

APPLICATION



Extraction and Analysis of Urinary Catecholamines by LC-MS/MS Using Strata[®]-X-CW Microelution Solid Phase Extraction and Luna[®] Omega and Kinetex[®] Polar C18 LC Columns

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Overview

This application describes a fast and effective method for extracting and analyzing urinary catecholamines. Strata-X-CW weak cation exchange solid phase extraction (SPE) was utilized for the extraction of catecholamines from urine which was then ran on both a thermally modified fully porous Luna Omega 3 μ m Polar C18 and a core-shell Kinetex 2.6 μ m Polar C18 to display the differences in retention profiles between these two useful solid supports.

SPE Protocol

96-Well Microelution Plate: Strata-X-CW
Part No.: 8M-S035-4GA
Condition: 200 μ L Methanol
Equilibrate: 200 μ L 50 mM Ammonium acetate, pH 7
Load: 1 mL of pretreated sample (500 μ L urine and 500 μ L 50 mM Ammonium acetate, pH 7)
Wash 1: 200 μ L of 50 mM Ammonium acetate, pH 7
Wash 2: 200 μ L Acetonitrile/IPA (1:1)
Dry: 3 min under high vacuum
Elute: 2x 25 μ L of Water/Acetonitrile/Formic acid (85:10:5)
Inject: Dilute eluent with 100 μ L of 0.1% Formic acid in water

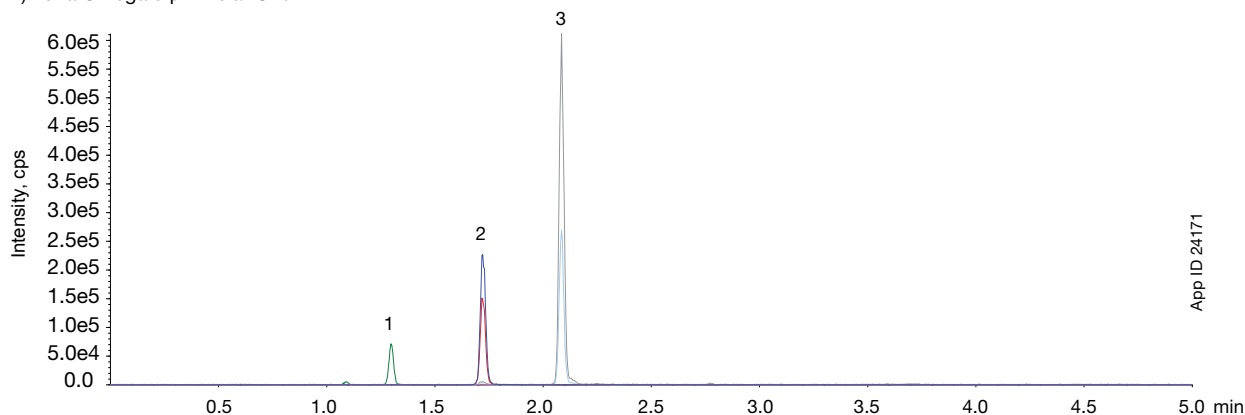
LC-MS/MS Conditions

Column: 1) Luna Omega 3 μ m Polar C18
2) Kinetex 2.6 μ m Polar C18
Dimensions: 50 x 4.6 mm
Part No.: 1) 00B-4760-E0
2) 00B-4759-E0
Mobile Phase: A: 0.1 % Formic Acid in Water
B: 0.1 % Formic Acid in Methanol
Gradient:

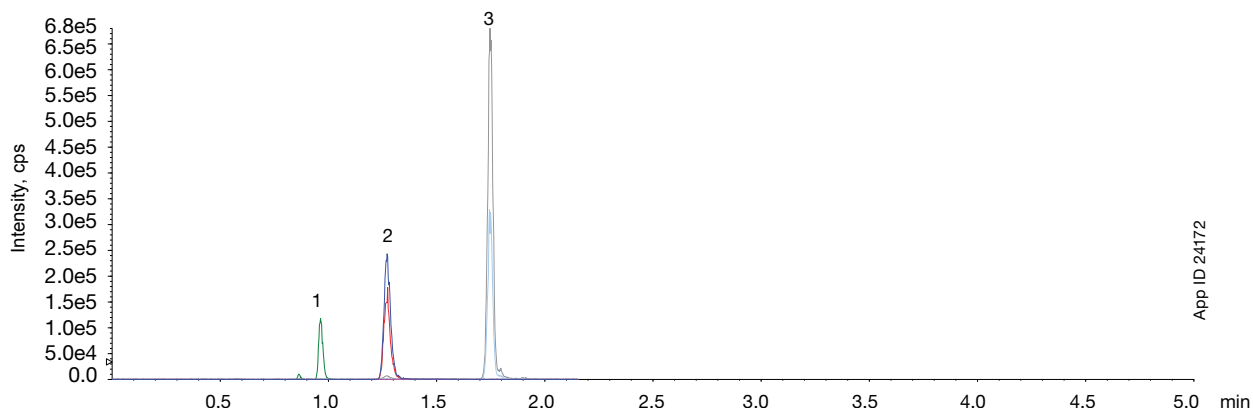
Time (min)	% B
0	0
3	100

Injection Volume: 5 μ L
Flow Rate: 0.7 mL/min
Temperature: 22 $^{\circ}$ C
Detection: MS/MS (SCIEX API 4000TM)
Analytes: 1. Metanephrine
2. Normetanephrine
3. 3-Methoxytyramine

1) Luna Omega 3 μ m Polar C18



2) Kinetex 2.6 μ m Polar C18



APPLICATION

Kinetex® Core-Shell LC Column Ordering Information

2.6 µm Minibore Columns (mm)					SecurityGuard™ ULTRA Cartridges†
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
Polar C18	00A-4759-AN	00B-4759-AN	00D-4759-AN	00F-4759-AN	AJ0-9532 for 2.1 mm ID

2.6 µm MidBore™ Columns (mm)					SecurityGuard ULTRA Cartridges†
Phases	50 x 3.0	100 x 3.0	150 x 3.0	3/pk	
Polar C18	00B-4759-Y0	00D-4759-Y0	00F-4759-Y0	AJ0-9531	for 3.0 mm ID

2.6 µm Analytical Columns (mm)					SecurityGuard ULTRA Cartridges†
Phases	50 x 4.6	100 x 4.6	150 x 4.6	3/pk	
Polar C18	00B-4759-E0	00D-4759-E0	00F-4759-E0	AJ0-9530	for 4.6 mm ID

† SecurityGuard ULTRA Cartridges require holder, Part No.: AJ0-9000.

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Luna® Omega LC Column Ordering Information

3 µm Minibore Columns (mm)					SecurityGuard Cartridges (mm)
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	4 x 2.0*
Polar C18	00A-4760-AN	00B-4760-AN	00D-4760-AN	00F-4760-AN	AJ0-7600 for ID: 2.0-3.0 mm

3 µm MidBore Columns (mm)					SecurityGuard Cartridges (mm)
Phases	50 x 3.0	100 x 3.0	150 x 3.0	3/pk	
Polar C18	00B-4760-Y0	00D-4760-Y0	00F-4760-Y0	AJ0-7600	for ID: 2.0-3.0 mm

3 µm Analytical Columns (mm)					SecurityGuard Cartridges (mm)
Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	4 x 3.0*
Polar C18	00B-4760-E0	00D-4760-E0	00F-4760-E0	00G-4760-E0	AJ0-7601 for ID: 3.2-8.0 mm

* SecurityGuard Analytical Cartridges require holder, Part No.: KJ0-4282

Strata®-X-CW SPE Ordering Information

96-Well Microelution Plate			
	Sorbent Mass	Part Number	Unit
	2 mg	8M-S035-4GA	1/box



If Phenomenex products in this technical note do not provide at least an equivalent separation as compared to a competing product of the same particle size, similar phase and dimensions, return the product with comparative data within 45 days for a FULL REFUND.

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Strata-X is patented by Phenomenex. U.S. Patent No. 7,119,145
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.

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