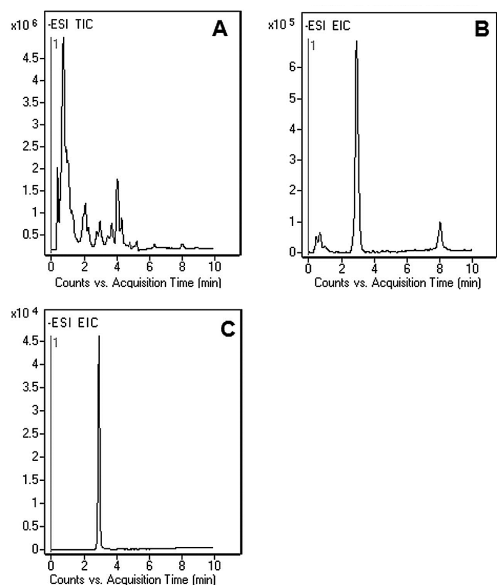
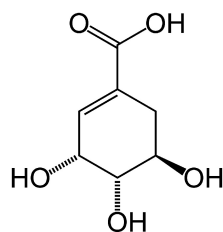


Shikimic Acid in Red Wine (LC-MS) Ingredient for Production of Oseltamivir



Notes:

Shikimic acid is a key ingredient in the production of Tamiflu®, an antiviral drug for Influenza virus A and swine-origin influenza (H1N1). Shikimic acid comes from grape skin and is always present in wines. Determination of its concentration in wine can be used as a tool to differentiate between different red wine varieties. It is an intermediate molecule produced in the shikimate pathway. It participates in the biosynthesis of anthocyanins.

Method Conditions

Column: Cogent Diamond Hydride™, 4µm, 100A
Catalog No.: 70000-05P-2
Dimensions: 2.1 x 50 mm
Solvents: A: 50% methanol/ 50% DI water/ 10 mM ammonium acetate
 B: 90% Acetonitrile/ 10% DI Water/ 10 mM ammonium acetate

Gradient:

time (min.)	%B	time (min.)	%B
0	95	8	50
1	95	10	95
5	50		

Post Time: 5 min
Injection Vol.: 1 microL
Flow Rate: 0.4 mL/min
Detection: ESI – NEG - Agilent 6210 MSD TOF mass spectrometer

Sample: Panel A: TIC of Red Wine (Pinot Noir).
 Panel B: Red Wine: EIC: Shikimic acid 173.0455 m/z
 Panel C: Standard: EIC: Shikimic acid 173.0455 m/z
 Red wine: filtered, 0.45 µm nylon filters (MicroSolv Tech. Corp.). Sample for injection was diluted 1:1 using A/B solvent mixture. Standard: 0.1 mg/mL in methanol, diluted 1:100 for injection using 1:1 A/B solvent mixture

Peak: Shikimic acid 173.0455 m/z (M - H)⁻
t₀: 0.4 min.

Discussion

This application note presents a method for the analysis of shikimic acid in red wine. The main advantage of using LC-MS in this method is its high specificity (mass accuracy) of analysis, the short analysis time, fast equilibration time between runs, and high repeatability (%RSD < 0.7). The developed method can be used as an analytical tool to verify the varietal authenticity of red wine. Also, Cogent™ columns are well known for long lifetime (low cost per injection of the sample).

For more information visit www.MTC-USA.com

Cat. No.	Description
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70000-05P-2	Diamond Hydride™ HPLC Column, 100A, 4µm, 2.1 x 50 mm
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