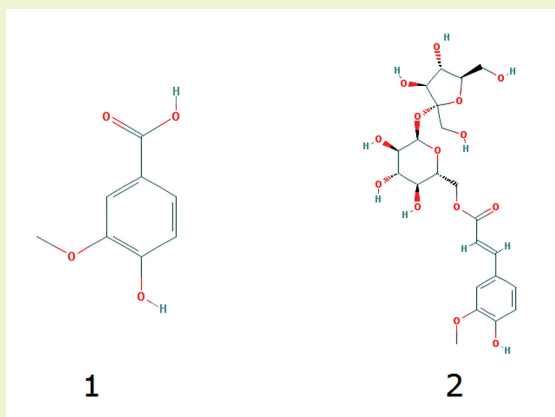
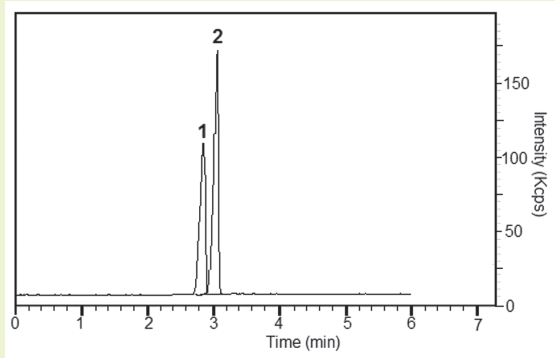


Vanillic Acid and 6'-O-Feruloylsucrose

LC-MS method using rice extract sample



Method Conditions

Column: Cogent Phenyl Hydride™, 4µm, 100Å

Catalog No.: 69020-05P-2

Dimensions: 2.1 x 50 mm

Mobile Phase: A: DI H₂O / 0.1% formic acid (v/v)
B: Acetonitrile / 0.1% formic acid (v/v)

Gradient:	time (min.)	%B
	0	10
	5	20
	6	20
	7	10

Post Time: 3 min

Injection vol.: 1µL

Flow rate: 0.3 mL/min

Detection: ESI - NEG, POS - PerkinElmer Flexar SQ 300 mass spectrometer

Sample: Commercial rice extract was analyzed.

Peaks: 1. Vanillic acid 167 m/z [M-H]⁻
2. 6'-O-Feruloylsucrose 178 m/z [M-C₁₂H₂₂O₁₁+H]⁺

t₀: 0.6 min

Discussion

When commercial rice extracts were analyzed, only vanillic acid (peak 1) was found in one out of 3 extracts and 6'-O-Feruloylsucrose (peak 2) was found in all 3 extracts. The results were confirmed by analyzing spiked rice extract samples. The analysis was done in a single run by switching polarity between positive and negative ionization mode. The Cogent Phenyl Hydride column was an excellent choice to use for analysis of phenolic compounds.

According to the literature[1], a rice extract should contain following compounds: gallic acid, vanillic acid, p-coumaric acid, ferulic acid, 3,5 dimethoxy-4-hydroxycinnamic acid, syringic acid, caffeic acid, and 6'-O-Feruloylsucrose.

[1] S. Tian, K. Nakamura, T. Cui, H. Kayahara, J. Chromatogr. A, 1063 (2005) 121-128.

Note: Rice is a staple food in many countries. It contains phenolic compounds which have anticancer, antioxidant, and antimutagenic effects. It is important to analyze rice extracts to confirm the content of the phenolic compounds in rice.