

APPLICATIONS

High Recovery of Peptides from Plasma Using Strata[®]-X PRO Solid Phase Extraction (SPE)

Matthew Brusius
Phenomenex, Inc., 411 Madrid Ave., Torrance, CA 90501 USA

Overview

While traditional solid phase extraction (SPE) methods usually include five or more steps, Strata-X PRO offers a fast and effective alternative process that provides high recoveries and reduced matrix effects. Strata-X PRO SPE eliminates the need for conditioning and equilibration. In only three steps, matrix effects are cleaned up adequately. For this peptide application, two different types of polymeric SPE (WCX and SAX) were tested in parallel with Strata-X PRO SPE and compared in regards to recovery and % variation. Strata-X PRO provided not only a faster method, but also high recoveries (an average of 77.1) for all peptides.

SPE Protocol

Strata-X PRO

96-Well Microelution Plate: Strata-X PRO Microelution (2 mg/well)

Part No.: [8M-S536-4GA](#)

Load: 400 µL Plasma/4% Phosphoric acid in Water (1:1)

Wash: 200 µL Water

Elute: 2x 25 µL of TFA/Acetonitrile/Water (1:74:25)

For Polymeric WCX and SAX SPE Sorbent 96-Well Microelution Plates

Condition: 200 µL Methanol

Equilibrate: 200 µL Water

Load: 400 µL Plasma/4% Phosphoric acid in Water (1:1)

Wash 1: 200 µL 5% Ammonium hydroxide in Water

Wash 2: 200 µL 20% Acetonitrile in Water

Elute: 2x 25 µL of TFA/Acetonitrile/Water (1:74:25)

LC Conditions

Column: Luna[®] Omega 3 µm PS C18

Dimensions: 50 x 2.1 mm

Part No.: [00B-4758-AN](#)

SecurityGuard™ ULTRA: [AJ0-7605](#)

Mobile Phase: A: 0.1% Formic acid in Water

B: 0.1% Formic acid in Methanol

Gradient: Time (min) % B

0 5

3 95

4 95

4.01 5

6 5

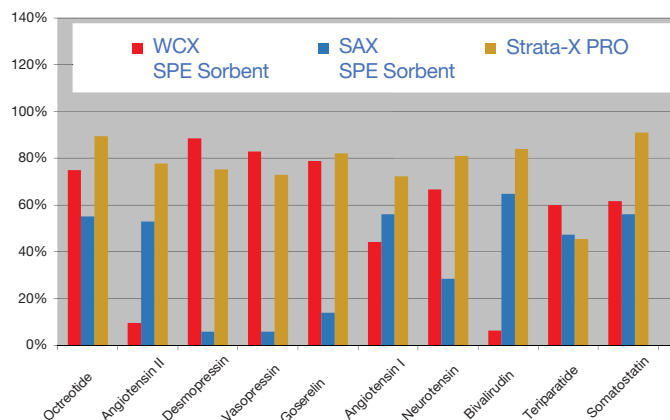
Flow Rate: 0.6 mL/min

Injection Volume: 5 µL

Temperature: 40 °C

Detector: SCIEX API 4000™

Recovery of Peptides from Plasma



Peak No.	Analyte Name	Strata-X PRO		Polymeric Weak Cation Exchange Sorbent		Polymeric Strong Anion Exchange Sorbent	
		% Recovery	% CV	% Recovery	% CV	% Recovery	% CV
1	Octreotide	89.5	9.6	75	5.6	55	6.2
2	Angiotensin II	77.8	13.4	10	12.6	53	2.3
3	Desmopressin	75.2	10.8	89	6.2	6	26.1
4	Vasopressin	72.9	10.2	83	6.5	6	15.6
5	Goserelin	82.1	7.8	79	5.6	14	11.9
6	Angiotensin I	72.2	11.2	44	9.5	56	4.3
7	Neurotensin	80.9	11.7	67	5.7	28	12.7
8	Bivalirudin	84.0	13.2	6	30.2	65	3.3
9	Teriparatide	45.5	16.0	60	17.9	47	3.0
10	Somatostatin	90.9	25.0	62	6.5	56	6.4

Ordering Information

Strata-X PRO SPE

Format	Sorbent Mass	Part Number	Unit
Tube	10 mg	8B-S536-AAK	1 mL (100/box)
	30 mg	8B-S536-TAK	1 mL (100/box)
	30 mg	8B-S536-TBJ	3 mL (50/box)
	60 mg	8B-S536-UBJ	3 mL (50/box)
	200 mg	8B-S536-FBJ	3 mL (50/box)
	100 mg	8B-S536-ECH	6 mL (30/box)
	200 mg	8B-S536-FCH	6 mL (30/box)
	500 mg	8B-S536-HCH	6 mL (30/box)

96-Well Plate

	10 mg/well	8E-S536-AGA	ea
	30 mg/well	8E-S536-TGA	ea
	60 mg/well	8E-S536-UGA	ea

96-Well Microelution Plate

	2 mg/well	8M-S536-4GA	ea
--	-----------	-----------------------------	----

APPLICATIONS

Ordering Information

Presston™ 1000 Positive Pressure Manifold

Part No.	Description
AH1-7033	Presston 1000 Positive Pressure Manifold, 96-Well Plate



Phenomenex warrants the Presston 1000 will be free of defects in materials and workmanship under normal installation, use, and maintenance for a period of 12 months following delivery. Please visit www.phenomenex.com/Presstonwarranty for complete warranty information.

Luna® Omega Analytical Columns

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
PS C18	00A-4758-AN	00B-4758-AN	00D-4758-AN	00F-4758-AN	AJ0-7605

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	4 x 2.0
Polar C18	00B-4760-YO	00D-4760-YO	00F-4760-YO	AJ0-7600
PS C18	00B-4758-YO	00D-4758-YO	00F-4758-YO	AJ0-7605

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
PS C18	00B-4758-E0	00D-4758-E0	00F-4758-E0	00G-4758-E0	AJ0-7606

for ID: 3.2 - 8.0 mm

BE-HAPPY™

guarantee

Your happiness is our mission. Take 45 days to try our products. If you are not happy, we'll make it right.

www.phenomenex.com/behappy

Australia
t: +61 (0)2-9428-6444
auiinfo@phenomenex.com

Austria
t: +43 (0)1-319-1301
anfrage@phenomenex.com

Belgium
t: +32 (0)2 503 4015 (French)
t: +32 (0)2 511 8666 (Dutch)
beinfo@phenomenex.com

Canada
t: +1 (800) 543-3681
info@phenomenex.com

China
t: +86 400-606-8099
t: +86 (0)22 2532-1032
cninfo@phenomenex.com

Denmark
t: +45 4824 8048
nordicinfo@phenomenex.com

Finland
t: +358 (0)9 4789 0063
nordicinfo@phenomenex.com

France
t: +33 (0)1 30 09 21 10
franceinfo@phenomenex.com

Germany
t: +49 (0)6021-58830-0
anfrage@phenomenex.com

India
t: +91 (0)40-3012 2400
indiainfo@phenomenex.com

Ireland
t: +353 (0)1 247 5405
eireinfo@phenomenex.com

Italy
t: +39 051 6327511
italiainfo@phenomenex.com

Luxembourg
t: +31 (0)30-2418700
nlinfo@phenomenex.com

Mexico
t: 01-800-844-5226
tecnicomx@phenomenex.com

The Netherlands
t: +31 (0)30-2418700
nlinfo@phenomenex.com

New Zealand
t: +64 (0)9-4780951
nzinfo@phenomenex.com

Norway
t: +47 810 02 005
nordicinfo@phenomenex.com

Portugal
t: +351 221-450-488
ptinfo@phenomenex.com

Singapore
t: +65 800-852-3944
sginfo@phenomenex.com

Spain
t: +34 91-413-8613
esinfo@phenomenex.com

Sweden
t: +46 (0)8 611 6950
nordicinfo@phenomenex.com

Switzerland
t: +41 61 692 20 20
swissinfo@phenomenex.com

Taiwan
t: +886 (0) 0801-49-1246
twinfo@phenomenex.com

United Kingdom
t: +44 (0)1625-501367
ukinfo@phenomenex.com

USA
t: +1 (310) 212-0555
info@phenomenex.com

All other countries
Corporate Office USA
t: +1 (310) 212-0555
info@phenomenex.com

Terms and Conditions
Subject to Phenomenex Standard Terms & Conditions, which may be viewed at www.phenomenex.com/TermsAndConditions.

Trademarks
Strata and Luna are registered trademarks and Presston, MidBore, Be-Happy, and SecurityGuard are trademarks of Phenomenex. API 4000 is a trademark of AB SCIEX Pte. Ltd. AB SCIEX is being used under license.

Disclaimer
Comparative separations may not be representative of all applications.

FOR RESEARCH USE ONLY. Not for use in clinical diagnostic procedures.

© 2019 Phenomenex, Inc. All rights reserved.