Technical Bulletin

Phytochemical Metabolite Library of Standards Plate 2 (Ethanol Soluble)

Supplied by IROA Technologies

Catalog Number PHYTOMLS02

Product Description

The **PHYTOMLS02™** Library [Phytochemical Metabolite Library of Standards Plate 2 (Ethanol Soluble)] is a collection of high-quality phytochemicals produced by many edible plants. 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.

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

PHYTOMLS02 comes with MLSDiscovery™, a software tool to support the extraction, manipulation, and storage of the data generated when using the PHYTOMLS02.

Components

PHYTOMLS02 contains unique primary and secondary plant metabolites, covering Key metabolic pathways, including the following classes of compounds:

- Terpenes
- Phytosterols
- Flavonoids
- Phenolic acids
- Tannins
- Stilbenes
- Lignans
- Carotenoids

Occasionally the plate map will change due to the availability of compounds. Although we try to make sure the compounds of each row have distinct molecular weights and can be multiplexed, users should refer to the plate map before proceeding.

The plate map contains descriptors and represents information gathered from multiple databases. We try to ensure the accuracy of the data but it may contain errors. We suggest that the information provided is carefully reviewed. To help build a better database, please report any discrepancies.

PHYTOMLS02 includes:

- 1 polypropylene plate in 96-well format. The plate is a polypropylene deep-well (1.2 mL, total volume per well) plate (MasterBlock®, Greiner Number 780215) in combination with seal (VIEWseal™, Greiner Number 676070)
- 5 µg (dried weight) of each metabolite
- Plate map
- Alphanumeric assigned position
- Descriptors:
    - Name
    - Parent CID
    - KEGG ID where available or ChemSpider ID
    - Molecular formula
    - Molecular weight
    - 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.

Storage/Stability

Store the plate at –20 °C. The product is shipped on dry ice.

Once the metabolites are dissolved, the plate should be resealed and kept at –20 °C or -80 °C for long-term storage and protected from light. Avoid repeated freeze/thaw cycles.

Preparation Instructions

The following are suggestions and dependent on user chromatography and instrumentation

Use high-quality solvent. Compounds in Plate 2 can be solubilized using Ethanol. Pipet liquid up and down in the well 2-3 times to facilitate solubilization.

Pool compounds as desired for multiplexing. Again, be sure to check the compound masses you wish to multiplex on the plate map to ensure you can adequately separate the compounds using your chromatographic system prior to pooling.

Procedure

The compounds of the PHYTOMLS02 library 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 may allow multiple compounds to be analyzed per injection. Be sure to check the plate map to ensure you can adequately separate the compounds using your chromatographic system prior to pooling.

The following are suggestions and dependent 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 injections for each of the unique compounds. (Volumes of approximately 250 µL may be considered).
2. Simple multiplex injections: If each row of the plate is pooled, then the entire collection may be analyzed with multiple injections of simple mixtures. Keep the well volume to 100 µl or less to prevent loss due to dilution and take 5-10 µl of each well for the pooled sample, then inject 2, 4, or 6 µl of the pooled material as needed.

Note: Be sure to check the individual masses across plate rows to ensure these compounds can be separated with the chromatographic system employed.

References

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