



# Metabolomics QC Kit

For Untargeted/Targeted  
Mass Spectrometry



Quality control (QC) of methods and processes is an essential factor toward the generation of reliable mass spectrometry (MS) data. In order to obtain accurate and precise metabolomic data that can be reproduced by independent laboratories around the world using different MS technologies, standardized protocols and reagents are necessary.

**To that end, Cambridge Isotope Laboratories, Inc. (CIL) is pleased to offer a QC kit for untargeted and targeted MS-based metabolomic applications.**

The kit contains the following materials and tools:

- 2 Vials of  $^{13}\text{C}$ -labeled analytes (lyophilized). Refer to the table below for specifics.
- User manual (with product details and applications for example LC-MS methods)

**Table:** Specific analytes contained in the two mixes and their individual concentrations upon rehydration. Rehydrating the lyophilized mixes in 1 mL of solvent yields the concentrations noted.

| Description   | Concentration ( $\mu\text{g/mL}$ ) | Vial |
|---|------------------------------------|------|
| L-Alanine ( $^{13}\text{C}_3$ , 99%)                    | 4                                  | 1    |
| L-Leucine ( $^{13}\text{C}_6$ , 99%)                    | 4                                  | 1    |
| L-Phenylalanine ( $^{13}\text{C}_6$ , 99%)              | 4                                  | 1    |
| L-Tryptophan ( $^{13}\text{C}_{11}$ , 99%)              | 40                                 | 1    |
| L-Tyrosine ( $^{13}\text{C}_6$ , 99%)                   | 4                                  | 1    |
| D-Glucose ( $^{13}\text{C}_6$ , 99%)                    | 4                                  | 2    |
| D-Sucrose ( $^{13}\text{C}_6$ , 98%)                    | 4                                  | 2    |
| Caffeine ( $^{13}\text{C}_3$ , 99%)                     | 4                                  | 2    |
| Stearic acid, sodium salt ( $^{13}\text{C}_{18}$ , 98%) | 0.4                                | 2    |
| Sodium octanoate ( $^{13}\text{C}_8$ , 99%)             | 4                                  | 2    |
| Sodium propionate ( $^{13}\text{C}_3$ , 99%)            | 4                                  | 2    |
| Sodium benzoate ( $^{13}\text{C}_6$ , 99%)              | 4                                  | 2    |
| Sodium citrate ( $^{13}\text{C}_3$ , 99%)               | 4                                  | 2    |
| Succinic acid, disodium salt ( $^{13}\text{C}_4$ , 99%) | 4                                  | 2    |

## Kit Features and Benefits

- Enables analytical precision to be determined
- Allows metabolite quantitation
- Identifies performance deficits
- Pinpoints method-specific issues
- Diminishes interlaboratory variability
- Improves method transferability

## Looking to assess the performance of your metabolomic workflow? Use CIL's QC kit.

This QC kit is designed to evaluate the efficiency of a user's metabolomics method and LC-/GC-MS platform such that the analytical variation can be determined and corrected. Testing and validation of the kit has been performed in an array of matrices (e.g., urine, blood, and tissues), using different forms of chromatography (e.g., RP-LC and HILIC), ionization polarity (i.e., positive and negative), and modes of MS (e.g., DDA). By simply rehydrating and pooling aliquots of the supplied mixes, the isotopically labeled metabolites are ready for use either as spike-in standards to your biosample of interest (for quantitation) or for independent analysis at defined points of an analytical batch (for QC). In system suitability assessment, such metrics as retention time, peak shape, and signal intensity should be monitored over time for performance accreditation.

| Catalog No. | Description*        | Price (USD) |
|-------------|---------------------|-------------|
| MSK-QC-KIT  | Metabolomics QC Kit | \$495       |

\*Individual vials also available; please inquire.

**Cambridge Isotope Laboratories, Inc.**

North America: 1.800.322.1174 cilsales@isotope.com | International: +1.978.749.8000 intl@isotope.com | fax: 1.978.749.2768 | isotope.com