

Comprehensive Analysis of Hydrophilic Metabolites in Metabolomics

Chromatography Column for Hydrophilic Interactions

Shim-pack[™] Mix-HILIC

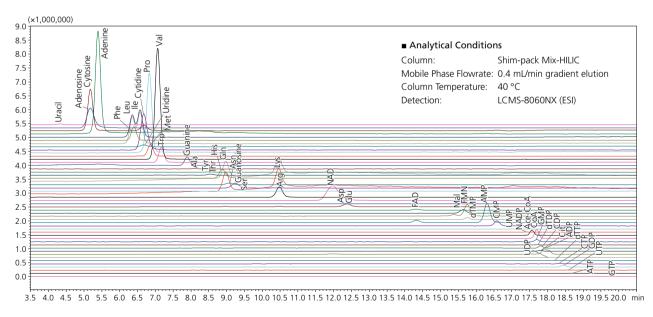
CoreFocus

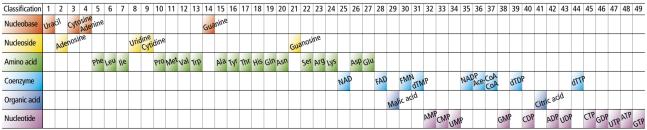
Metabolomics is a technique for comprehensively measuring metabolites (the metabolome) in living organisms. The metabolome is equivalent to the furthest stage downstream of the process of expressing genetic information. Accordingly, it can be considered as directly reflecting the phenotype of the organism. Because of this, applications of metabolomics are anticipated in a variety of fields including drug discovery, functional foods, and metabolic engineering.

The Shim-pack Mix-HILIC chromatography column for hydrophilic interactions enables separation of important amino acids in organisms as well as nucleobases, nucleosides, nucleotides, coenzymes, and organic acids via characteristic hydrophilic interactions and ionic interactions. Accordingly, it is suitable for the simultaneous monitoring of hydrophilic metabolites with a variety of physicochemical properties.

■ Simultaneous Monitoring of a Variety of Hydrophilic Metabolic Components

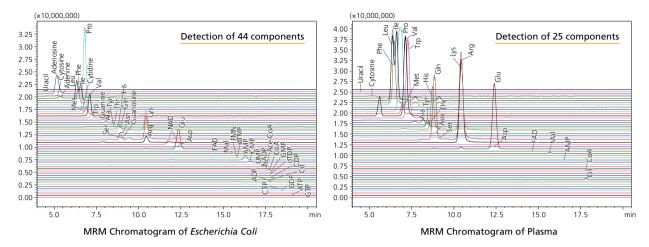
Shim-pack Mix-HILIC uses gradient elution to elute hydrophilic metabolic components such as nucleobases, nucleosides, and amino acids first, and organic acids, coenzymes, and nucleotides after.





Applications to Samples of Biological Origin

Shim-pack Mix-HILIC can be applied to the measurement of samples of biological origin.



■ Shim-pack Mix-HILIC Column

Part number	Model	Size	Particle Size
227-32751-01	Shim-pack Mix-HILIC	150 mm × 2.1 mm I.D.	5 μm

► Optimal LC System for Metabolome Data Analysis

The HPLC configuration combines the Nexera™ X3, which is equipped with Analytical Intelligence functions, and the LCMS-8060NX, which provides MS detection with both minimization of matrix effects and high sensitivity, thereby increasing operability and durability, and heightening the efficiency of the work flow as a whole.

In addition, using LabSolutions Insight[™], which dramatically improves data analysis efficiency, and Peakintelligence[™], which significantly reduces the difficulty of integrating the detected peaks, can optimize the output of data analysis tasks.



Liquid Chromatograph Mass Spectrometer LCMS-8060NX

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