

# APPLICATION

## Rapid and Sensitive Analysis of Nicotine and Metabolites Using a Kinetex® 2.6 µm EVO C18 Core-Shell Column

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### Overview

With tobacco usage being linked to several respiratory and circulatory diseases and cancers, the major components and resulting metabolites are heavily researched. One of the main alkaloids in tobacco is nicotine, the stimulant responsible for tobacco's addictive properties. Nicotine along with its metabolites represent 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. Anabasine is a tobacco alkaloid not found in nicotine replacement therapy products such as nicotine gum or patches, and can be used as a biomarker for continued tobacco use during treatment. This group of compounds has poor retention under acidic reversed phase conditions; however, they are neutralized under basic conditions thereby increasing hydrophobic retention. The ethane cross-linking of the Kinetex EVO C18 particles provides the necessary ruggedness and inertness needed for running this method at high pH. Additionally, the high efficiency Kinetex 2.6 µm EVO C18 column provides excellent resolution for HPLC and UHPLC instrumentation, greatly increased sensitivity, and a short chromatographic analysis which can increase lab productivity.

### LC/UV Conditions

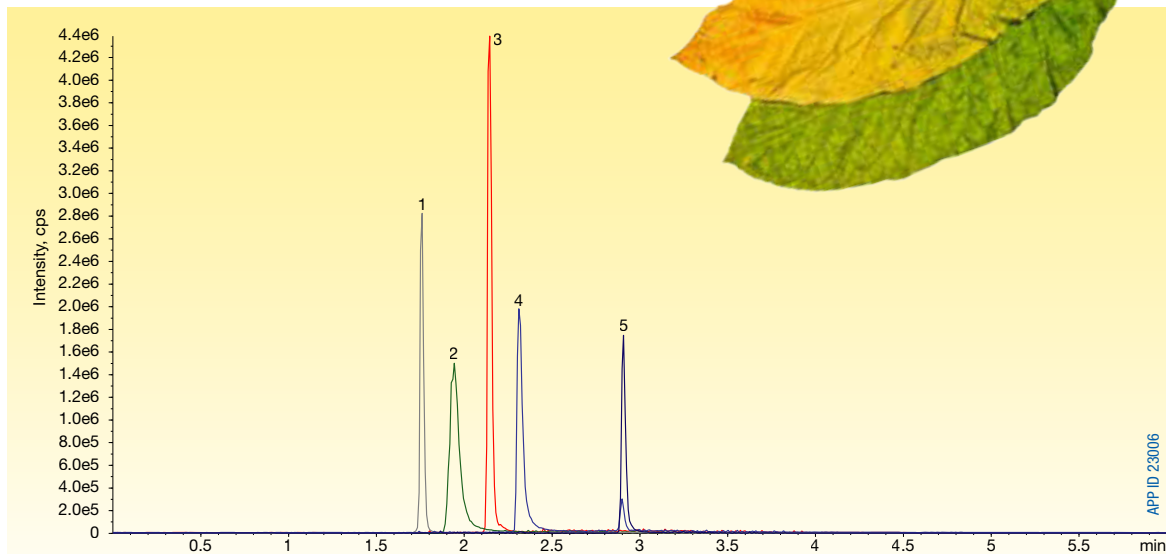
**Column:** Kinetex 2.6 µm EVO C18  
**Dimensions:** 100 x 3.0 mm  
**Part No.:** 00D-4725-Y0  
**Mobile Phase:** A: 20 mM Ammonium bicarbonate, pH 8.2  
 B: Methanol

Gradient	Time (min)	% B
	0	10
	3	90
	5	90
	5.01	10
	6	10

**Flow Rate:** 0.75 mL/min  
**Temperature:** 25 °C  
**Detection:** MS/MS (SCIEX API 5000™)

**Sample:**

1. 3-OH-Cotinine
2. Normicotine
3. Cotinine
4. Anabasine
5. Nicotine



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## Ordering Information Kinetex<sup>®</sup> EVO C18 Core-Shell LC Columns

5 µm Minibore Columns (mm)				SecurityGuard <sup>™</sup> ULTRA Cartridges <sup>‡</sup>
30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
00A-4633-AN	00B-4633-AN	00D-4633-AN	00F-4633-AN	AJO-9298 for 2.1 mm ID

5 µm MidBore <sup>™</sup> Columns (mm)			SecurityGuard <sup>™</sup> ULTRA Cartridges <sup>‡</sup>
50 x 3.0	100 x 3.0	150 x 3.0	3/pk
00B-4633-YO	00D-4633-YO	00F-4633-YO	AJO-9297 for 3.0 mm ID

5 µm Analytical Columns (mm)				SecurityGuard <sup>™</sup> ULTRA Cartridges <sup>‡</sup>
50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	3/pk
00B-4633-E0	00D-4633-E0	00F-4633-E0	00G-4633-E0	AJO-9296 for 4.6 mm ID

2.6 µm Minibore Columns (mm)				SecurityGuard <sup>™</sup> ULTRA Cartridges <sup>‡</sup>
30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
00A-4725-AN	00B-4725-AN	00D-4725-AN	00F-4725-AN	AJO-9298 for 2.1 mm ID

2.6 µm MidBore <sup>™</sup> Columns (mm)			SecurityGuard <sup>™</sup> ULTRA Cartridges <sup>‡</sup>
50 x 3.0	100 x 3.0	150 x 3.0	3/pk
00B-4725-YO	00D-4725-YO	00F-4725-YO	AJO-9297 for 3.0 mm ID

2.6 µm Analytical Columns (mm)				SecurityGuard <sup>™</sup> ULTRA Cartridges <sup>‡</sup>
50 x 4.6	100 x 4.6	150 x 4.6		3/pk
00B-4725-E0	00D-4725-E0	00F-4725-E0		AJO-9296 for 4.6 mm ID

1.7 µm Minibore Columns (mm)			SecurityGuard <sup>™</sup> ULTRA Cartridges <sup>‡</sup>
50 x 2.1	100 x 2.1	150 x 2.1	3/pk
00B-4726-AN	00D-4726-AN	00F-4726-AN	AJO-9298 for 2.1 mm ID

<sup>‡</sup> SecurityGuard ULTRA Cartridges require holder, Part No.: AJO-9000

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

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