

APPLICATION

Rapid, Sensitive LC/MS/MS Analysis of Nicotine and Metabolites with a Kinetex[®] EVO C18 Core-Shell HPLC Column

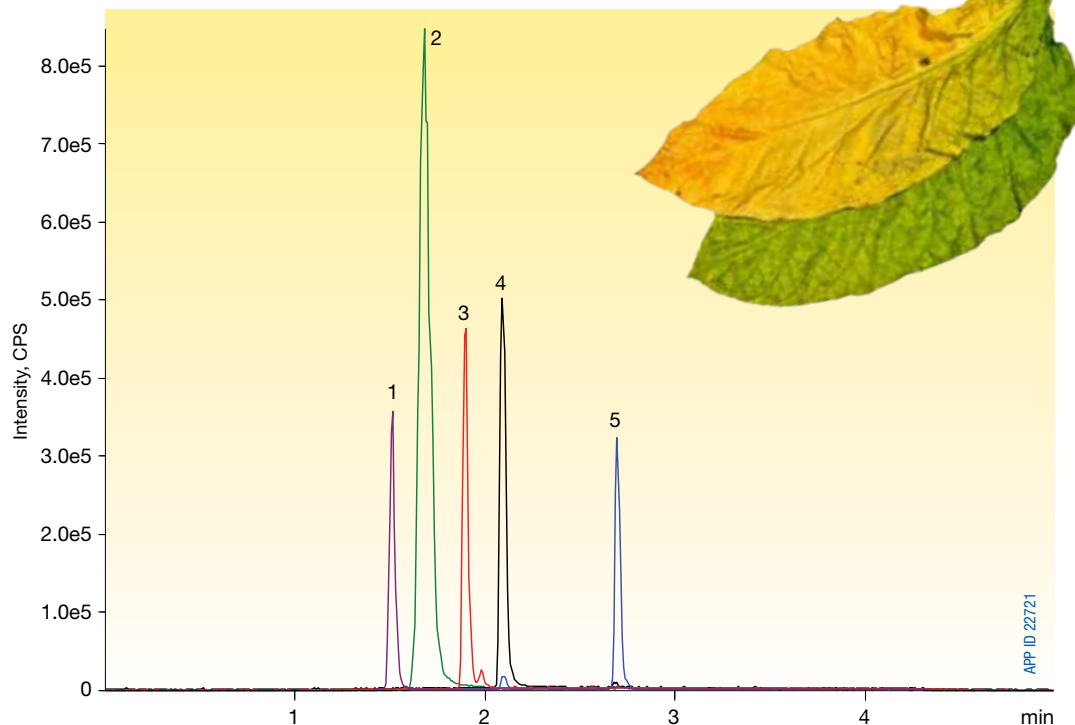
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Overview

A method is illustrated for the simultaneous analysis of nicotine, anabasine, and three of nicotine's major metabolites (cotinine, normnicotine, and 3-hydroxycotinine) using the Kinetex 5 μ m EVO C18 column. Nicotine and its metabolites are important biomarkers for monitoring the uptake of nicotine and related toxicants for tobacco use, long-term environmental tobacco smoke (ETS) exposure, and for optimizing nicotine dependency treatment. Since nicotine and its metabolites have poor hydrophobic retention under low pH reversed phase conditions, basic pH is required to neutralize the compounds and promote increased hydrophobic interaction with the stationary phase. The Kinetex EVO C18 provides ruggedness and pH stability combined with the excellent efficiency of a core-shell stationary phase, resulting in short chromatographic analyses which increase lab productivity and decrease solvent consumption.

LC/MS/MS Conditions

Column:	Kinetex 5 μ m EVO C18	
Dimensions:	100 x 3.0 mm	
Part No.:	00D-4633-Y0	
Mobile Phase:	A: 20 mM Ammonium bicarbonate (unadjusted) B: Methanol	
Gradient:	Time (min)	% B
	0	5
	2	75
	3	75
	3.01	5
	5	5
Flow Rate:	0.75 mL/min	
Temperature:	Ambient	
Detection:	MS	
Sample:	1. 3-Hydroxycotinine 2. Normnicotine 3. Cotinine 4. Anabasine 5. Nicotine	



APP ID 22721



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Kinetex Ordering Information

5 µm Minibore Columns (mm)				SecurityGuard™ ULTRA Cartridges†
Phase	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
EVO C18	00B-4633-AN	00D-4633-AN	00F-4633-AN	AJO-9298 for 2.1 mm ID

5 µm MidBore™ Columns (mm)				SecurityGuard ULTRA Cartridges†
Phase	50 x 3.0	100 x 3.0	150 x 3.0	3/pk
EVO C18	00B-4633-YO	00D-4633-YO	00F-4633-YO	AJO-9297 for 3.0 mm ID

5 µm Analytical Columns (mm)					SecurityGuard ULTRA Cartridges†
Phase	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	3/pk
EVO C18	00B-4633-E0	00D-4633-E0	00F-4633-E0	00G-4633-E0	AJO-9296 for 4.6 mm ID

5 µm Axia™ Packed Preparative Columns (mm)					SecurityGuard PREP Cartridges*
Phase	50 x 21.2	100 x 21.2	150 x 21.2	250 x 21.2	15 x 21.2
EVO C18	00B-4633-PO-AX	00D-4633-PO-AX	00F-4633-PO-AX	00G-4633-PO-AX	AJO-9304 for 21.2 mm ID

† SecurityGuard ULTRA Cartridges require holder, Part No.: AJO-9000

* PREP SecurityGuard Cartridges require holder, Part No.: AJO-8223

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Find more information on Kinetex core-shell HPLC and UHPLC columns at:

www.phenomenex.com/kinetex



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Comparative separations may not be representative of all applications.

SecurityGuard is patented by Phenomenex. U.S. Patent No. 6,162,362.

CAUTION: this patent only applies to the analytical-sized guard cartridge holder, and does not apply to SemiPrep, PREP or ULTRA holders, or to any cartridges.

Axia is patented by Phenomenex. U.S. Patent No. 7,674,383.

Kinetex EVO is patented by Phenomenex. U.S. Patent Nos. 7,563,367 and 8,658,038 and foreign counterparts.

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