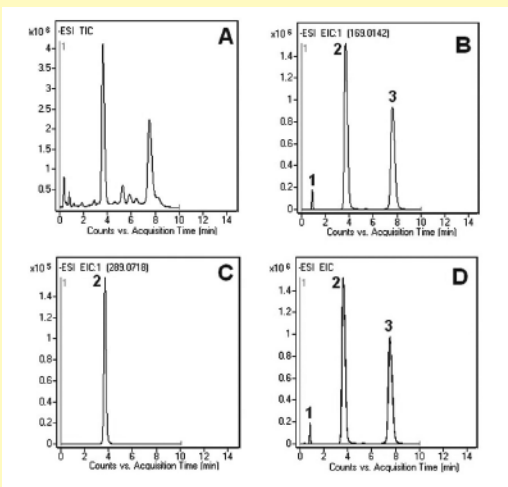
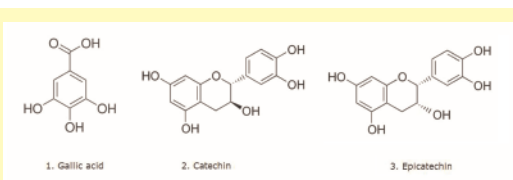


Polyphenols in Grape Seed Extract

Gallic acid, Catechin, and Epicatechin



Figures: A: TIC of grape seed extract
 B: Grape seed extract
 C: Catechin standard
 D: 5 overlaid injections of grape seed extract

Notes: Grape seed extracts have a high content of phenolic compounds, such as gallic acid, catechin, epicatechin and procyanidins. They have been the matter of intense investigations with respect to their potentially beneficial effects on human health. Phenolic compounds are secondary plant metabolites and they play an important role in plant grow, reproduction, and protection against pathogens and predators. This data was presented at the American Society of Pharmacognosy Annual Meeting and Exhibition, July 30 – August 3, 2011, San Diego, California.

Method Conditions

Column: Cogent Bidentate C18™, 4µm, 100Å
Catalog No.: 40018-05P-2
Dimensions: 2.1 x 50 mm
Solvents: A: DI water + 0.1% formic acid
 B: Methanol + 0.1% formic acid

time (min.)	%B	time (min.)	%B
0	10	7	15
5	15	8	10

Gradient:

Injection Vol.: 1 µL
Detection: ESI – neg - Agilent 6210 MSD TOF mass spectrometer.
Flow Rate: 0.4 mL/min
Sample: Grape seed extract tablet was crushed and extracted with DI water at 40°C. Before injection, sample solution was filtered using a 0.45 micron nylon filter (MicroSolv Tech Corp).
Peaks:
 1. Gallic acid 169.0142 m/z (M - H)⁻, RT=0.862 min
 2. Catechin 289.0718 m/z (M - H)⁻, RT=3.739 min
 3. Epicatechin 289.0718 m/z (M - H)⁻, RT=7.626 min
t₀: 0.4 min

Discussion

The analytical method presented in this study was applied to the determination of phenolics in a grape seed extract. From Figure B, it can be determined that the aqueous extract contains a high amount of gallic acid, catechin and epicatechin. A Cogent Bidentate C18™ column used for the analysis was chosen because of rapid equilibration time when a gradient analysis is required.

Cat. No.	Description
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40018-05P-2	Cogent Bidentate C18™ HPLC Column, 100A, 4µm, 2.1mm x 50mm
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