

## Product Information

### LSMLS™ Plate 3 (Water Soluble)

Supplied by IROA Technologies, LLC.

Catalog Number **LSMLS03**

Storage Temperature  $-20\text{ }^{\circ}\text{C}$

#### Product Description

LSMLS03 (Large Scale Metabolite Library Plate 3) is a collection of high quality, small biochemical molecules that span a broad range of primary metabolism. These are high purity (>95%) compounds supplied in an economical, ready-to-use format.

The library is most commonly used to provide retention times and spectra for key metabolic compounds, help optimize analytical mass spectrometry protocols, and qualify and quantify mass spectrometry sensitivity and limit of detection.

LSMLS™ Plate 3 comes with MLSDiscovery™, a software tool to support the extraction, manipulation, and storage of the data generated when using the LSMLS03. For further information on the software, to download, and for manual and video links please visit: [www.sigmaaldrich.com/catalog/product/sigma/lsmls03](http://www.sigmaaldrich.com/catalog/product/sigma/lsmls03)

#### Components

LSMLS Plate 3 compounds are conveniently provided at 1 mg per well, enough for multiple injections, suitable for manual and automated workflow.

The library is intended to be used for mass spectrometry metabolomics applications and provides a broad representation of primary metabolism.

Occasionally the plate map will change due to the availability of compounds. The compounds of each row have distinct molecular masses and can be multiplexed, but users should refer to the plate map for their specific lot before proceeding.

The plate map contains descriptors and represents information gathered from multiple databases. Please note this data may contain some errors. It is recommended for users to carefully review plate composition and description information prior to use. To help build a better database, please report any observed discrepancies.

LSMLS03 includes:

- 1 polypropylene plate in 96 well format  
Polypropylene deepwell (1.2 mL, total volume per well) plate (MasterBlock®, Greiner Number 780215) in combination with seals (VIEWseal™, Greiner Number 676070)
- 1 mg (dried weight) of each metabolite

MLSDiscovery software includes:

- Plate map
- Alphanumeric assigned position
- Descriptors:
  - Name
  - Parent CID
  - KEGG ID where available or ChemSpider ID
  - Molecular formula
  - Molecular mass
  - CAS Registry number
  - ChEBI
  - HMDB ID/YMDB ID
  - PubChem Compound and Substance ID
  - Metlin ID

#### Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

#### Preparation Instructions

*The following are suggestions and dependent on user chromatography and instrumentation.*

Add 5% of final volume (up to 20  $\mu\text{L}$ ) of high purity methanol (MeOH) to every well of the plate. Add ultrapure water to make up the desired volume. A final 5% methanol solution is suggested. Pipette liquid up and down in the well 2-3 times to facilitate solubilization.

Pool compounds for multiplexing. Be sure to check the plate map to ensure one can adequately separate the compounds using the chromatographic system prior to pooling.

### Storage/Stability

Store the plate at  $-20\text{ }^{\circ}\text{C}$ .

Once the metabolites are dissolved, the plate should be resealed and kept at  $-20\text{ }^{\circ}\text{C}$  or  $-80\text{ }^{\circ}\text{C}$  for long-term storage and protected from light. Avoid repeated freeze/thaw cycles.

### Procedure

The compounds of LSMLS Plate 3 can either be used as standards and injected individually or mixed in such a way that the entire library may be examined with reasonable efficiency. Mixing compounds by row mixtures allows multiple compounds to be analyzed per injection. Again, be sure to check the plate map to ensure one can adequately separate the compounds using the chromatographic system prior to pooling.

The following are only suggestions and depend on user chromatography and instrumentation.

#### 1. Individual Injections

As standards, each well represents a single compound. The entire library may be examined in great detail with several injections, one for each of the unique metabolites (Total volumes for each well of  $250\text{ }\mu\text{L}$ – $1\text{ mL}$  may be considered).

#### 2. Simple multiplex injections

If the rows of the plate are pooled, then the entire collection may be analyzed with 7 injections of simple mixtures. Keep the total volume for each well to  $150\text{ }\mu\text{L}$  or less to prevent loss due to dilution and use  $5$ – $10\text{ }\mu\text{L}$  of each well for the pooled sample. Then, inject  $2$ ,  $4$ , or  $6\text{ }\mu\text{L}$  of the pooled material as needed.

### References

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SS,AA,MAM 04/19-1