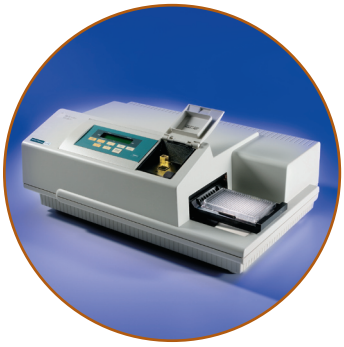
Molecular Devices
now part of MDS Analytical Technologies

MDS Analytical Technologies

Automated Turnkey Solubility and Permeability Assays



SPECTRAMAX APPLICATION NOTE #14

INTRODUCTION

Millipore Corporation and MDS Analytical Technologies have partnered to provide platforms for solubility and permeability screening. The objective is to create automation-compatible 96- and 384-based systems with pre-validated methods, devices and analysis that can be run manually or in conjunction with standard laboratory automation. The integration with analytical methods whose throughput, robustness, and sensitivity are compatible with the needs of ADME screening significantly improves overall throughput.

The Millipore MultiScreen Solubility filter plate is a high-throughput, 96- and 384-well system to classify or quantify the aqueous solubility of compounds contained in typical libraries. The high correlation with the standard shake flask method, along with speed and low compound usage, gives this method an advantage over other methods, including nephelometry. The plate incorporates a low-binding membrane and low-binding plate materials to ensure accurate results.

MultiScreen filter plates used for PAMPA (parallel artificial membrane permeation assay) and MultiScreen Permeability filter plates increase throughput using non-cell-based, automation-friendly, 96- and 384-well assays that predict passive intestinal absorption. Non-cell-based assays streamline the ADME testing process, since they can be performed in less than 24 hours.

MDS Analytical Technologies SpectraMax® microplate readers for ADME screening are designed for high throughput in 96- and 384-well formats and offer software protocols designed for the analysis and data reduction of assays performed using the MultiScreen filter plates. Protocols are available for permeability, qualitative solubility and quantitative solubility. The protocols control the instrument, perform data reduction and offer user-selectable criteria to flag the estimated 20% of compounds that are not amenable to UV-Vis detection. The readers allow parallel measurements and provide automation-friendly operation, with minimal methods development. The readers are available with FDA 21 CFR Part 11 compliance tools, as well as software and hardware validation tools.

SOLUTION INCLUDES

MDS Analytical Technologies Microplate Readers for ADME screening

- SpectraMax® 190
- SpectraMax® Plus^{384}
- SpectraMax® M2/M2^{e}
- SpectraMax® M5/M5^{e}
- FlexStation® 3

MDS Analytical Technologies SoftMax® Pro protocols for ADME screening

- MScreen Solubility Screen (qualitative solubility)
- MScreen Solubility Quantity (quantitative solubility)
- MScreen PAMPA (permeability)

Millipore Multiscreen Filter Plates (available from Millipore, Inc.)

- MultiScreen PBM Permeability Assay Plates
  Part Number: MAPBMN310
- MultiScreen Solubility Filter Plate (non-sterile)
  Part Number: MSSL BPC 10

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