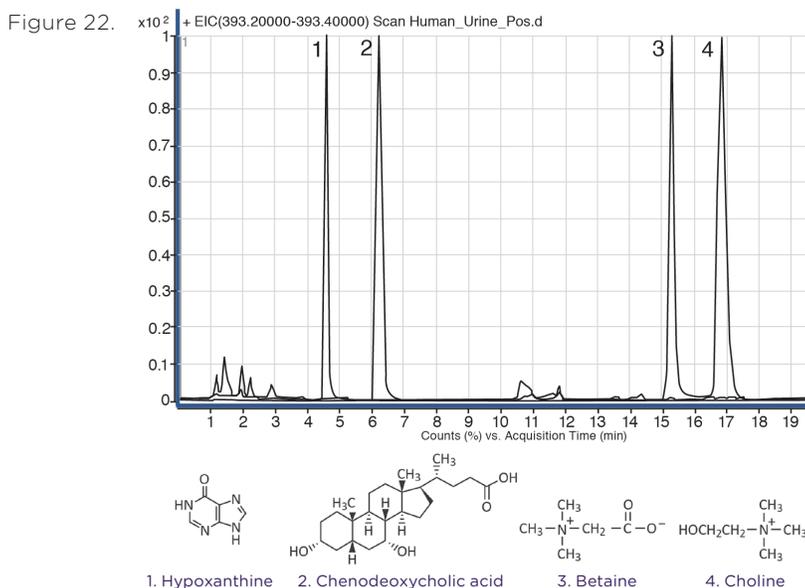


Metabolomics Kit – Diamond Hydride and Bidentate C18

For Polar and Nonpolar Compounds

Metabolomics is a powerful tool for profiling differences in the composition of structurally diverse molecules in complex biological mixtures, including amino acids, sugars and phosphosugars, biogenic amines and lipids. LC-MS is typically used to assist identification and quantification of many of these components.

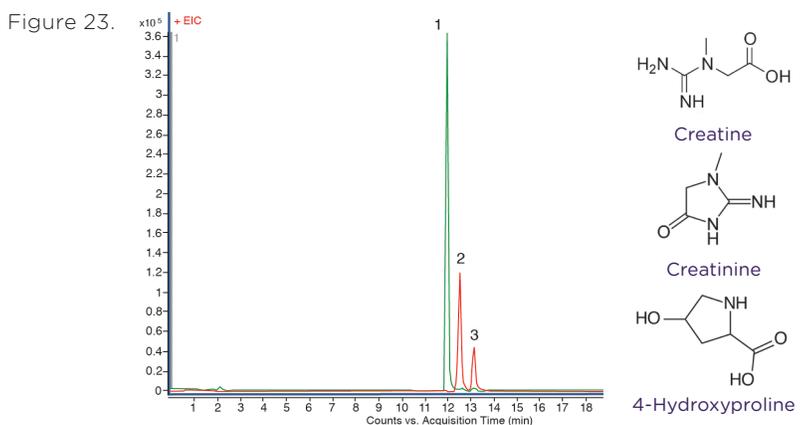
The following two examples illustrate the separation of metabolites in urine using Aqueous Normal-Phase (ANP) HPLC with MS detection.



Method Conditions

Column: Cogent Diamond Hydride™, 4µm, 100Å
Catalog No.: 70000-15P-2
Dimensions: 2.1 x 150mm
Mobile Phase: A: DI water + 0.1% formic acid
 B: Acetonitrile + 0.1% formic acid
Flow rate: 0.4mL/min
Detection: ESI – pos – Agilent 6210 MSD TOF mass spectrometer
Sample: Human Urine – after simple extraction
Peaks: 1. Hypoxanthine; 137.04580m/z (M+H)⁺, RT = 4.98 min
 2. Chenodeoxycholic acid; 393.29990m/z (M+H)⁺, RT = 6.23 min
 3. Betaine; 118.08680m/z (M+H)⁺, RT = 15.27 min
 4. Choline; 104.10754m/z (M+H)⁺, RT = 16.82 min

Figure 22: EIC – extracted ion chromatogram of selected compounds (1,2,3,4)



Method Conditions

Column: Cogent Diamond Hydride™, 4µm, 100Å
Catalog No.: 70000-7.5P
Dimensions: 4.6mm x 75mm
Mobile Phase: A: DI water + 0.1% formic acid
 B: Acetonitrile + 0.1% formic acid
Flow rate: 0.4mL/min
Detection: ESI – pos – Agilent 6210 MSD TOF mass spectrometer
Sample: Synthetic urine
Compounds: 1. Creatinine - Cm M+H 114.0662, RT = 11.98 min
 2. Creatine - Cr M+H 132.0768, RT = 12.52 min
 3. 4-Hydroxyproline M+H 132.0655, RT = 13.16 min

The Cogent Metabolomics Kit offers a combination of two TYPE-C silica-hydride columns. If you are scouting for unknown compounds such as very polar and very hydrophobic compounds, these kits contain the tools you need. A Cogent Diamond Hydride™ for polar compounds and a Cogent Bidentate C18™ column for hydrophobic compounds provide the ability to identify almost any compound when used in tandem. The kits contain one each of these two columns, in the same dimensions.

Ordering Cogent Metabolomics Kits

Column Dimensions	Catalog Numbers 4µm Phases	Catalog Numbers 2.2µm Phases
1.0 x 100mm	43000-10P-1	43200-10P-1
2.1 x 50mm	43000-05P-2	43200-05P-2
2.1 x 100mm	43000-10P-2	43200-10P-2
2.1 x 150mm	43000-15P-2	43200-15P-2
4.6 x 100mm	43000-10P	-
4.6 x 150mm	43000-15P	-