

Solid Phase Extraction For

BIOANALYTICAL SAMPLES



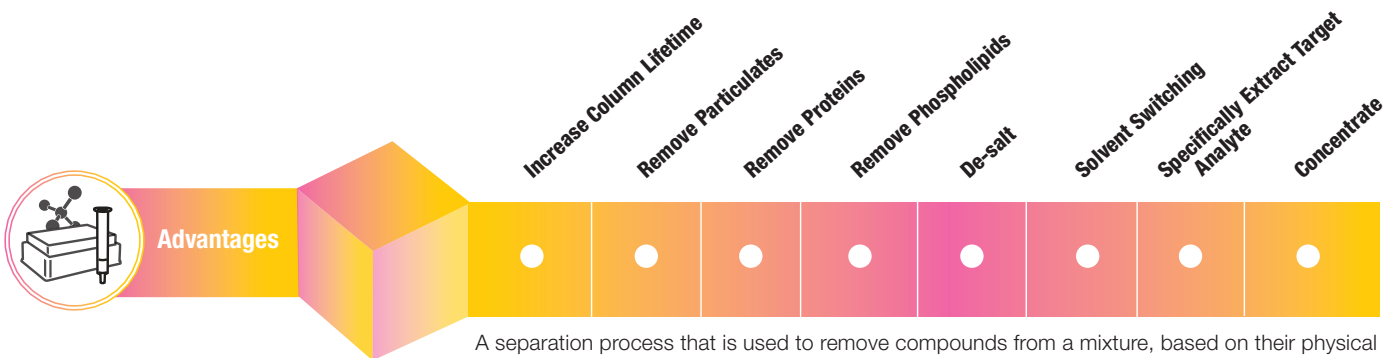
CLEAN | QUICK | ACCURATE

NEW 3-STEP SPE WITH
STRATA®-X PRO

 **phenomenex**[®]
...breaking with traditionSM

 www.phenomenex.com/SPE

Solid Phase Extraction



A separation process that is used to remove compounds from a mixture, based on their physical and chemical properties. Analytical laboratories use solid phase extraction to concentrate and purify samples for analysis from a wide variety of matrices.

3 Unique Sorbent Platforms

STRATA[®] X PRO
A Rapid Solid Phase Extraction Solution

New reversed phase polymer with matrix removal technology offers a faster, cleaner way to perform SPE.

RAPID
3 STEPS

SUPER EXPRESS
2 STEPS

strata[®] X
Polymeric SPE

Polymeric sorbent available in reversed phase and ion-exchange capabilities for a wide range of applications.

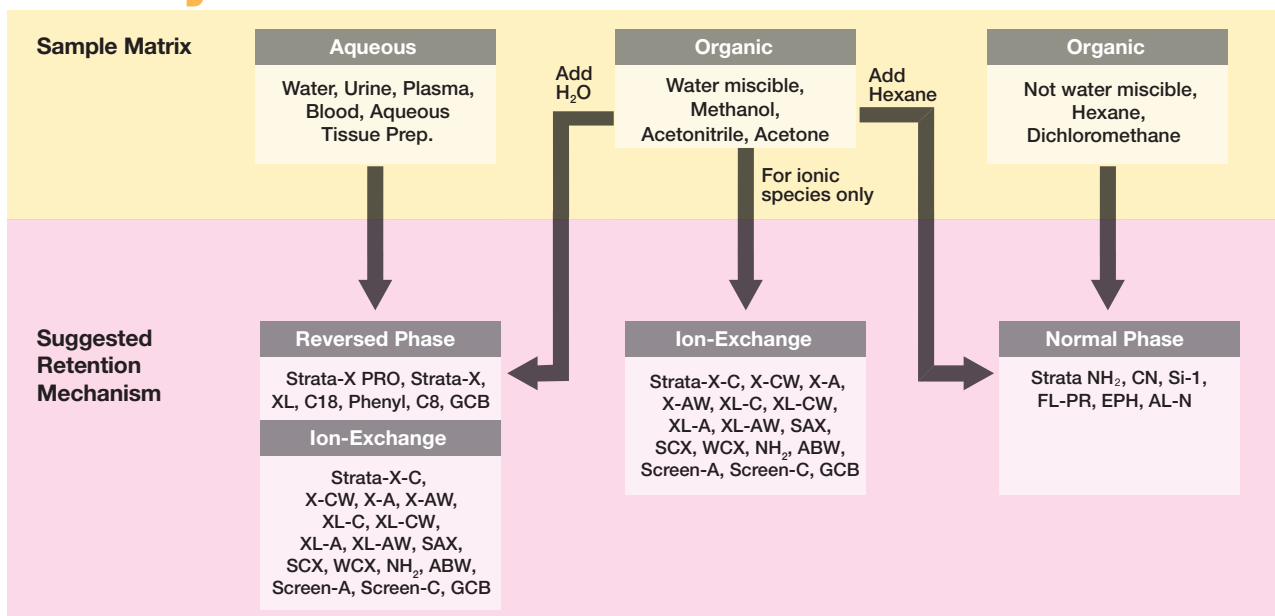
RELIABLE
5 STEPS

strata
Solid Phase Extraction

Silica-based SPE sorbent provides reliable and clean extracts with high recoveries for target analytes across all sample matrices.

RELIABLE
5 STEPS

Identify Your SPE Retention Mechanism

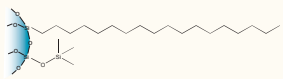
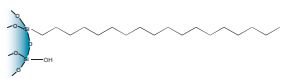
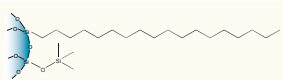
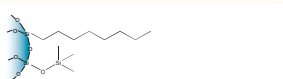
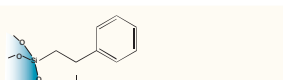



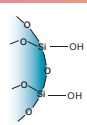
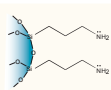
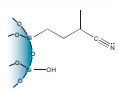
Reliable, Silica-Based SPE

Strata Silica-Based SPE is a good choice for labs looking for additional cleanliness, reproducibility batch-to-batch, and concentrated samples. Strata offers a targeted approach that is selected based on pharmaceutical analytes of interest and what type of matrix they are suspended in.

	Strata
Increase detection sensitivity by removing matrix contaminants	•
Increase column lifetime by removing matrix contaminants	•
Quality guaranteed by more than 20 QA and QC measures	•
Increase reproducibility with robust methods	•
Save time by processing multiple samples simultaneously or automating method	•
Specific selectivity for your target analytes	•

Strata Recommended Silica-Based SPE Sorbents

Reversed Phase Sorbents		
Strata Phase	Phase Benefits	Sorbent Chemistry
C18-E	Extraction of hydrophobic molecules	
C18-U	Enhanced cleanup of hydrophobic compounds that contain hydroxy or amine functional groups	
C18-T	Wide pore for the extraction of large hydrophobic molecules (up to 75 kDa)	
C8	Extraction of extremely hydrophobic compounds that are retained too tightly on C18-E	
Phenyl	Extraction of aromatic compounds	
SDB-L	Extraction of non-polar and polar compounds; pH resistant sorbent	

Normal Phase Sorbents		
Si-1 (Silica)	Extraction of polar compounds that are similar in structure	
NH₂	Extraction of strong anions	
CN	Extraction of polar compounds	



Streamlined Sample Preparation with Presston 1000 Positive Pressure Manifold



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Develop a customized solid phase extraction method in under 1 minute!

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Peptides from Plasma Using a 3-Step SPE Method

Strata-X PRO offers a fast and effective alternative process that provides high recoveries and reduced matrix effects for the plasma matrix. Strata-X PRO SPE eliminates the need for conditioning and equilibration. 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 regard to recovery and percent 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

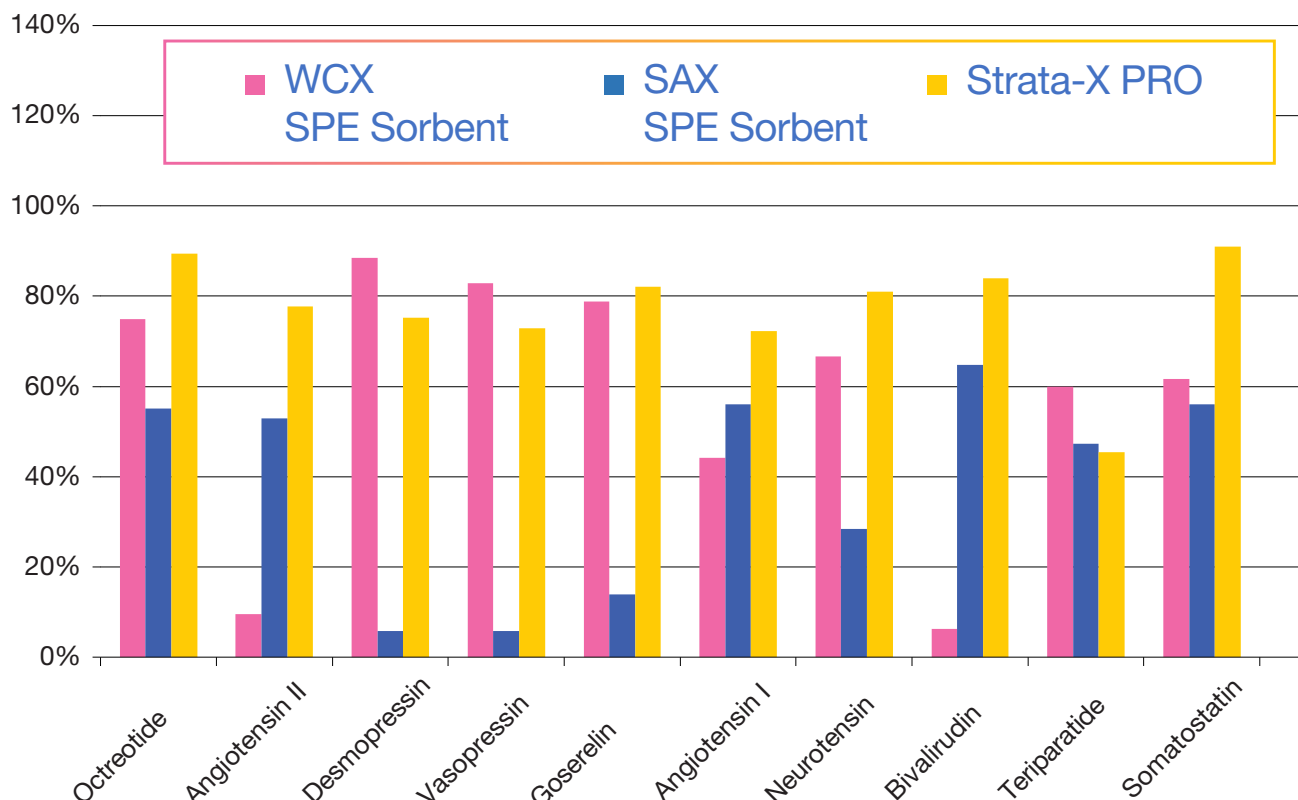
Wash 2: 200 µL 20% Acetonitrile in Water

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

% Recovery and % CVs of Peptides Using 3 Types of SPE Sorbent

Peak No.	Analyte Name	Strata-X PRO		Polymeric WCX		Polymeric SAX	
		% 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

Recovery of Peptides from Plasma



Drug Extraction From Serum



Timolol and procaine are extracted from serum using a traditional 10 mg 96-well SPE plate and a 2 mg microelution 96-well SPE plate, each of which was packed with the same polymeric strong cation-exchange chemistry, Strata-X-C. The microelution format is designed to allow analysts to elute in small sample volumes which results in ultra-concentrated samples without the need to perform a dry down step, further increasing the sensitivity.

SPE Protocol

	Strata-X-C 96-Well SPE Plate, 10mg/well	Strata-X-C Microelution 96-Well SPE Plate, 2mg/well
Part No.:	8E-S029-AGB	8M-S029-4GA
Condition:	500 µL Methanol	200 µL Methanol
Equilibrate:	500 µL Water	200 µL Water
Load:	750 µL diluted serum (375 µL serum diluted 1:1 with 4 % Phosphoric acid in water)	750 µL diluted serum (375 µL serum diluted 1:1 with 4 % Phosphoric acid in water)
Wash 1:	500 µL 2% Formic acid in water	200 µL 2% Formic acid in water
Wash 2:	500 µL Methanol	200 µL Methanol
Elute:	375 µL (3x 125 µL) 5% Ammonium hydroxide in Acetonitrile/Methanol (60:40)	25 µL 5% Ammonium hydroxide in Acetonitrile/Methanol (60:40)
Inject:	1 µL	1 µL

LC-MS/MS Conditions

Column: Kinetex® 2.6 µm Biphenyl

Dimensions: 50 x 2.1 mm

Part No.: 00B-4622-AN

SecurityGuard™ ULTRA: AJ0-9209

Mobile Phase: A: 0.1 % Formic acid in Water

B: 0.1 % Formic acid in Acetonitrile

Gradient: Time (min)	% B
0	5
0.5	5
3	95
3.5	95
3.51	5
5.5	5

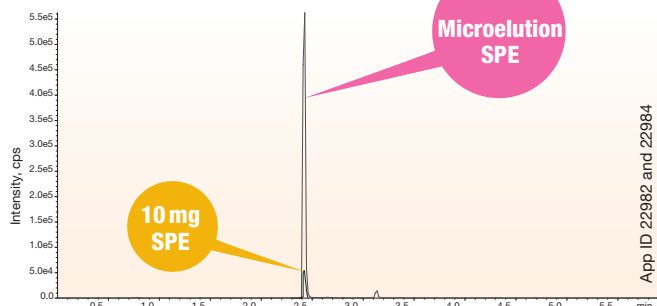
Flow Rate: 0.5 mL/min

Temperature: Ambient

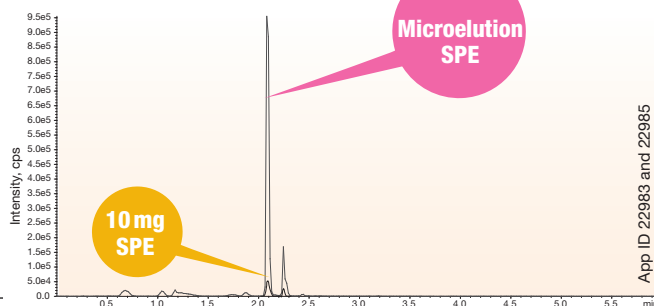
Detection: MS/MS (SCIEX API 5000™)

**Microelution SPE 15x
More Concentrated**

Timolol






Procaine



Ordering Info



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)
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

Strata Silica-Based SPE Sorbents

96-Well Plates (2/Box)			
Phase	25 mg	50 mg	100 mg
C18-E	8E-S001-CGB	8E-S001-DGB	8E-S001-EGB
C18-U	—	8E-S002-DGB	8E-S002-EGB
C18-T	8E-S004-CGB	8E-S004-DGB	—
C8	8E-S005-CGB	—	—
Phenyl	8E-S006-CGB	—	8E-S006-EGB
Silica	—	8E-S012-DGB	8E-S012-EGB
NH ₂	8E-S009-CGB	8E-S009-DGB	8E-S009-EGB
SAX	8E-S008-CGB	8E-S008-DGB	8E-S008-EGB
SCX	8E-S010-CGB	8E-S010-DGB	8E-S010-EGB
WCX	8E-S027-CGB	8E-S027-DGB	—
Screen-C	—	8E-S016-DGB	8E-S016-EGB
SDB-L	—	8E-S014-DGB	—

Tubes	1 mL (100/box)	
	50 mg	100 mg
C18-E	8B-S001-DAK	8B-S001-EAK
C18-U	—	8B-S002-EAK
C18-T	—	8B-S004-EAK
C8	—	8B-S005-EAK
Phenyl	—	8B-S006-EAK
SCX	—	8B-S010-EAK
WCX	—	8B-S027-EAK
SAX	—	8B-S008-EAK
NH ₂	—	8B-S009-EAK
SBD-L	—	8B-S014-EAK
Si-1	—	8B-S012-EAK



Tubes	3 mL (50/box)		
	100 mg	200 mg	500 mg
C18-E	8B-S001-EBJ	8B-S001-FBJ	8B-S001-HBJ
C18-U	—	8B-S002-FBJ	8B-S002-HBJ
C18-T	—	8B-S004-FBJ	8B-S004-HBJ
C8	—	8B-S005-FBJ	8B-S005-HBJ
Phenyl	—	8B-S006-FBJ	8B-S006-HBJ
SCX	8B-S010-EBJ	8B-S010-FBJ	8B-S010-HBJ
WCX	—	8B-S027-FBJ	8B-S027-HBJ
SAX	8B-S008-EBJ	8B-S008-FBJ	8B-S008-HBJ
NH ₂	—	8B-S009-FBJ	8B-S009-HBJ
SBD-L	—	8B-S014-FBJ	8B-S007-HBJ
Si-1	—	8B-S012-FBJ	8B-S014-HBJ

Ordering Info



Strata-X Polymeric SPE Sorbents

Tubes	1 mL (100/box)	
	30 mg	60 mg
Strata-X	8B-S100-TAK	8B-S100-UAK
Strata-X-C	8B-S029-TAK	—
Strata-X-CW	8B-S035-TAK	—
Strata-X-A	8B-S123-TAK	—
Strata-X-AW	8B-S038-TAK	—
Strata-XL	8B-S043-TAK	—
Strata-XL-C	8B-S044-TAK	—
Strata-XL-CW	8B-S052-TAK	—
Strata-XL-A	8B-S053-TAK	—
Strata-XL-AW	8B-S051-TAK	—



Tubes	3 mL (50/box)		
	60 mg	200 mg	500 mg
Strata-X	8B-S100-UBJ	8B-S100-FBJ	8B-S100-HBJ
Strata-X-C	8B-S029-UBJ	8B-S029-FBJ	8B-S029-HBJ
Strata-X-CW	8B-S035-UBJ	8B-S035-FBJ	8B-S035-HBJ
Strata-X-A	8B-S123-UBJ	8B-S123-FBJ	8B-S123-HBJ
Strata-X-AW	8B-S038-UBJ	8B-S038-FBJ	8B-S038-HBJ
Strata-XL	8B-S043-UBJ	8B-S043-FBJ	8B-S043-HBJ
Strata-XL-C	8B-S044-UBJ	8B-S044-FBJ	8B-S044-HBJ
Strata-XL-CW	8B-S052-UBJ	8B-S052-FBJ	8B-S052-HBJ
Strata-XL-A	8B-S053-UBJ	8B-S053-FBJ	8B-S053-HBJ
Strata-XL-AW	8B-S051-UBJ	8B-S051-FBJ	8B-S051-HBJ

96-Well Plates (2/Box)			
Phase	10 mg	30 mg	60 mg
Strata-X-AW	8E-S038-AGB	8E-S038-TGB	8E-S038-UGB
Strata-X-A	8E-S123-AGB	8E-S123-TGB	8E-S123-UGB
Strata-X	8E-S100-AGB	8E-S100-TGB	8E-S100-UGB
Strata-X-C	8E-S029-AGB	8E-S029-TGB	8E-S029-UGB
Strata-X-CW	8E-S035-AGB	8E-S035-TGB	8E-S035-UGB
Strata-XL-AW	—	8E-S051-TGB	—
Strata-XL-A	—	8E-S053-TGB	—
Strata-XL	—	8E-S043-TGB	—
Strata-XL-C	—	8E-S044-TGB	—
Strata-XL-CW	—	8E-S052-TGB	—

Microelution 96-Well Plates (ea)	
Phase	2mg
Strata-AW	8M-S038-4GA
Strata-A	8M-S123-4GA
Strata-X	8M-S100-4GA
Strata-X-C	8M-S029-4GA
Strata-X-CW	8M-S035-4GA

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Australia

t: +61 (0)2-9428-6444
auinfo@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
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

Poland

t: 0-0-800-4911952
pl-info@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
espinfo@phenomenex.com

Sweden

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

Switzerland

t: +41 (0)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/regions

Corporate Office USA
t: +1 (310) 212-0555
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