ELSEVIER MDL
Data on demand. Power for decisions.

ELSEVIER · MDL

MDL® Assay Explorer® is a powerful, customizable and extensible life science experiment management tool that enables biologists to capture methodology and to analyze, report and manage results within one flexible system.

MDL® Assay Explorer®

MDL Assay Explorer supports the key data collection and analysis steps from screening to in vivo assays and provides a central organization for laboratory data management.

Out-of-the-box versatility

MDL Assay Explorer captures all your biological data in a single repository. Analyze, visualize and store results using a flexible environment—without programming support. From screening to complex *in vivo* assays, you can quickly:

- Move controls, add time points, concentrations, conditions and results
- Analyze a grid of IC_{50} results
- Sort, filter, chart and print results
- Create custom forms to capture methodology
- Use existing or add custom curve-fitting algorithms
- Create and view experiments directly in the Microsoft® Excel® environment
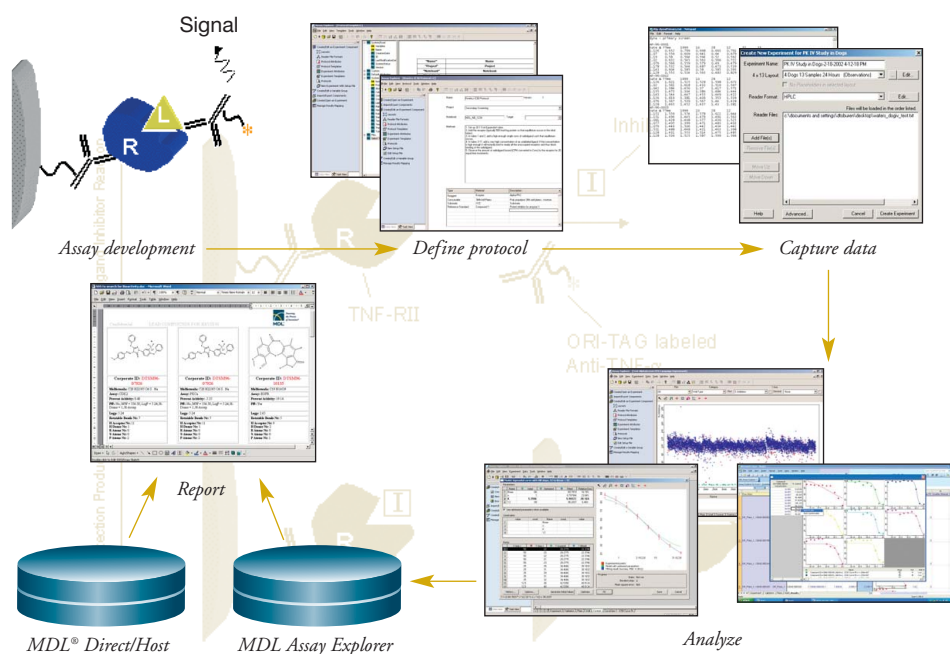
Flexible experiment setup

Use Assay Explorer to manage your protocols, experiments and results.

- Capture all your biological results, including screening, ADME, toxicology and *in vivo* data
- Build any number of data or plate layouts and reader formats— including 3D layouts
- Use the standard formula templates and calculations, or create your own
- Capture images, documents and graphics as results
- Create jobs for unattended experiment generation in an HTS environment
- Improve the workflow by integrating with MDL® Plate Manager

Ensure consistent, reliable and searchable data

Assay Explorer improves data consistency and searchability through its Dictionary Manager. Customizable dictionaries enforce a common vocabulary throughout an organization, building a standard nomenclature for materials, methods, conditions and results. This makes querying and reporting more effective and enables scientists to make decisions based on all available information.

Signal

Assay development → *Define protocol* → *Capture data*

Report

MDL® Direct/Host · *MDL Assay Explorer*

Analyze

For Scientists

Powerful analysis for improved decision-making

MDL Assay Explorer makes it easy for scientists to:

- Select from multiple graphics for visual analysis
- Invalidate data points from charts or graphs
- Analyze experimental results directly in Excel
- Create reports in PDF, Microsoft Word, Microsoft Excel, HTML and other formats with MDL® Report Manager
- View chemical structures along with experimental results
- Choose from over 60 regression models to compare curve fits
- Utilize powerful statistical analysis tools, such as industry leaders Pharsight WinNonlin®, Graphpad Prism® and SAS JMP®, which integrate directly with Assay Explorer
- Optimize curve-fitting parameters, including the number of iterations, to generate the best fit
- Add results and conditions at experiment analysis; no need to wait for IT
- Enhance visualization and statistics using MDL® Assay Explorer Visualizer (see data sheet)

For IT

Flexible, customizable, extensible

Your IT staff can quickly integrate Assay Explorer with in-house systems and third-party applications to fit your company's unique workflow. Using the integrated Microsoft® Visual Basic for Applications®, IT personnel can create add-ins to communicate with laboratory automation, email status and results, apply custom data validation rules and access plate inventory databases. Assay Explorer stores all data in an Oracle® database and gives IT the unique flexibility to modify the database schema to accommodate your specific data storage requirements.

Part of a complete biology workflow solution

Assay Explorer integrates readily with other MDL data systems to support your specific biology workflow. Use Assay Explorer in conjunction with MDL Assay Explorer Visualizer, MDL Plate Manager, MDL® Registration, MDL® Isentris®, MDL® ISIS for Excel, MDL Report Manager and MDL® Direct.
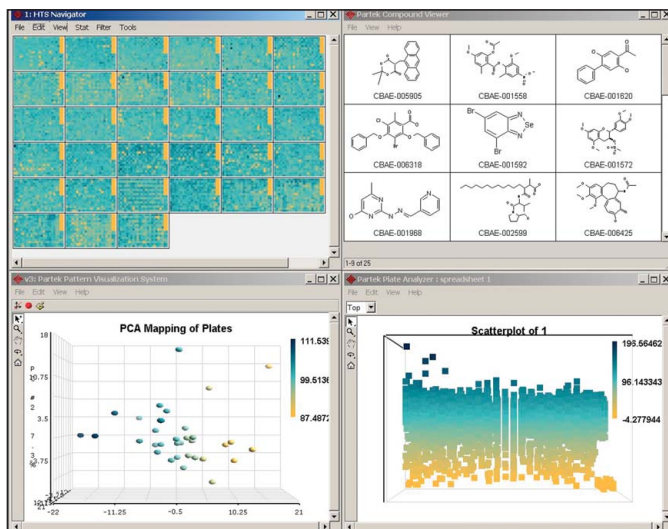

Figure 1: The embedded Microsoft® Visual Basic® engine allows extended functionality such as add-ins or links to third-party software. In this example, experiment results are passed to Partek® software for visualization and exploration of data sets.
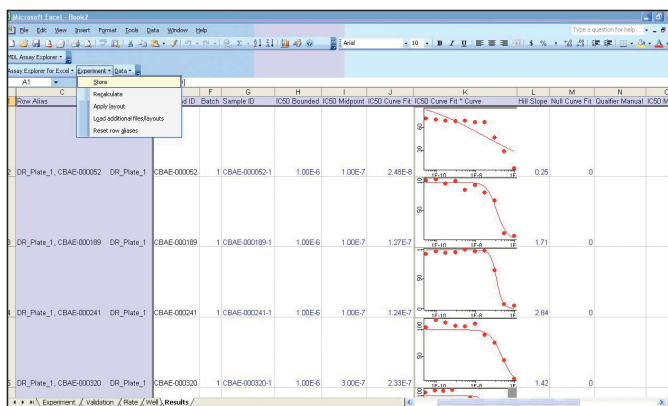

Figure 2: Scientists can create and view experiments directly in Excel while maintaining the consistency of terminology and calculations through Assay Explorer.

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Elsevier MDL
2440 Camino Ramon, Suite 300
San Ramon, CA 94583
Phone: +1 (925) 543-5400
Fax: +1 (925) 543-5401

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