

Simplified Solid Phase Extraction Solutions









# Sample Preparation Specialists are Ready to Assist You

**Two Levels** of Method Development Support

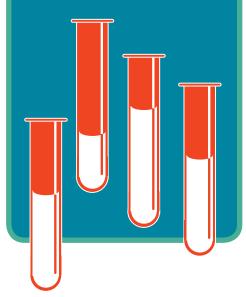


Contact one of our dedicated SPE specialists for immediate method development assistance.



Level: 2

Send your sample to our analytical services group for custom method development.



"Our Sample Preparation Specialist became and remains our best resource for developing and optimizing methods."

> Eric Wenger Golden Heritage Foods





Contact Phenomenex:

info@phenomenex.com

Request a customized method:

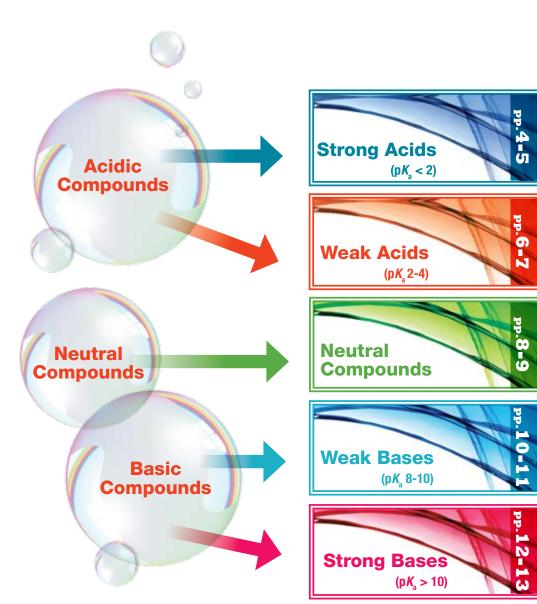
www.phenomenex.com/info/spehelp



# **Find Your Solution**



If Strata<sup>™</sup>-X SPE products do not perform as well or better than your current SPE product of similar phase, mass and size, return the product with your comparative data within 45 days for a FULL REFUND.





# Simplify Your Strong Acid Extractions with Strata-X-AW or Strata-XL-AW

- Tightly retain strong acids without irreversibly binding them to the sorbent
- Achieve cleaner extracts by washing with 100 % organic
- Deconditioning resistant sorbent results in higher reproducibility as compared to silica-based sorbents

## These Polymeric Sorbents Provide

## 3 Mechanisms of Retention

Weak Anion Exchange:
di-amino ligand

Hydrophobic Interaction

NH NH2

NH NH2



	Strata™-X-AW, 33 µm, 85 Å	Strata-XL-AW, 100 µm, 300 Å
High Concentration Samples	<b>1</b> /	
Small Target Analytes (< 10 kDa)	<b>v</b>	
Large Target Analytes (> 10 kDa)		V
Large Volume Samples		V
Viscous Samples		V



# Select Your Sorbent Mass and Format





# Follow This Easy Protocol

Method written for a 30 mg/1 mL tube

## Condition

1 mL Methanol followed by 1 mL D.I. Water

## Load

Recommended volume of sample (pH 6-7) (see page 14)

### Wash

1 mL 25 mM Ammonium acetate (pH 6-7) followed by 1 mL Methanol

## **Elute**

2x 500 µL 5 % Ammonium hydroxide in Methanol or Acetonitrile

This method is designed as a convenient starting point for further investigation. For optimization recommendations:



Contact Phenomenex info@phenomenex.com







# Simplify Your Weak Acid Extractions with Strata-X-A or Strata-XL-A

- Extremely tight retention of weak acids results in high recoveries
- Achieve cleaner extracts by washing with 100 % organic
- Ideal for all types of work including environmental and veterinary analysis

## These Polymeric Sorbents Provide

## 3 Mechanisms of Retention

Strong Anion Exchange: di-methylbutyl quaternary amine ligand

π-π Bonding

**Hydrophobic Interaction** 



	Strata <sup>™</sup> -X-A, 33 µm, 85 Å	Strata-XL-A, 100 µm, 300 Å
High Concentration Samples	1/	
Small Target Analytes (< 10 kDa)	<b>√</b>	
Large Target Analytes (> 10 kDa)		V
Large Volume Samples		V
Viscous Samples		V



# Select Your Sorbent Mass and Format





# Follow This Easy Protocol

Method written for a 30 mg/1 mL tube

## Condition

1 mL Methanol followed by 1 mL D.I. Water

## Load

Recommended volume of sample (pH 6-7) (see page 14)

### Wash

1 mL 25 mM Ammonium acetate (pH 6-7) followed by 1 mL Methanol

## **Elute**

2x 500 µL 5 % Formic acid in Methanol or Acetonitrile

This method is designed as a convenient starting point for further investigation. For optimization recommendations:



Contact Phenomenex info@phenomenex.com







# Simplify Your Neutral Compound Extractions with Strata-X or Strata-XL

- Retains polar analytes more tightly than traditional C18 sorbents
- Achieve cleaner extracts by washing with up to 60 % organic
- Consistent, high recoveries; have confidence in your results!

# These Polymeric Sorbents Provide

## 3 Mechanisms of Retention

π-π Bonding

Hydrogen Bonding Dipole-Dipole Interactions

**Hydrophobic Interaction** 



	Strata™-X, 33 µm, 85 Å	Strata-XL, 100 µm, 300 Å
High Concentration Samples	V	
Small Target Analytes (< 10 kDa)	V	
Large Target Analytes (> 10 kDa)		<b>v</b>
Large Volume Samples		<b>v</b>
Viscous Samples		V



# Select Your Sorbent Mass and Format





# Follow This Easy Protocol

Method written for a 30 mg/1 mL tube

## Condition

1 mL Methanol followed by 1 mL D.I. Water

## Load

Recommended volume of sample (see page 14)

### Wash

1 mL 5-60 % Methanol in D.I. Water. Allow sorbent to dry for 30 seconds

## **Elute**

2x 500 µL 2 % Formic acid in Methanol or Acetonitrile

This method is designed as a convenient starting point for further investigation. For optimization recommendations:



Contact Phenomenex info@phenomenex.com







# Simplify Your Weak Base Extractions with Strata-X-C or Strata-XL-C

- Experience excellent recoveries of basic pharmaceutical and abused drugs
- Remove matrix interferences such as phospholipids by washing with 100 % organic
- Consistent, reproducible results; have confidence in your results!

## These Polymeric Sorbents Provide

## 3 Mechanisms of Retention

**Strong Cation Exchange:** sulfonic acid ligand

π-π Bonding

Hydrophobic Interaction



	Strata <sup>™</sup> -X-C, 33 µm, 85 Å	Strata-XL-C, 100 μm, 300 Å
High Concentration Samples	V	
Small Target Analytes (< 10 kDa)	V	
Large Target Analytes (> 10 kDa)		<b>v</b>
Large Volume Samples		V
Viscous Samples		V



# Select Your Sorbent Mass and Format





# Follow This Easy Protocol

Method written for a 30 mg/1 mL tube

## Condition

1 mL Methanol followed by 1 mL D.I. Water

## Load

Recommended volume of sample (pH 6-7) (see page 14)

### Wash

1 mL 0.1 N Hydrochloric acid in D.I. Water followed by 1 mL 0.1 N Hydrochloric acid in Methanol

## **Elute**

2x 500 µL 5 % Ammonium hydroxide in Methanol or Acetonitrile

This method is designed as a convenient starting point for further investigation. For optimization recommendations:



Contact Phenomenex info@phenomenex.com



Request online

www.phenomenex.com/info/spehelp





# Simplify Your Strong Base Extractions with Strata-X-CW or Strata-XL-CW

- Extremely tight retention of strong bases without irreversibly binding them to the sorbent
- Remove matrix interferences such as phospholipids by washing with 100 % organic
- Deconditioning resistant sorbent results in higher reproducibility as compared to silica-based sorbents

## These Polymeric Sorbents Provide

## 3 Mechanisms of Retention

 Weak Cation Exchange:
 π-π Bonding

 Carboxylic acid ligand
 Hydrophobic Interaction



	Strata <sup>™</sup> -X-CW, 33 µm, 85 Å	Strata-XL-CW, 100 µm, 300 Å
High Concentration Samples	V	
Small Target Analytes (< 10 kDa)	V	
Large Target Analytes (> 10 kDa)		V
Large Volume Samples		V
Viscous Samples		V



Select Your Sorbent Mass and Format





# Follow This Easy Protocol

Method written for a 30 mg/1 mL tube

## Condition

1 mL Methanol followed by 1 mL D.I. Water

## Load

Recommended volume of sample (pH 6-7) (see page 14)

### Wash

1 mL D.I. Water followed by 1 mL Methanol

## **Elute**

2x 500 µL 5 % Formic acid in Methanol or Acetonitrile

This method is designed as a convenient starting point for further investigation. For optimization recommendations:



Contact Phenomenex info@phenomenex.com







10 mg 30 mg

60 mg

200 mg 500 mg

Mass (mg in tube)

> 10 mg 30 mg

60 mg 100 mg

200 mg 500 mg



## Sorbent Mass Selection

Sorbent mass dictates the amount of sample that can be loaded onto the SPE sorbent and also determines the elution volume necessary, which are both critical factors in sample preparation work. Strata-X and Strata-XL polymeric sorbents provide higher loading capacities when compared to silica-based sorbents. Select the proper sorbent mass by using the chart below.

## If you chose

- High Concentration Samples
- √ Small Target Analytes (<10 kDa)
  </p>

Strata-X Phase	Plasma /Serum	Urine	Filtered Tissue Homogenates	Water (particulate free)	Water (particulate-laden)
	100 μL	250 μL	10 mg	N.A.	N.A.
	250 μL	1 mL	50 mg	N.R.	N.R.
Chinata V V C V CIM V A V AIM	500 μL	2 mL	100 mg	N.R.	N.R.
Strata-X, X-C, X-CW, X-A, X-AW	1 mL	4 mL	150 mg	50 mL	25 mL
	N.A.	8 mL	300 mg	100 mL	50 mL
	N.A.	20 mL	500 mg	500 mL	100 mL

## If you chose

- √ Large Target Analytes (>10 kDa)
- **√** Large Volume Samples
- √ Viscous Samples

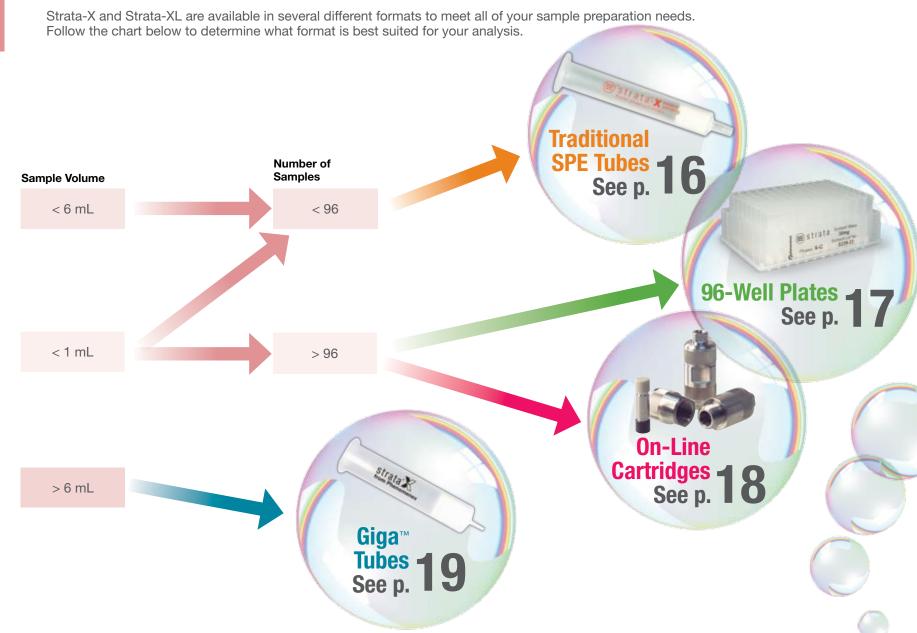
Strata-XL Phase	Plasma /Serum	Urine	Filtered Tissue Homogenates	Water (particulate free)	Water (particulate-laden)
	50 µL	125 µL	5 mg	N.A.	N.A.
	125 µL	500 μL	25 mg	N.R.	N.R.
	250 µL	1 mL	50 mg	N.R.	N.R.
Strata-XL, XL-C, XL-CW, XL-A, XL-AW	500 μL	2 mL	75 mg	25 mL	13 mL
	N.A.	4 mL	150 mg	50 mL	25 mL
	N.A.	10 mL	250 mg	250 mL	50 mL

N.A. = Not Applicable (not commonly used) N.R. = Not Recommended (may not provide expected results)





# Format Selection







# **Traditional SPE Tubes: 1, 3, and 6 mL Polypropylene Tubes**

Process Samples Manually



ΛR

Process Multiple Samples at Once



# Place Your Order Today

1 mL (100/box	)		
Phase	10 mg	30 mg	60 mg
Strata-X-AW	-	8B-S038-TAK	-
Strata-X-A	-	8B-S123-TAK	-
Strata-X	8B-S100-AAK	8B-S100-TAK*	8B-S100-UAK
Strata-X-C	8B-S029-AAK	8B-S029-TAK*	-
Strata-X-CW	_	8B-S035-TAK	-
Strata-XL-AW	-	8B-S051-TAK	-
Strata-XL-A	_	8B-S053-TAK	-
Strata-XL	-	8B-S043-TAK	-
Strata-XL-C	-	8B-S044-TAK	-
Strata-XL-CW	=	8B-S052-TAK	-

6 mL (30/box)				
Phase	100 mg	200 mg	500 mg	1 g
Strata-X-AW	8B-S038-ECH	8B-S038-FCH	8B-S038-HCH	-
Strata-X-A	8B-S123-ECH	8B-S123-FCH	8B-S123-HCH	-
Strata-X	8B-S100-ECH	8B-S100-FCH	8B-S100-HCH	-
Strata-X-C	8B-S029-ECH	8B-S029-FCH	8B-S029-HCH	-
Strata-X-CW	8B-S035-ECH	8B-S035-FCH	8B-S035-HCH	8B-S035-JCH
Strata-XL-AW	8B-S051-ECH	8B-S051-FCH	8B-S051-HCH	-
Strata-XL-A	8B-S053-ECH	8B-S053-FCH	8B-S053-HCH	-
Strata-XL	8B-S043-ECH	8B-S043-FCH	8B-S043-HCH	-
Strata-XL-C	8B-S044-ECH	8B-S044-FCH	8B-S044-HCH	-
Strata-XL-CW	8B-S052-ECH	8B-S052-FCH	8B-S052-HCH	-

3 mL (50/box)						
Phase	30 mg	60 mg	100 mg	200 mg	500 mg	
Strata-X-AW	8B-S038-TBJ	8B-S038-UBJ	8B-S038-EBJ	8B-S038-FBJ	8B-S038-HBJ	
Strata-X-A	8B-S123-TBJ	8B-S123-UBJ	8B-S123-EBJ	8B-S123-FBJ	8B-S123-HBJ	
Strata-X	8B-S100-TBJ	8B-S100-UBJ*	8B-S100-EBJ	8B-S100-FBJ <sup>†</sup>	8B-S100-HBJ	
Strata-X-C	8B-S029-TBJ	8B-S029-UBJ*	8B-S029-EBJ	8B-S029-FBJ	8B-S029-HBJ	
Strata-X-CW	8B-S035-TBJ	8B-S035-UBJ	-	8B-S035-FBJ	8B-S035-HBJ	
Strata-XL-AW	-	8B-S051-UBJ	8B-S051-EBJ	8B-S051-FBJ	8B-S051-HBJ	
Strata-XL-A	-	8B-S053-UBJ	8B-S053-EBJ	8B-S053-FBJ	8B-S053-HBJ	
Strata-XL	-	8B-S043-UBJ	8B-S043-EBJ	8B-S043-FBJ	8B-S043-HBJ	
Strata-XL-C	-	8B-S044-UBJ	8B-S044-EBJ	8B-S044-FBJ	8B-S044-HBJ	
Strata-XL-CW	-	8B-S052-UBJ	8B-S052-EBJ	8B-S052-FBJ	8B-S052-HBJ	

# Method Development Kits

art No.	Description	Unit
KS0-7908	Strata-X 200 mg/3 mL tubes (10 ea) Strata-X-C 200 mg/3 mL tubes (10 ea) Strata-X-A 200 mg/3 mL tubes (10 ea) Strata-X-CW 200 mg/3 mL tubes (10 ea) Strata-X-AW 200 mg/3 mL tubes (10 ea)	ea

\* Available in Tab-less tubes

† Available in Teflon® coated tubes

## Accessories

Adapter Cap	s		
Part No.	Description	Unit	
AH0-7191	Adapter Caps for 1, 3, and 6 mL SPE tubes, polyethylene, with Luer tip	15/pk	

Manifolds		
Part No.	Description	Unit
AH0-6023	SPE 12-Position Vacuum Manifold Set complete assembly	1 ea
AH0-6024	SPE 24-Position Vacuum Manifold Set complete assembly	1 ea





# **96-Well Plates**

Process Samples with a Vacuum Manifold



Process Samples with a Robot



# Place Your Order Today

96-Well Plates, 2 mL (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	<del>-</del>	8E-S053-TGB	-
Strata-XL	_	8E-S043-TGB	-
Strata-XL-C	_	8E-S044-TGB	-
Strata-XL-CW	_	8E-S052-TGB	_

# Accessories

Collection Plates, Deep Well, Polypropylene			
Part No.	Description	Unit/Box	
AH0-7192	Strata 96-Well Collection Plate 350 µL/well Square	50	
AH0-7193	Strata 96-Well Collection Plate 1 mL/well Square	50	
AH0-7279	Strata 96-Well Collection Plate, 1 mL Round, 7 mm	50	
AH0-7194	Strata 96-Well Collection Plate 2 mL/well Square	50	
AH0-8635	Strata 96-Well Collection Plate, 2 mL Square/Round-Conical	50	
AH0-8636	Strata 96-Well Collection Plate, 2 mL Round/Round, 8 mm	50	

Sealing Mats		
Part No.	Description	Unit/Box
AH0-8597	Sealing Mats, Pierceable, 96-Square Well, Silicone	50
AH0-8598	Sealing Mats, Pre-Slit, 96-Square Well, Silicone	50
AH0-8631	Sealing Mats, Pierceable, 96-Round Well 7 mm, Silicone	50
AH0-8632	Sealing Mats, Pre-Slit, 96-Round Well 7 mm, Silicone	50
AH0-8633	Sealing Mats, Pierceable, 96-Round Well 8 mm, Silicone	50
AH0-8634	Sealing Mats, Pre-Slit, 96-Round Well 8 mm, Silicone	50
AH0-7362	Sealing Tape Pad	10

Manifold and Replacement Parts			
Part No.	Description	Unit/Box	
AH0-8950	Strata 96-Well Plate Manifold, Universal w/Vacuum Gauge	1 ea	
AH0-7285	96-Well Plate Manifold Replacement Gasket, Flat (to fit between acrylic chamber and 96-well plate), black	1 ea	
AH0-7198	96-Well Plate Manifold Replacement Gasket, Profile, (to fit between acrylic chamber and manifold base), white	1 ea	
AH0-8637	Reservoir, Single Well, High Profile, 96 Bottom Troughs	25/Box	





# **On-Line Cartridges**

Compatible with:







# Recommended Starting Parameters for Strata-X On-line Cartridges

	Extraction Conditions		
Time (min)	Pump 1 (3 mL/min)	Pump 2 (1 mL/min)	Valve Position
0	95 % A: 5 % B	95 % A: 5 % B	Load position
0.5		95 % A: 5 % B	Switch position Load to Elute
2.8		15 % A: 85 % B	Switch position Elute to Load
3	95 % A: 5 % B	95 % A: 5 % B	Load position

Mobile Phase: A: 0.1 % Formic acid / Water B: 0.1 % Formic acid / Acetonitrile Injection: 50 μL of diluted porcine plasma (1:1) Detection: Bruker Esquire™ 2000 Ion-Trap MS analyzer

Source: ESI-Positive mode Scan Range: m/z 100-500

Run Time: 3 minutes (with analytical column)

Run Time: 1.2 minutes (without analytical column) (1 minute gradient)

# Place Your Order Today

On-Line Cartridges (1 ea)*		
Phase	20 x 2.0 mm	
Strata-X-AW	-	
Strata-X-A	-	
Strata-X	00M-S033-B0-CB	
Strata-X-C	00M-S048-B0-CB	
Strata-X-CW	00M-S036-B0-CB	
Strata-XL-AW	-	
Strata-XL-A	-	
Strata-XL	-	
Strata-XL-C	-	
Strata-XL-CW	-	

<sup>\*</sup>Requires 20 mm Cartridge Holder (CH0-5845)

Note: 25 µm particle sizes are packed into Strata-X on-line cartridges.





# **Giga™ Tubes**

## **Process Samples Manually**



Process Multiple Samples at Once



\*Contact Phenomenex or your local Phenomenex distributor about availability of 150 mL tubes.

# Place Your Order Today

	y .				
12 mL (20/box)	12 mL (20/box)				
Phase	500 mg	1 g	2 g		
Strata-X-AW	8B-S038-HDG	8B-S038-JDG	-		
Strata-X-A	8B-S123-HDG	8B-S123-JDG	-		
Strata-X	8B-S100-HDG	8B-S100-JDG	-		
Strata-X-C	8B-S029-HDG	8B-S029-JDG	-		
Strata-X-CW	8B-S035-HDG	8B-S035-JDG	-		
Strata-XL-AW	-	-	8B-S051-KDG		
Strata-XL-A	-	-	8B-S053-KDG		
Strata-XL	-	-	8B-S043-KDG		
Strata-XL-C	_	_	8B-S044-KDG		
Strata-XL-CW	-	-	8B-S052-KDG		

20 mL (20/box	)		
Phase	1 g	2 g	5 g
Strata-X-AW	8B-S038-JEG	8B-S038-KEG	-
Strata-X-A	8B-S123-JEG	8B-S123-KEG	-
Strata-X	8B-S100-JEG	8B-S100-KEG	-
Strata-X-C	8B-S029-JEG	8B-S029-KEG	-
Strata-X-CW	8B-S035-JEG	8B-S035-KEG	_
Strata-XL-AW	-	8B-S051-KEG	8B-S051-LEG
Strata-XL-A	-	8B-S053-KEG	8B-S053-LEG
Strata-XL	-	8B-S043-KEG	8B-S043-LEG
Strata-XL-C	-	8B-S044-KEG	8B-S044-LEG
Strata-XL-CW	-	8B-S052-KEG	8B-S052-LEG

60 mL (16/box)			
Phase	5 g	10 g	20 g
Strata-X-AW	8B-S038-LFF	_	-
Strata-X-A	8B-S123-LFF	_	-
Strata-X	8B-S100-LFF	8B-S100-MFF	8B-S100-VFF
Strata-X-C	8B-S029-LFF	8B-S029-MFF	8B-S029-VFF
Strata-X-CW	8B-S035-LFF	_	-
Strata-XL-AW	8B-S051-LFF	8B-S051-MFF	8B-S051-VFF
Strata-XL-A	8B-S053-LFF	8B-S053-MFF	_
Strata-XL	8B-S043-LFF	8B-S043-MFF	8B-S043-VFF
Strata-XL-C	8B-S044-LFF	8B-S044-MFF	8B-S044-VFF
Strata-XL-CW	8B-S052-LFF	8B-S052-MFF	-

150 mL (8/box)		
Phase	50 g	
Strata-X-AW	_	
Strata-X-A	_	
Strata-X	8B-S100-YSN	
Strata-X-C	_	
Strata-X-CW	_	
Strata-XL-AW	-	
Strata-XL-A	_	
Strata-XL	8B-S043-YSN	
Strata-XL-C	_	
Strata-XL-CW	_	

**OR** 

## Accessories

<b>Adapter Caps</b>		
Part No.	Description	Unit
AH0-7379	Adapter Caps for 12, 20, and 60 mL SPE tubes, polyethylene, with Luer tip	6/pk

Manifolds			
Part No.	Description	Unit	
AH0-7502	SPE 10-Position Tall-Boy Vacuum Manifold, complete assembly	1 ea	

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

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

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#### All other countries: Corporate Office USA





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