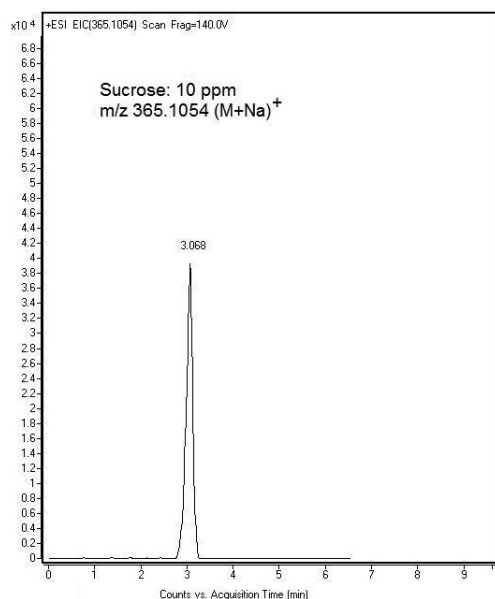
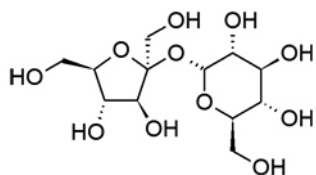


Sucrose Analysis by LCMS



Notes:

Colon cancer is associated with high intake of sucrose [1]. Determination of sucrose urinary excretion in absorption test provides information on malnutrition and has clinical application as screening procedure for gastrointestinal diseases (mainly celiac disease). Many techniques have been used to quantify sucrose in urine and blood: thin layer chromatography, colorimetric/enzymatic procedures, HPLC and GC. Many of them require sample derivatization either for detection or analysis purposes.

[1]. "Sucrose, glucose and fructose have similar genotoxicity in the rat colon and affect the metabolome", M. Hansen, D. Baunsgaard, H. Autrup, U.B. Vogel, P. Moller, R. Lindecrona, H.Wallin, H.E. Poulsen, S. Loft, L.O. Dragsted, Food and Chemical Toxicology 46 (2008) 752-760.

Method Conditions

Column: Cogent Diamond Hydride™ 4µm, 100Å.
Catalog No.: 70000-15P-2
Dimensions: 2.1mm x 150mm
Solvents: A: 80% DI water/20% methanol/0.1% formic acid/ 100 microM sodium acetate
 B: 100% acetonitrile+0.2% acetic acid

*ATTENTION: Na concentration is in microM.
 Higher concentration is harmful for MS.*

Gradient:	Time (min)	%B	Flow Rate(mL/min)
	0.00	100	0.600
	1.00	100	0.600
	4.00	50	0.600
	7.00	50	0.600
	8.00	100	0.600

Post Tme: Total gradient time 10 minutes. Post time 5 min
Flow Rate: 0.4 mL/min.
Samples: Sucrose 10 ppm, m/z 365.1054 (M+Na)⁺
Detection: ESI – pos - Agilent 6210 MSD TOF mass spectrometer.

Discussion

A fast, reliable method of detection and analysis of sucrose was developed using a Cogent Diamond Hydride HPLC column in the Aqueous Normal Phase (ANP) mode. The sucrose peak was symmetrical and easy to integrate and the method is reproducible. This LC-MS method can be used easily and reliably as a screening test for intestinal disorders in place of the currently used more cumbersome methods.

For more information visit www.MTC-USA.com

Cat. No.	Description
70000-15P-2	Cogent Diamond Hydride™ HPLC Column, 100Å, 4µm, 2.1mm x 150mm