

APPLICATIONS

Corticosteroid Extraction From Plasma Using Strata[®] DE Supported Liquid Extraction (SLE)

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Overview

Sensitive analytical tools are necessary to detect and confirm the presence of corticosteroids. In this application, we develop a Supported Liquid Extraction (SLE) method using Strata DE (diatomaceous earth) for a wide range of corticosteroid compounds from plasma, which are then analyzed by LC-MS/MS.

All compounds in the suite provided recovery greater than 90 %, with the exception of Triamcinolone. Triamcinolone is the most polar compound in the suite and is simply too hydrophilic to be extracted by DCM. Acceptable recoveries can be obtained by changing to ethyl acetate as an elution solvent. All compounds show a % CV of less than 12 %.

Pre-treatment

Dilute 100 µL of spiked plasma (125 ng/mL) with 200 µL of Water

SLE Protocol

96-Well Plate:	Strata DE 400 µL 96-Well Plate
Part No.:	8E-S325-5GB
Load:	Pre-treated sample onto plate (apply vacuum or positive pressure to pull/push sample into sorbent)
Wait:	5 minutes
Elute:	3x 600 µL Dichloromethane (DCM) or 3x 600 µL Ethyl Acetate
Apply:	Vacuum or apply positive pressure at 5-10" Hg for 10 seconds
Dry:	Sample under slow stream of Nitrogen at 30 °C
Reconstitute:	200 µL Acetonitrile/Water (20:80)

LC-MS/MS Conditions

Column: Kinetex[®] 2.6 µm Biphenyl
Dimensions: 50 x 2.1mm
Part No.: 00B-4622-AN
Guard Cartridge: SecurityGuard[™] ULTRA Biphenyl
Guard Part No.: AJ0-9209
Mobile Phase: A: 0.1 % Formic acid in water
 B: 0.1 % Formic acid in Acetonitrile

Gradient: Time (min)	% B
0	20
3	95
3.5	95
3.51	20
6	20

Injection Volume: 5 µL
Flow Rate: 0.5 mL/min
Detection: MS/MS (SCIEX API 4000[™]), ESI+

Recovery Values and % CVs

Elution Solvent:	Dichloromethane		Ethyl Acetate	
	%Recovery	% RSD (n=4)	%Recovery	% RSD (n=10)
β-Methasone	92	4	98	6
Cortisone	96	10	96	8
Coritcosterone	92	3	74	10
Cortisone Acetate	90	12	112	12
Triamcinolone	13	8	92	9
Prednisone	94	7	93	10
Testosterone	95	5		

*Testosterone was not extracted using Ethyl Acetate



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Ordering Information

Kinetex® Core-Shell LC Columns

Kinetex 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
Biphenyl	00A-4622-AN	00B-4622-AN	00D-4622-AN	00F-4622-AN	AJO-9209 for 2.1 mm ID

Kinetex 2.6 µm MidBore™ Columns (mm)				SecurityGuard ULTRA Cartridges†	
Phases	50 x 3.0	100 x 3.0	150 x 3.0	3/pk	
Biphenyl	00B-4622-YO	00D-4622-YO	00F-4622-YO	AJO-9208 for 3.0 mm ID	

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

Other particle sizes and dimensions are available. Visit www.phenomenex.com/Kinetex for a complete list of available columns.

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Strata® DE Supported Liquid Extraction

Part No.	Description	Unit
8E-S325-FGB	Strata DE SLE 200 µL 96-Well Plate	2/pk
8E-S325-5GB	Strata DE SLE 400 µL 96-Well Plate	2/pk
8B-S325-KDG	Strata DE SLE 12 cc Tube	20/pk
8B-S325-VFF	Strata DE SLE 60 cc Tube	16/pk

Presston™ 100 Positive Pressure Manifold

Part No.	Description
AHO-9334	Presston 100 Positive Pressure Manifold, 96-Well Plate
AHO-9342	Presston 100 Positive Pressure Manifold, 1 mL Tube Complete Assembly
AHO-9347	Presston 100 Positive Pressure Manifold, 3 mL Tube Complete Assembly
AHO-9343	Presston 100 Positive Pressure Manifold, 6 mL Tube Complete Assembly

Presston 100 Tube Adapter Kits (for AHO-9334)

Part No.	Description
AHO-9344	1 mL Tube Adapter Kit
AHO-9345	3 mL Tube Adapter Kit
AHO-9346	6 mL Tube Adapter Kit



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