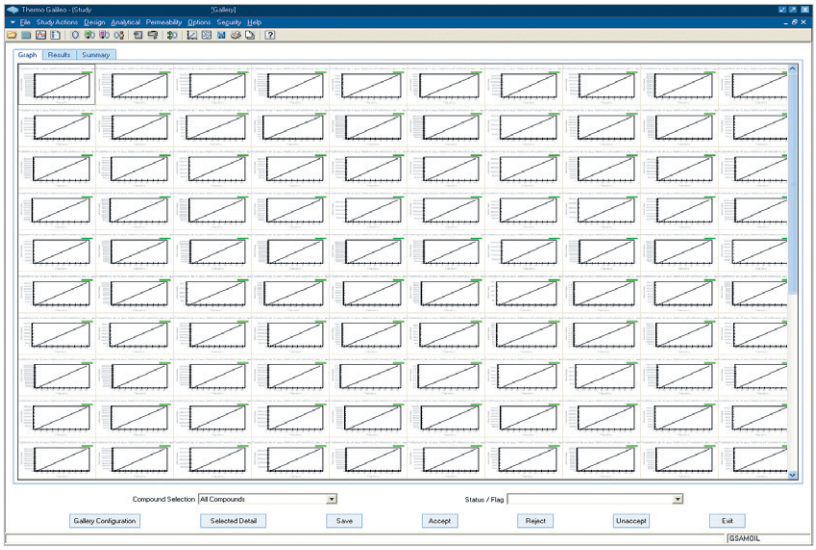
Count on Thermo Scientific

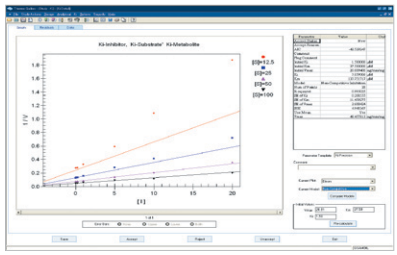
Thermo Scientific Galileo LIMS has been specifically developed to optimize throughput for HTS ADME laboratories, overcoming the tradeoff between improving compound screening and optimizing throughput.

As a purpose-built, single sign-on software solution, Galileo is designed for rapid implementation with minimal configuration. It includes support for a wide variety of screening and definitive assays as part of the base system, ensuring better screening of compounds' ADME properties thereby lowering drug research costs.

Out of the box functionality includes shareable templates for experimental assays, flexible and configurable data analysis methods, and flagging of acceptance results and statistics.

GALILEO LIMS





The Caco-2 plotting gallery is shown with automatic data flagging (left); results are stored in the database.

A K_i enzyme inhibition experiment with the Dixon plotting format and non-competitive model is shown (above). Enzyme inhibition models are built into Galileo, removing the need to transfer data to external curve-fitting software.

Wide Variety of ADME Assays

Galileo fully supports the most commonly performed experiments run by screening, ADME profiling and drug metabolism groups: Caco-2, PAMPA, metabolic stability, IC_{50}, IC_{50} shift, K_i, K_mV_{max}, protein binding (equilibrium dialysis and ultrafiltration) and mechanism-based inactivation. A wide variety of graphical presentations are available such as linear, semi-log, Lineweaver-Burke, Dixon, Eadie-Hofstee, and Kitz-Wilson graphs. All functionality is built right into Galileo; neither users nor IT need to perform custom programming.

Optimized Throughput with High Quality Results

Galileo is delivered with highly integrated functionality that maximizes compound throughput with high quality results. Built-in graphics, non-linear fitting algorithms and ADME calculations eliminate the need to transfer data to multiple external applications such as spreadsheet, graphing and curve-fitting software. This enables rapid, yet accurate, data analysis. To ensure data integrity and efficient data management, Galileo comes with powerful viewing and reporting features, automatic data storage into a centralized client-server Oracle database and the ability to save documents to an integrated document management system.

With Galileo, scientists can set up experiments quickly and easily using templates. Bi-directional interfaces to analytical instruments, such as LC-MS, and automated data entry from Excel files ensure efficient data flow within the lab. Standard functionality available without costly customization includes calibration curves, creation of analytical run worklists, positioning of incubations onto plates and the calculation of final results. In addition, Galileo supports laboratory instruments from a wide variety of vendors.

Galileo is fully scalable to multiple sites for enterprise-wide deployments and standardization of experimental designs, settings and calculations.

Partnering with Thermo Fisher Scientific

Thermo Fisher Scientific is the worldwide leader in laboratory software and related services, providing enterprise-wide, multi-laboratory solutions that have become the corporate standard at leading organizations. Our Thermo Scientific LIMS and CDS manage mission-critical laboratory data in the world's leading pharmaceutical companies. To support our global customers, we provide implementation, validation, training, maintenance and support from the industry's largest worldwide informatics services network.

Galileo is part of a comprehensive portfolio of Thermo Scientific software solutions for the pharmaceutical industry, including Watson LIMS™, the industry standard in bioanalytical laboratories; Darwin LIMS™, for pharmaceutical manufacutring R&D and QA/QC; Nautilus LIMS™, for discovery and R&D; Atlas CDS™, a chromatography data system that integrates seamlessly with Thermo Scientific LIMS; Enterprise Pharmacology (EP) Series™ and Kinetica™ analytical database tools for pharmacokinetics and pharmacodynamics; and GRAMS spectroscopy analysis software.

For More Information

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