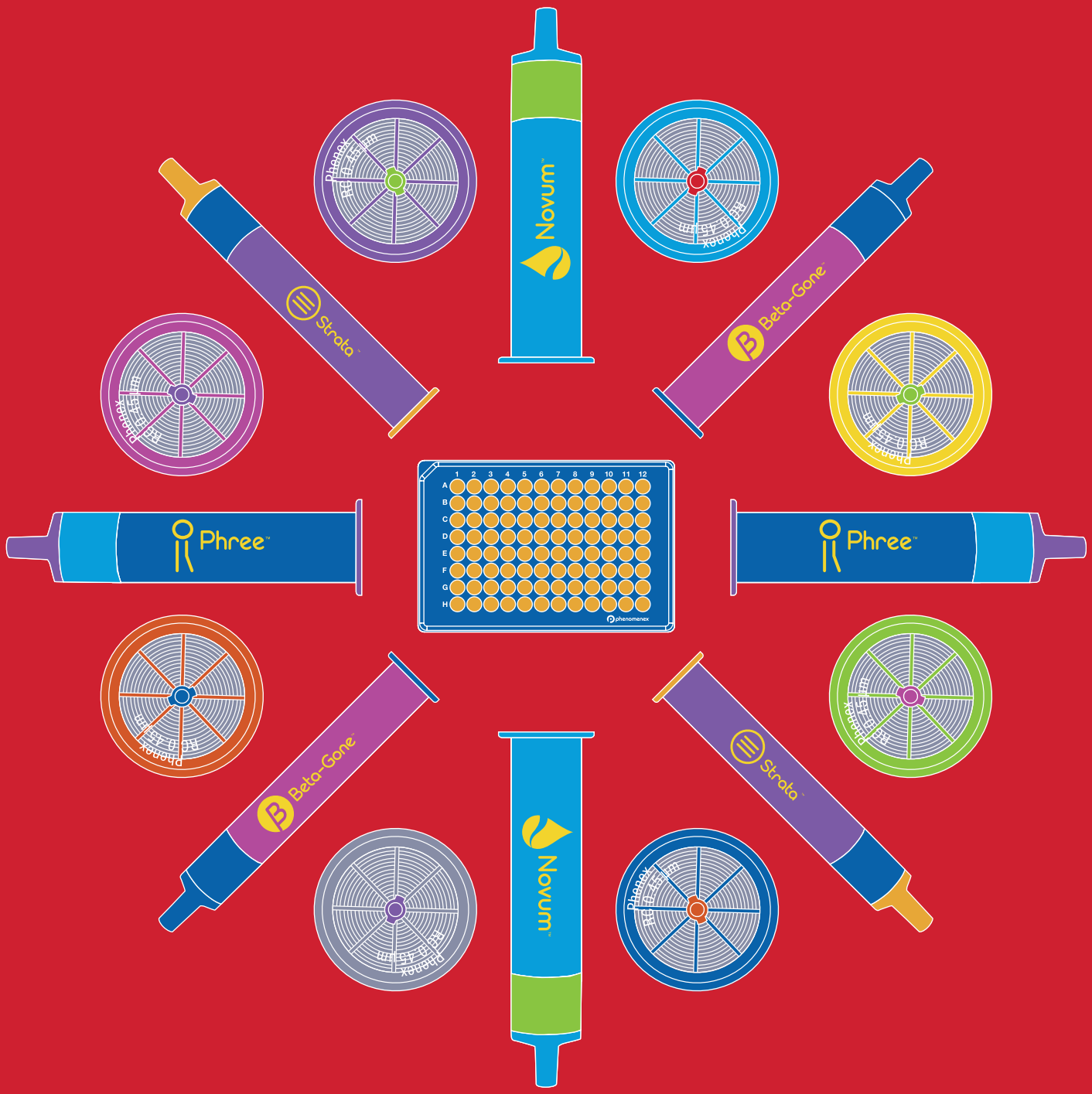
Sample Preparation Chromatography Product Guide 2025/26



phenomenex™

Welcome

Our Mission

Keeping scientists at the heart of our every day through unforgettable support and standout technology to build a brighter future together.

Our Promise

Our mission drives us to build sincere and meaningful relationships by working alongside scientists and connecting labs with exceptional technology, unrivaled service, and world-class technical support.

The Phenomenex team is empowered by a culture built on trust, integrity, and kindness — one that places scientists at the heart of our every day. We are inspired by the impact our customers make on the world and we will always go above and beyond to help them in our shared pursuit to create a brighter future for humanity. That is our promise.

Dr. Kaveh Kahen
President

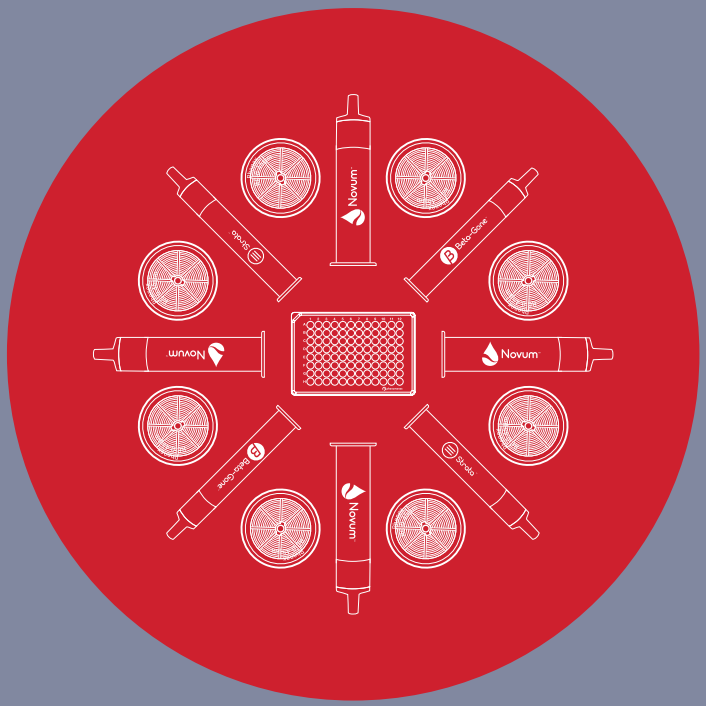
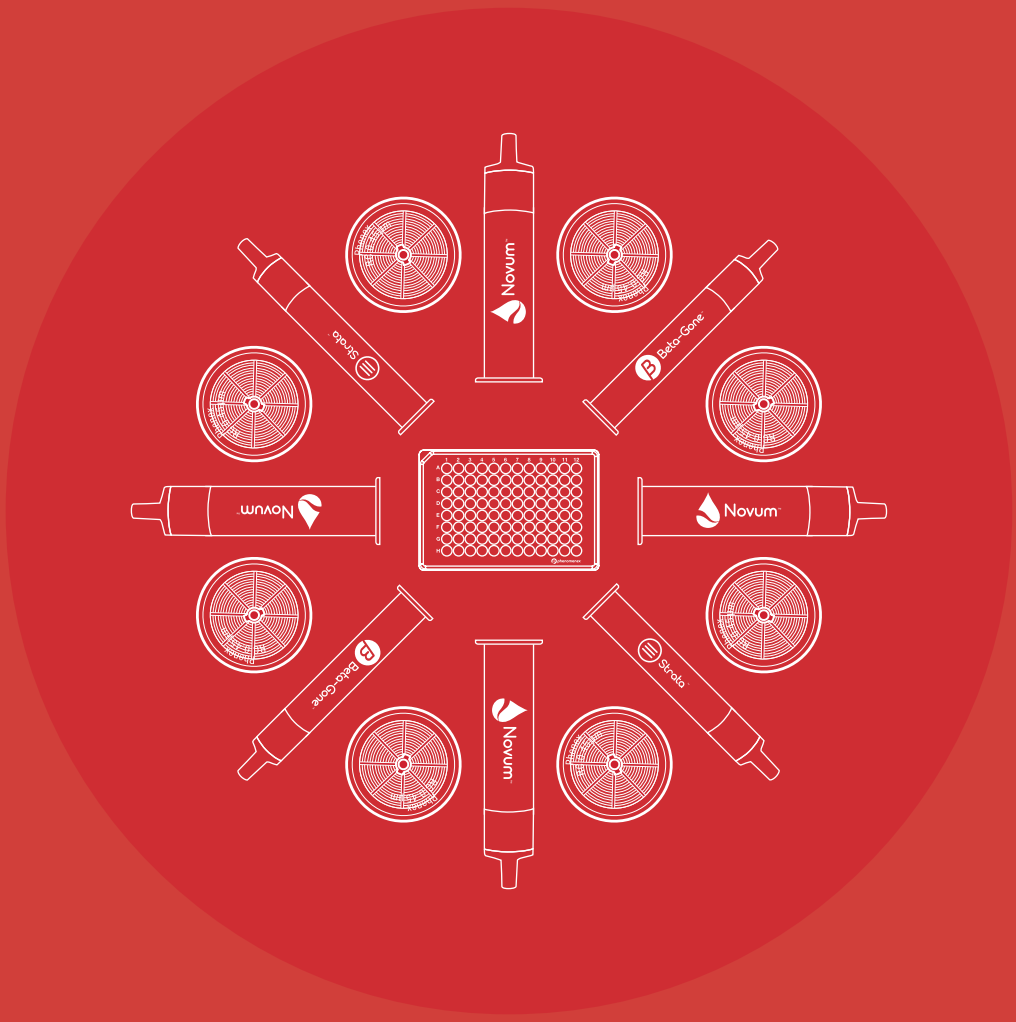


Table of Contents

Sample Preparation Contents



Sample Preparation Solutions and Formats

Choose Your Sample Preparation Solution

Filtration (Verex™, Phenex™)	A mechanical or physical operation which is used for the separation of solids from fluids by interposing a medium through which only the fluid can pass.
Protein Precipitation (Impact™)	Proteinaceous samples require a protein precipitation step to promote protein aggregation which allows their removal from the solution/sample.
β-Glucuronidase Removal (Beta-Gone™)	A β-Glucuronidase enzyme removal method to clean-up hydrolyzed urine from samples in less than 1 minute, ideal for rapid drug testing.
Phospholipid Removal + Protein Precipitation (Phree™)	Biological samples require the removal of endogenous phospholipids and proteins as they are a primary source of ion suppression and resulting matrix effects.
QuEChERS (roQ™)	A streamlined approach that makes it easier and less expensive for analytical chemists to examine residues in food. The name is a portmanteau word formed from "Quick, Easy, Cheap, Effective, Rugged, and Safe".
Supported Liquid Extraction (Strata™ DE, Novum™)	Supported Liquid Extraction (SLE) is a FASTER, EASIER, and MORE RELIABLE way to perform liquid-liquid extraction. Unwanted interferences can be removed such as proteins, salts and phospholipids.
Solid Phase Extraction (Strata™, Strata X™, Strata XPro™, Clarity™)	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.
Immunocapture (Biozen™)	Paramagnetic beads used to capture streptavidin or other target analytes in order to perform a clean-up of biologics.

Available Formats

	96-Well Plates	Microelution Plates	1, 3, and 6 mL Tubes	Giga™ Tubes (12 mL - 150 mL)	On-line Extraction Cartridge	Bulk Sorbent
Impact Protein Precipitation Plates	X					
β-Gone β-Glucuronidase Removal	X		X			
Phree Phospholipid Removal Solutions	X		X			
Novum SLE	X		X			
Strata Traditional SPE	X		X	X	X	X
Strata DE SLE	X			X		
Strata-X PRO SPE	X	X	X			
Strata-X Polymeric SPE	X	X	X	X	X	X
Clarity SPE	X	X	X			


96-Well Plates


Microelution Plates


1, 3, and 6 mL Tubes


Giga Tubes (12 mL - 150 mL)


On-line Extraction Columns and Cartridges

Bulk Sorbent

Don't see the format you want?
Chat us for other available solutions.
www.phenomenex.com/chat

For Sepra™ Bulk Sorbent Material Characteristics and Ordering Information, see page 49.

Phenex™ Syringe Filters

Phenex LC/GC Approved Syringe Filters

For sample and solvent filtration prior to LC or GC analysis

- **Particulate, PVC, and extractable-free filters**
- **Less system downtime**
- **More consistent, reproducible results**
- **Increased column lifetime**

Phenex Offers:

- Broad chemical compatibility
- Minimized extractables
- Excellent flow rate
- High total throughput
- Certified quality
- 100 % integrity tested
- Low hold-up volume
- Low protein adsorption
- Bi-directional use

Syringe Filter Selection Guide

1. Choose filter diameter based on sample volume

≤ 2 mL Sample Volume	2 - 10 mL Sample Volume	10 - 100 mL Sample Volume
		
4 mm Diameter	15 mm Diameter	25 - 28 mm Diameter

2. Choose a pore size based on your sample

Sample Description	Recommended Filter Pore Size
General aqueous or mixed organic samples prior to LC analysis with columns packed with > 3 µm particles. General clarification of GC, SFC, CE, and GPC samples. Viscous samples or samples containing high levels of particulate matter.	0.45 µm
General aqueous or mixed organic samples prior to LC analysis with columns packed with ≤ 3 µm particles. Removal of fine particulate matter prior to GC, SFC, CE, and GPC samples.	0.20 µm
Viscous samples such as serum, plasma or other biological matrices. Solutions with high particulate load such as some environmental, biofuels or food and beverage applications.	Glass Fiber Filter with 0.45 µm filter membrane

3. Suggested general syringe filter membranes

Membrane Type	Recommended Uses	
RC (Regenerated Cellulose)	For Aqueous and Mixed Organic Solutions	A broad range of aqueous and mixed-organic solutions. Fast-flow and ultra-low protein and non-specific binding characteristics. Broadly recommended as an excellent general purpose/high-performance sample filter for most applications.
PTFE, Teflon® (Polytetrafluoroethylene)	For 100% Organic Solutions	Well-suited for the clarification of non-aqueous samples. Hydrophobic membrane, excellent for filtration of organic-based, highly acidic or basic samples and solvents. A hydrophobic membrane, that can be made hydrophilic by wetting with alcohol and then flushing with deionized water.

Additional syringe filter membranes

Membrane Type	Recommended Uses
PES (Polyethersulfone)	Polyethersulfone membranes exhibit very fast-flow and ultra-low protein binding characteristics. Phenex-PES membranes are typically broadly recommended for filtering critical biological samples, tissue culture media, additives and buffers.
NY (Nylon)	Nylon has inherent hydrophilic characteristics and works well for filtration of many aqueous and mixed-organic samples. In combination with a glass pre-filter (Phenex-GF/NY), this membrane is excellent for the filtration of particle-laden samples, such as foods and beverages, environmental, biofuels, and dissolution samples.
CA (Cellulose Acetate)	Cellulose Acetate (CA) membranes exhibit ultra-low protein binding and are broadly used in the filtration of biological samples. In combination with a glass pre-filter (Phenex-GF/CA), this membrane is excellent for filtration of tissue culture media, general biological sample filtration and clarification.
GF (Glass Fiber)	Glass Fiber (GF) filters are made of inert borosilicate glass and have a nominal 1.2 µm pore size. They are commonly used with highly viscous samples or samples containing high concentrations of particulate matter (e.g., food analysis, biological samples, soil samples, fermentation broth samples, removal of yeasts, molds, etc.).
PVDF (Polyvinylidene Fluoride)	Hydrophilic PVDF membrane provides high flow rates and throughput, low extractables, and broad chemical compatibility. This membrane binds less protein than nylon or PTFE membranes.

Syringe Filters *(cont'd)*

Phenex™ Syringe Filters

Phenex Syringe Filters

Ordering Information Phenex Syringe Filters	4 mm Diameter for ≤ 2 mL sample volumes		15 mm Diameter for 2 – 10 mL sample volumes		25 - 28 mm Diameter for 10 – 100 mL sample volumes	
Membrane Type/Size	**Part No.**	**Unit**	**Part No.**	**Unit**	**Part No.**	**Unit**
0.20 µm						
RC (Regenerated Cellulose)	AF0-3203-12 AF0-3203-52	100/pk 500/pk	AF0-2203-12 AF0-2203-52	100/pk 500/pk	AF0-8203-12 [4] AF0-8203-52 [4]	100/pk 500/pk
PES [2] (Polyethersulfone)	— —	— —	— —	— —	AF0-8208-12 [6] AF0-8208-52 [6]	100/pk 500/pk
PTFE [5] (Polytetrafluoroethylene)	AF0-3202-12 AF0-3202-52	100/pk 500/pk	AF0-2202-12 AF0-2202-52	100/pk 500/pk	AF0-1202-12 AF0-1202-52	100/pk 500/pk
NY (Nylon)	AF3-3207-12 AF3-3207-52	100/pk 500/pk	AF0-2207-12 AF0-2207-52	100/pk 500/pk	AF0-1207-12 AF0-1207-52	100/pk 500/pk
GF/NY [1] (Glass Fiber/Nylon)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a Nylon (NY) membrane. Excellent for filtration of particle-laden samples, such as foods and beverages, environmental, biofuels, and dissolution samples. Use less hand pressure to filter even the most difficult samples. Outlet connection is luer lock.				AF0-1A47-12 [6] AF0-1A47-52 [6]	100/pk 500/pk
PVDF (Polyvinylidene Fluoride)	— —	— —	AF6-5206-12 [7] AF6-5206-52 [7]	100/pk 500/pk	AF6-6206-12 AF6-6206-52	100/pk 500/pk
GF/PVDF (Glass Fiber/Polyvinylidene Fluoride)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a PVDF membrane. The hydrophilic PVDF membrane provides high flow rates and throughput, low extractables and broad chemical compatibility. This membrane binds less protein than nylon or PTFE membranes.				AF6-6C06-52	500/pk
CA [3] (Cellulose Acetate)	— —	— —	— —	— —	AF0-8204-12 [6] AF0-8204-52 [6]	100/pk 500/pk
GF/CA [1, 2, 3] (Glass Fiber/Cellulose Acetate)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a CA membrane. Excellent for filtration of tissue culture media, general biological sample filtration and clarification. Outlet connection is luer lock.				AF0-8A09-12 [6] AF0-8A09-52 [6]	100/pk 500/pk
0.45 µm						
RC (Regenerated Cellulose)	AF0-3103-12 AF0-3103-52	100/pk 500/pk	AF0-2103-12 AF0-2103-52	100/pk 500/pk	AF0-8103-12 [4] AF0-8103-52 [4]	100/pk 500/pk
PES [2] (Polyethersulfone)	— —	— —	— —	— —	AF0-8108-12 [7] AF0-8108-52 [7]	100/pk 500/pk
PTFE [5] (Polytetrafluoroethylene)	AF0-3102-12 AF0-3102-52	100/pk 500/pk	AF0-2102-12 AF0-2102-52	100/pk 500/pk	AF0-1102-12 AF0-1102-52	100/pk 500/pk
NY (Nylon)	AF3-3107-12 AF3-3107-52	100/pk 500/pk	AF0-2107-12 AF0-2107-52	100/pk 500/pk	AF0-1107-12 AF0-1107-52	100/pk 500/pk
GF/NY [1] (Glass Fiber/Nylon)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a Nylon (NY) membrane. Excellent for filtration of particle-laden samples, such as foods and beverages, environmental, biofuels, and dissolution samples. Use less hand pressure to filter even the most difficult samples. Outlet connection is luer lock.				AF0-1B47-12 [6] AF0-1B47-52 [6]	100/pk 500/pk
PVDF (Polyvinylidene Fluoride)	— —	— —	AF6-5106-12 [7] AF6-5106-52 [7]	100/pk 500/pk	AF6-6106-12 AF6-6106-52	100/pk 500/pk
GF/PVDF (Glass Fiber/Polyvinylidene Fluoride)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a PVDF membrane. The hydrophilic PVDF membrane provides high flow rates and throughput, low extractables and broad chemical compatibility. This membrane binds less protein than nylon or PTFE membranes.				AF6-6D06-12 AF6-6D06-52	100/pk 500/pk
GF/CA [1, 2, 3] (Glass Fiber/Cellulose Acetate)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a CA membrane. Excellent for filtration of tissue culture media, general biological sample filtration and clarification. Outlet connection is luer lock.				AF0-8B09-12 [6] AF0-8B09-52 [6]	100/pk 500/pk
1.20 µm						
GF [1, 2] (Glass Fiber)	Prefiltration of heavily contaminated or highly viscous samples. When used in-series preceding a membrane filter, clogging of the membrane filter is prevented and sample clean up is optimized. Outlet connection is luer lock.				AF0-8515-12 [6] AF0-8515-52 [6]	100/pk 500/pk

1. Glass fiber filters are 28 mm diameter and made of borosilicate. They will remove 90 % of all particles >1.2 µm.
2. Housing material is methacrylate butadiene styrene (MBS) polymerisate. Also known as Cyrolite®.
3. Cellulose acetate is surfactant-free.
4. 26 mm diameter.
5. Hydrophobic membrane. Can be made hydrophilic by pre-wetting with IPA.
6. 28 mm diameter.
7. 17 mm diameter.

Above syringe filters are non-sterile. Housing is made of medical-grade polypropylene (PP), and offer luer lock inlet/slip outlet connections, unless otherwise indicated.

Additional dimensions and membrane types are available. Please contact your local Phenomenex technical consultant or distributor for availability or assistance.

Syringe Filters and Disposable Syringes *(cont'd)*

Phenex™ Syringe Filters

Phenex Syringe Filters

Syringe Filter Applications and Recommended Membranes

Application / Sample	Recommended Filter	First Alternative	Second Alternative
LC and GC Sample Prep	RC	PTFE	PES
Aggressive or Pure Organic Solvents	PTFE	RC	NY
Protein Analysis / Biological Samples	PES	RC	GF/CA
High Particulate Loads	GF/NY	GF + RC	PTFE
Environmental Methods	GF/NY	RC	PTFE
Food and Beverage	GF/NY	RC	PTFE
Clinical Research / Toxicology	RC	PES	NY
Dissolution Testing	GF/NY	RC	PTFE
Ion Chromatography	RC	PES	PTFE
Trace Metals (ICP-MS, AAS)	RC	PES	NY
Capillary Electrophoresis (CE)	RC	PES	NY
Tissue Cultures, Media, Buffers	GF/CA	PES	RC

For high load and particulate-laden samples you may consider placing a Glass Fiber (GF) prefilter, either integrated with the membrane as one unit (Phenex-GF/NY or -GF/CA) or in series with the membrane syringe filter of your choice.

Syringe Filter Finder

A 3-step tool to help you find the right syringe filter to successfully remove particulates from your sample matrix.

www.phenomenex.com/SFfinder

Sterile Syringe Filters

Sterile syringe filters from Phenomenex are ready-to-use, individually blister packaged units, offering high flow rates at low inlet pressures, for rapid sterile filtration.

Ordering Information

Sterile Syringe Filters				
Part No.	Pore Size (µm)	Disc Diameter (mm)	Membrane Material	Unit
AF0-8456	0.45	28	CA Luer/Slip	50/pk
AF0-8457	0.2	28	PES Luer/Slip	50/pk
AF0-8458	0.45	28	PES Luer/Slip	50/pk

All-Plastic Disposable Syringes

- **Use for all syringe filter applications***
- **Luer-lock outlet makes connection easy**
- **Made of ultra-clean, high-purity plastics**

Ordering Information

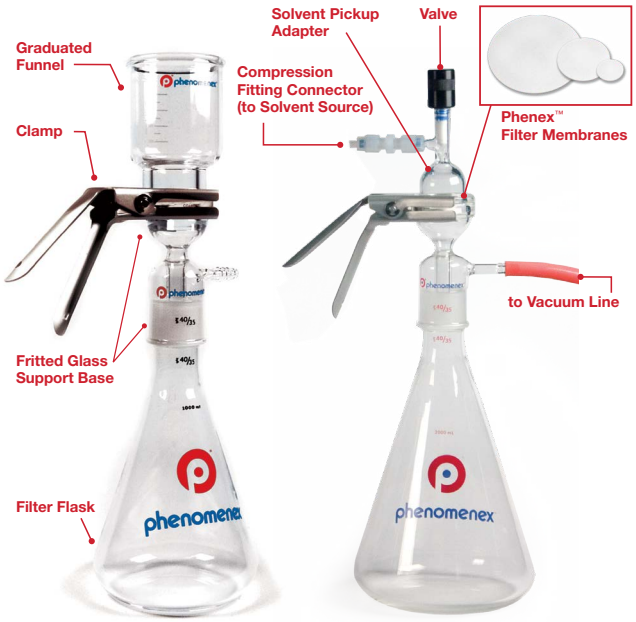
All-Plastic Disposable Syringes			
Part No.	Description	Capacity (mL)	Unit
AS0-8408	Plastic Disposable Syringes, Luer-lock	3	100/pk
AS0-8409	Plastic Disposable Syringes, Luer-lock	5	100/pk
AS0-8410	Plastic Disposable Syringes, Luer-lock	10	100/pk
AS0-8411	Plastic Disposable Syringes, Luer-lock	20	100/pk

* Choose larger volume syringe to reduce force on syringe filter membrane. 10 mL syringe is recommended.

All-Glass Vacuum Mobile Phase Filtration System

FilterSys™

- **Prevents pump and system component damage**
- **Rapid filtration of buffers, organics and corrosive liquids**
- **Removes damaging microparticulates and bacterial contaminants**
- **HPLC and GC solvent and sample filtration**



Protect your instrument and column from costly damage by clarifying all your HPLC solvents and buffer solutions before use. This vacuum filter assembly comes with a sample reservoir and receiving flask. A 47 mm diameter membrane filter is placed between the fritted-glass support base and the sample reservoir, secured in place by an aluminum clamp. The support base itself is connected to the receiving flask by a vacuum-tight ground-glass joint. Only low-extractable borosilicate glass and the membrane filter come into contact with the mobile phase. The vacuum hose connection is made above the filtration drip tip to prevent contamination from the vacuum line.

Ordering Information

Mobile Phase Filtration System		
Part No.	**Description**	**Unit**
Complete Assembly		
AH0-1566	FilterSys, 47 mm, 300 mL funnel with 1 L vacuum flask	ea
AH0-3314	FilterSys, 47 mm, 500 mL funnel with 2 L vacuum flask	ea
AH0-3315	FilterSys, 47 mm, 1000 mL funnel with 4 L vacuum flask	ea
Component Parts		
AH0-1567	Fritted support base, 47 mm, 40/35 taper	ea
AH0-1568	Funnel, graduated, 300 mL, 47 mm	ea
AH0-3323	Funnel, graduated, 500 mL, 47 mm	ea
AH0-3324	Funnel, graduated, 1000 mL, 47 mm	ea
AH0-1569	1 liter filter flask, 40/35 taper	ea
AH0-3321	2 liter filter flask, 40/35 taper	ea
AH0-3322	4 liter filter flask, 40/35 taper	ea
AH0-1570	Aluminum clamp, 47 mm	ea

WARNING: The apparatus should be used with a water aspiration line, not a true vacuum line, unless secured behind an appropriate safety shield.

Filter Membranes

Phenex™

- **RC, Nylon, PTFE (Teflon®), and other membranes available**
- **Wide selection of membrane sizes**

Phenex PTFE (Teflon®) and Regenerated Cellulose (RC) membrane filters offer excellent chemical resistance to almost all laboratory solvents and samples. They do not introduce unwanted plasticizers or extractables into the sample or mobile phase. Since Regenerated Cellulose (RC) is hydrophilic, filtering of aqueous solvents is simple. No prewetting is required. PTFE is hydrophobic and so is not recommended for the filtration of aqueous solutions.

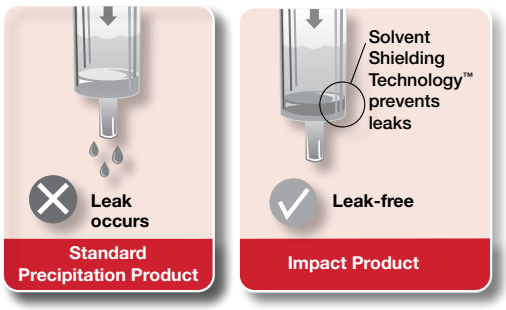
Ordering Information

Filter Membranes				
Part No.	**Pore Size (µm)**	**Disc Diameter (mm)**	**Membrane Material**	**Unit**
Nylon				
AF0-0500	0.45	13	Nylon	100/pk
AF0-0501	0.2	25	Nylon	100/pk
AF0-0502	0.45	25	Nylon	100/pk
AF0-0503	0.2	47	Nylon	100/pk
AF0-0504	0.45	47	Nylon	100/pk
PTFE				
AF0-0512	0.45	25	PTFE	100/pk
AF0-0514	0.45	47	PTFE	100/pk
Cellulose Acetate (CA)				
AF0-8436	0.45	25	CA	100/pk
AF0-8437	0.2	25	CA	100/pk
AF0-8438	0.45	47	CA	100/pk
AF0-8439	0.2	47	CA	100/pk
Regenerated Cellulose (RC)				
AF0-8441	0.2	13	RC	100/pk
AF0-8443	0.45	47	RC	100/pk
AF0-8444	0.2	47	RC	100/pk
Polyethersulfone (PES)				
AF0-8446	0.45	25	PES	100/pk
AF0-8447	0.2	47	PES	100/pk
AF0-8448	0.45	47	PES	100/pk
Cellulose Nitrate Ester (MCE)*				
AF0-8454	0.45	47	MCE	100/pk
AF0-8452	0.45	25	MCE	100/pk

*MCE = Mixed Cellulose Esters. Above filter membranes are non-sterile.

Rapid Protein Precipitation

- **Quickly cleanup sample by passing biological samples through the Impact filter**
- **Increase sensitivity of your analysis by eliminating proteins which contribute to baseline noise**
- **Increase reproducibility with the leak-free membrane, preventing premature sample breakthrough and incomplete protein precipitation**



Can retain acetonitrile with no leaks for up to 25 minutes

Compatible Solvents	Solvent:Sample Ratio
Acetonitrile	3:1 to 4:1
Methanol	4:1
Maximum Total Combined Liquid Volume (Organic Solvent plus Biological Sample)	
96-well plates	1.6 mL
Recommended Biological Sample Volumes	
96-well plates	25-400 µL
Leak Resistant Time	
96-well plates	Up to 25 minutes with no vacuum/pressure

Ordering Information

Part No.	Description	Unit
Impact Precipitation Products		
CE0-7565	Impact Protein Precipitation, Square Well, Filter Plate, 2 mL	2/pk
CE0-7566	Impact Protein Precipitation, Square Well, Long Drip, Filter Plate, 2 mL	2/pk
CE0-9343	Impact Protein Precipitation, Square Well Filter Plate, 2 mL	25/pk
CE0-9344	Impact Protein Precipitation, Square Well Filter Plate, Long Drip, 2 mL	25/pk
Impact Starter Kit for Protein Precipitation		
CE0-8201	Impact Protein Precipitation Plate (CE0-7565) (2 ea) Collection Plate 2 mL (2 ea) Sealing Mat, Santoprene™ (AH0-8199) (2 ea)	ea

General Protocol

Dispense
Organic solvent into the wells of the Impact plate in a volume of 3 - 4x the volume of the intended plasma or tissue homogenate sample. See table for recommended volumes.

Add*
Plasma or tissue homogenate directly and forcefully into the organic solvent, maintain a final ratio of 3:1 to 4:1 (organic solvent:sample). Recommended sample volumes are listed on this page.

Vortex†
2 minutes at maximum possible speed, taking care not to allow solvent spillage. Sample can stand for up to 25 minutes.

Filter
Centrifuge:
Place the Impact plate on top of a collection plate and centrifuge at 500 g for 5 minutes or until filtrate is collected.

Vacuum:
Place the Impact plate onto a suitable 96-well sample manifold or robot. Ensure that a 96-well collection plate is positioned inside the manifold or under the Impact plate. Vacuum at 2 - 7 inch Hg for up to 5 minutes or until filtrate is collected.

Positive Pressure:
Place the Impact plate on top of a collection plate and apply 2 - 5 psi using a positive pressure manifold.

* A 3:1 v/v ratio of organic solvent to biological sample will dilute your sample less. In contrast, a 4:1 v/v ratio of organic solvent to biological sample will ensure a more complete precipitation. A 4:1 v/v ratio is recommended when using methanol.

† When used with a liquid-handling instrument or automation, aspirate/dispense cycles may be used to promote in-tip mixing and precipitation. This will ensure complete precipitation and filtration. Vortexing is not necessary when in-tip precipitation is performed.

Eliminate Ion Suppression with Phree

- **Consistently remove > 99 % of phospholipids to increase LC-MS sensitivity**
- **Simultaneously remove interfering proteins**
- **No additional time required, the Phree method can be performed in the same amount of time as a protein precipitation procedure**
- **Skip the method development; one method for acids, bases, and neutrals**

2013 R&D 100 Award Recipient

How it Works:

1

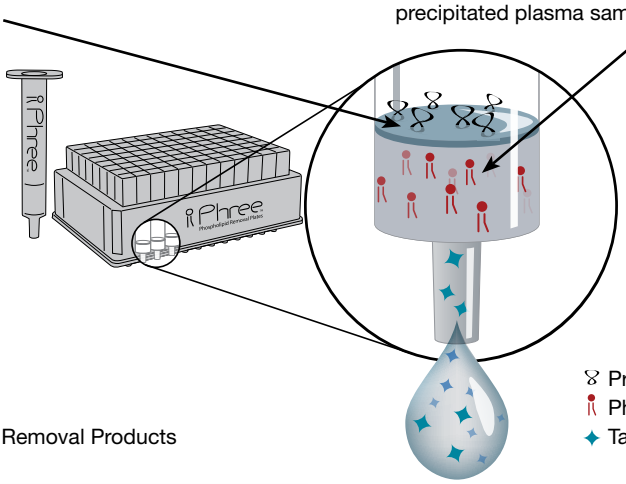
Remove Proteins

Solvent Shielding Technology™ prevents dripping of organic solvent, allowing for protein precipitation within the wells of the Phree Phospholipid Removal Product.

2

Eliminate Phospholipids

The Phree sorbent selectively removes phospholipids from precipitated plasma samples.



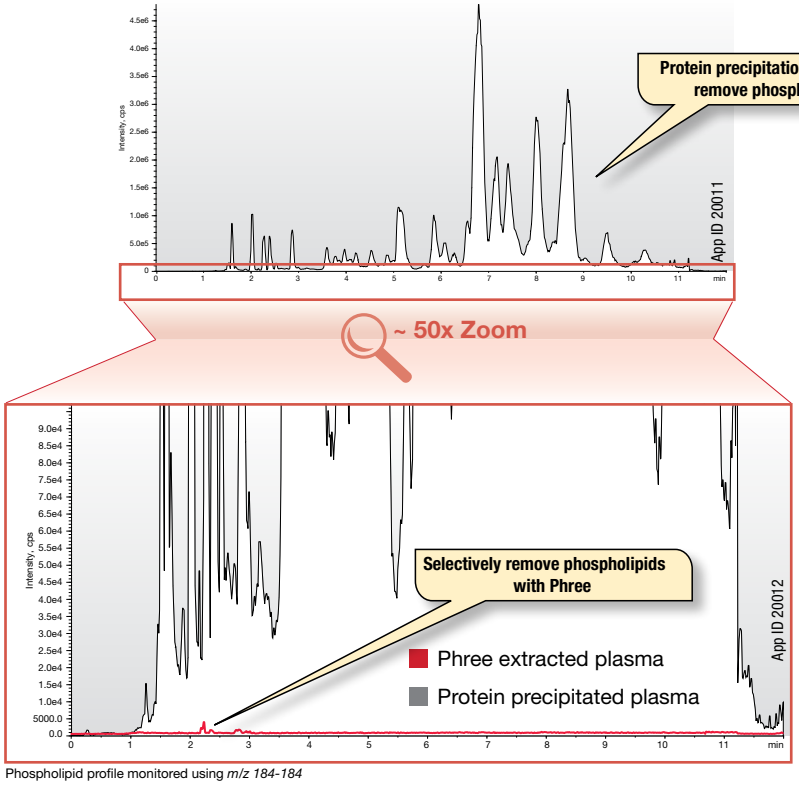
3

No Method Development

One method for acids, bases, and neutrals.

Total Phospholipid Profile

Protein Precipitation vs. Phree Phospholipid Removal Products



Phospholipid profile monitored using *m/z 184-184*

Plasma Cleanup: 100 µL plasma plus 300 µL Acetonitrile with 1 % Formic acid
Column: Kinetex™ 2.6 µm C18 100 Å
Dimensions: 50 x 2.1 mm
Part No.: 00B-4462-AN
Mobile Phase: A: 0.1 % Formic acid in Water
B: 0.1 % Formic acid in Methanol

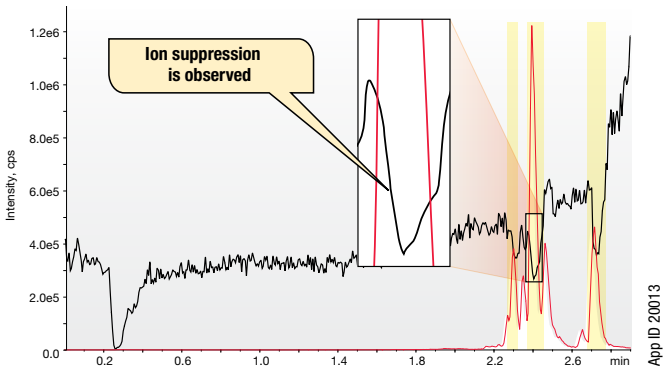
Gradient:	**Time (min)**	**% B**
	0	60
	0.5	95
	15.5	95
	15.51	60
	19.5	60

Flow Rate: 0.4 mL/min
Detection: Mass Spectrometer (MS) @ 425 °C; 184 amu
Temperature: 22 °C

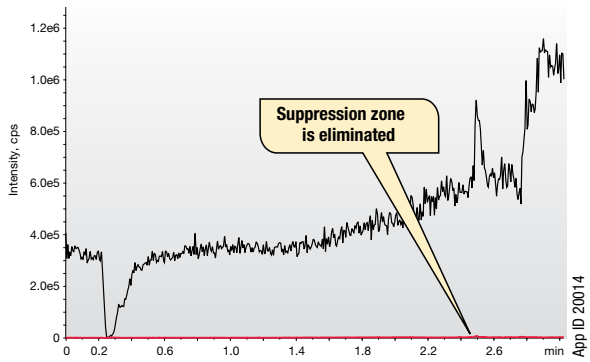
Reduce Ion Suppression

The presence of phospholipids in plasma samples produces zones of ion suppression that correlate exactly with the phospholipid elution profile when analyzed via mass spectrometer (MS).

Protein Precipitated Plasma



Phree Extracted Plasma



Suppression Zone

Phospholipids m/z *184-184*

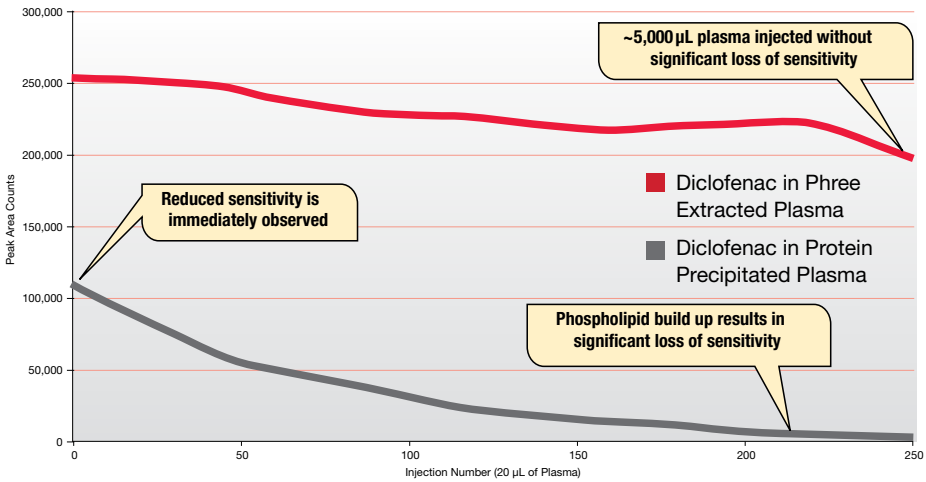
Amoxapine m/z *314-271*

Amoxapine was infused post-column to establish an ion suppression/enhancement profile with both protein precipitated plasma (left) and Phree extracted plasma (right), showing that Phree can successfully reduce ion suppression.

Maximize Sensitivity and Column Lifetime

Phospholipids reduce the sensitivity of the MS signal and shorten column lifetime when they build up over time.

Column Sensitivity after 250 Injections



To assess the effect of phospholipid build up, repetitive 20 µL injections of diclofenac in protein precipitated plasma versus diclofenac in Phree extracted plasma were made.

Ordering Information

Phree Phospholipid Removal Products		
Part No.	**Description**	**Unit**
8B-S133-TAK	Phree Phospholipid Removal Tabbed 1 mL Tubes	100/pk
8E-S133-TGB	Phree Phospholipid Removal 96-Well Plates	2/pk

For accessories that are compatible with Phree phospholipid removal products, see page 53.

Beta-Gone™
β-Glucuronidase Removal Products

Rapid Cleanup of Hydrolyzed Urine

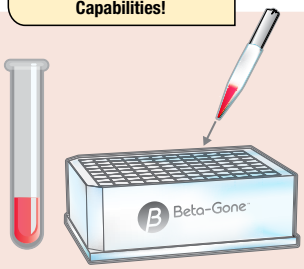
β-Gone β-Glucuronidase Removal Products are designed to target and remove β-glucuronidase from hydrolyzed urine samples without requiring additional time or method development. In a single step and in less than 1 minute, your hydrolyzed samples are ready for analysis.

- **Increase HPLC/UHPLC column lifetime**
- **Reduce mass spec maintenance**
- **Maintain the selectivity of your HPLC/UHPLC column**
- **Perform the pre-treatment step inside the 96-well plate with β-Gone Plus**

β-Gone Plus Steps

Now In-Well Hydrolysis Capabilities!

1 **Load**
Load urine and hydrolysis solution in β-Gone Plus 96-well plate, incubate

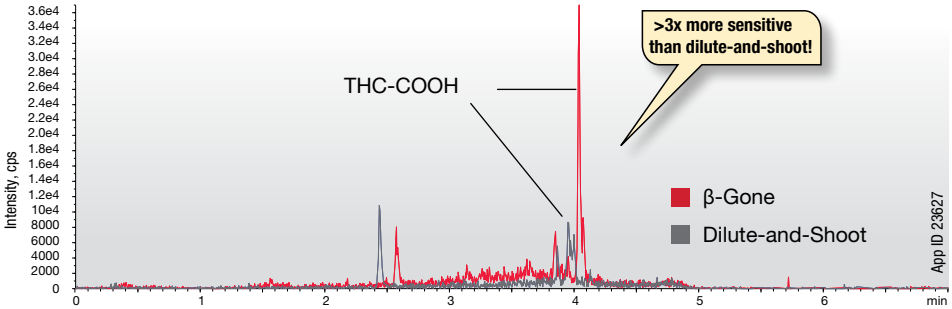


Skip the Transfer Step

2 **Collect**
Initiate vacuum and collect eluate

Increase Your Sensitivity:

β-Gone vs. Dilute-and-Shoot



β-Gone Procedure: To 200 µL spiked urine (spiked at 100 ng/mL), add 133 µL 0.1 % Formic acid in Methanol. Pass through β-Gone tube or 96-well plate and collect eluent. Dilute-and-Shoot Procedure: Dilute spiked urine (spiked at 100 ng/mL) 10-fold with 0.1 % Formic acid in Water.

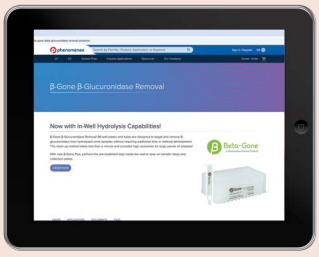
Column:	Kinetex™ 2.6 µm Biphenyl
Dimensions:	50 x 2.1 mm
Part No.:	00B-4622-AN
Mobile Phase:	A: 0.1 % Formic acid in Water
	B: 0.1 % Formic acid in Acetonitrile

Gradient:	**Time (min)**	**% B**
	0	5
	3	95
	4	95
	4.1	5

Flow Rate:	500 µL/min
Temperature:	Ambient
Detection:	MS/MS (SCIEX® API 4000™)

Ordering Information

β-Gone β-Glucuronidase Removal Products		
Part No.	**Description**	**Unit**
8B-S139-TAK	1 mL Tubes, Recombinant Enzyme	100/Box
8E-S323-TGA	96-Well Plate Plus 30 mg/well, Recombinant/Non-Recombinant Enzyme	1/Box
8E-S323-UGA	96-Well Plate Plus 60 mg/well, Recombinant/Non-Recombinant Enzyme	1/Box
8N-S323-TUK	2 mL Centrifuge Tubes, Recombinant/Non-Recombinant Enzyme	100/Box



Find Additional Applications
Instantly improve your sensitivity without introducing extra steps into your workflow!
www.phenomenex.com/BetaGone

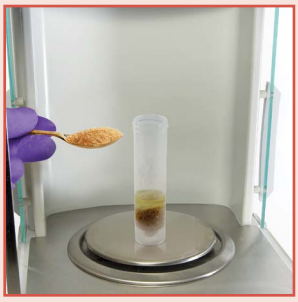
Why Choose roQ QuEChERS?

Improved with you in mind, roQ picks up where other QuEChERS kits fail. The unique design of the roQ QuEChERS kits eliminates common problems seen with current QuEChERS kits on the market.

Ease of Use

Built-in Removable Rack*

Stand Alone Extraction Tubes



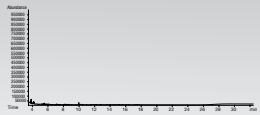
Easy Pour Salt Packets

*Applies to roQ Extraction Kits (excludes dSPE Kits)

Quality

Leak-Free Tubes

Low Leachate Tubes



15 mL roQ centrifuge tube extracted with 1 % Acetic acid in Acetonitrile and then with Toluene.

Quality Management System Certified

- **Validates processes to be fully established, functional, and meet international standards**
- **MSDS and Certificate of Analysis (CoA) available for all kits**
- **roQ QuEChERS kits are guaranteed for quality**

Technical Support

Sample Preparation Support at Your Fingertips

- **Dedicated sample preparation team available to assist your method development needs**
- **Expertise in sample preparation and solid phase extraction**
- **Access to up-to-date sample preparation applications**

www.phenomenex.com/Chat

Free Method Development Services

- **Let our specialists help you with new method development, method optimization, and validation, including FDA compliant and GMP compliant validation.**

For more details on roQ QuEChERS Kits:
www.phenomenex.com/roQ

Select Your roQ QuEChERS Kit

Step 1

Extraction*

QuEChERS can be performed by following 3 different methods: The AOAC 2007.01 method, the EN 15662 method, or the original non-buffered method.

Select Your roQ Extraction Kit

AOAC 2007.01 Method	Original Non-Buffered Method	EN 15662 Method
6.0 g $MgSO_4$, 1.5 g NaOAc KS0-8911	4.0 g $MgSO_4$, 1.0 g NaCl KS0-8910 6.0 g $MgSO_4$, 1.5 g NaCl KS0-8912	4.0 g $MgSO_4$, 1.0 g NaCl, 1.0 g SCTD, 0.5 g SCDS KS0-8909

Step 2

Clean Up/dSPE**

	AOAC 2007.01		EN 15662	
	2 mL	8 mL	2 mL	6 mL
General 	150 mg $MgSO_4$ 50 mg PSA KS0-9511	1200 mg $MgSO_4$ 400 mg PSA KS0-9515	150 mg $MgSO_4$ 25 mg PSA KS0-9503	900 mg $MgSO_4$ 150 mg PSA KS0-9507
Fats and Waxes 	150 mg $MgSO_4$ 50 mg PSA 50 mg C18E KS0-9512	1200 mg $MgSO_4$ 400 mg PSA 400 mg C18E KS0-9516	150 mg $MgSO_4$ 25 mg PSA 25 mg C18E KS0-9504	900 mg $MgSO_4$ 150 mg PSA 150 mg C18E KS0-9508
Pigmented 	150 mg $MgSO_4$ 50 mg PSA 50 mg GCB KS0-9513	1200 mg $MgSO_4$ 400 mg PSA 400 mg GCB KS0-9517	150 mg $MgSO_4$ 25 mg PSA 2.5 mg GCB KS0-9505	900 mg $MgSO_4$ 150 mg PSA 15 mg GCB KS0-9509
Highly Pigmented 	–	–	150 mg $MgSO_4$ 25 mg PSA 7.5 mg GCB KS0-9506	900 mg $MgSO_4$ 150 mg PSA 45 mg GCB KS0-9510
Pigments and Fats 	150 mg $MgSO_4$ 50 mg PSA 50 mg GCB 50 mg C18E KS0-9514	1200 mg $MgSO_4$ 400 mg PSA 400 mg GCB 400 mg C18E KS0-9518	–	—

*All roQ Extraction kits contain fifty easy-pour salt packets and fifty 50 mL stand-alone centrifuge tubes.
**All roQ dSPE kits contain pre-weighed sorbents/salts inside 2 mL or 15 mL centrifuge tubes.

Salts and Sorbents Used in roQ Kits

Extraction:

- Magnesium Sulfate ($MgSO_4$)
- Sodium Acetate (NaOAc)
- Sodium Chloride (NaCl)
- Sodium Citrate Tribasic Dihydrate (SCTD)
- Sodium Citrate Dibasic Sesquihydrate (SCDS)

Clean Up/dSPE:

- Magnesium Sulfate ($MgSO_4$)
- Primary/Secondary Amine (PSA)
- Endcapped C18 Sorbent (C18E)
- Graphitized Carbon Black (GCB)

roQ™ Extraction Kits

Extraction kits contain fifty easy-pour salt packets and fifty 50 mL stand-alone centrifuge tubes

Ordering Information

Description	Unit	Part No.
AOAC 2007.01 Method Extraction Kits		
6.0 g $MgSO_4$, 1.5 g NaOAc	50/pk	KS0-8911*
EN 15662 Method Extraction Kits		
4.0 g $MgSO_4$, 1.0 g NaCl, 1.0 g SCTD, 0.5 g SCDS	50/pk	KS0-8909*
4.0 g $MgSO_4$, 1.0 g NaCl, 1.0 g SCTD, 0.5 g SCDS (pre-weighed in 50 mL centrifuge tubes)	50/pk	KS0-9526
Original Non-Buffered Method Extraction Kits		
4.0 g $MgSO_4$, 1.0 g NaCl	50/pk	KS0-8910*
6.0 g $MgSO_4$, 1.5 g NaCl	50/pk	KS0-8912

*Kits also available in traditional non-collared 50 mL centrifuge tubes, Part No.: KS0-8911-NC , KS0-8910-NC and KS0-8909-NC

roQ dSPE Kits

dSPE kits contain pre-weighed sorbents/salts inside 2 mL or 15 mL centrifuge tubes

Ordering Information

Description	Unit	Part No.
2 mL dSPE Kits		
150 mg $MgSO_4$, 25 mg PSA, 25 mg C18E	100/pk	KS0-9504
150 mg $MgSO_4$, 25 mg PSA, 2.5 mg GCB	100/pk	KS0-9505
150 mg $MgSO_4$, 25 mg PSA, 7.5 mg GCB	100/pk	KS0-9506
150 mg $MgSO_4$, 25 mg PSA	100/pk	KS0-9503
150 mg $MgSO_4$, 50 mg PSA, 50 mg C18E, 50 mg GCB	100/pk	KS0-9514
150 mg $MgSO_4$, 50 mg PSA, 50 mg C18E	100/pk	KS0-9512
150 mg $MgSO_4$, 50 mg PSA, 50 mg GCB	100/pk	KS0-9513
150 mg $MgSO_4$, 50 mg PSA	100/pk	KS0-9511
150mg $MgSO_4$, 50mg C18E	100/pk	KS0-9524
15 mL dSPE Kits		
750 mg $MgSO_4$, 250 mg C18E	100/pk	KS0-9530
750 mg $MgSO_4$, 125 mg PSA, 37.5 mg GCB	50/pk	KS0-8930
750 mg $MgSO_4$, 125 mg PSA, 12.5 mg GCB	50/pk	KS0-8931
900 mg $MgSO_4$, 150 mg PSA, 150 mg C18E	100/pk	KS0-9508
900 mg $MgSO_4$, 150 mg PSA, 15 mg GCB	100/pk	KS0-9509
900 mg $MgSO_4$, 150 mg PSA, 45 mg GCB	100/pk	KS0-9510
900 mg $MgSO_4$, 150 mg PSA	100/pk	KS0-9507
900 mg $MgSO_4$, 300 mg PSA, 150 mg GCB (PFAS)	100/pk	KS0-9539
1200 mg $MgSO_4$, 400 mg PSA, 400 mg C18E, 400 mg GCB	100/pk	KS0-9518
1200 mg $MgSO_4$, 400 mg PSA, 400 mg C18E	100/pk	KS0-9516
1200 mg $MgSO_4$, 400 mg PSA, 400 mg GCB	100/pk	KS0-9517
1200 mg $MgSO_4$, 400 mg PSA	100/pk	KS0-9515

roQ Extraction Salt Packets

Salt packets only. Centrifuge tubes not included.

Ordering Information

Description	Unit	Part No.
AOAC 2007.01 Method Extraction Packets		
6.0 g $MgSO_4$, 1.5 g NaOAc	50/pk	AH0-9043
EN 15662 Method Extraction Packets		
4.0 g $MgSO_4$, 1.0 g NaCl, 1.0 g SCTD, 0.5 g SCDS	50/pk	AH0-9041
Original Non-Buffered Method Extraction Packets		
4.0 g $MgSO_4$, 1.0 g NaCl	50/pk	AH0-9042
6.0 g $MgSO_4$, 1.5 g NaCl	50/pk	AH0-9044

Bulk roQ QuEChERS Sorbents

Ordering Information

Phase	10 g	100 g
C18-E	—	04G-4348
GCB (Graphitized Carbon Black)	04D-4615	04G-4615
PSA	—	04G-4610

We're here to help!
Speak with your Sample Preparation Specialist

For Additional Food Resources Visit:
www.phenomenex.com/food

www.phenomenex.com/roQ

- Applications
- Technical Notes
- Webinars
- And More

Novum Simplified Liquid Extraction (SLE)

Patent Pending

Faster, Easier, and More Reliable than Liquid-Liquid Extraction

- **Avoid inferior results due to emulsions**
- **Eliminate interferences from your samples**
- **Increase throughput with automatable formats**

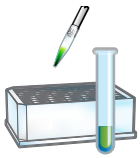
2015 R&D 100 WINNER
2015 R&D 100 Award Recipient

A Simplified Liquid Extraction

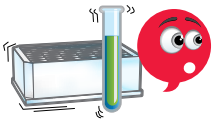
Novum SLE will instantly increase your throughput by eliminating time consuming steps and reducing the risk of analyte loss. If further time savings are necessary, Novum SLE can be easily automated for rapid, hands free sample cleanup.

Slow and Laborious

1. Dilute sample 1:1 with buffer or water and add extraction solvent

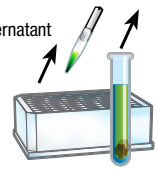


2. Mix for 10 minutes



3. Centrifuge for 10 minutes

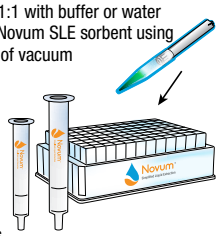
4. Pour off or freeze supernatant



Traditional Liquid-Liquid Extraction[1]
Estimated Time Required
= **25 minutes**

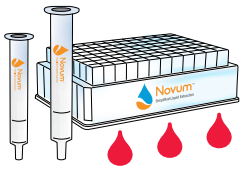
Fast and Easy

1. Dilute sample 1:1 with buffer or water and load onto Novum SLE sorbent using 2–15 seconds of vacuum



2. Wait 5 minutes

3. Apply elution solvent and allow to elute via gravity. Complete elution with 10 seconds of vacuum.



Novum Simplified Liquid Extraction (SLE)
Estimated Time Required
= **<15 minutes**

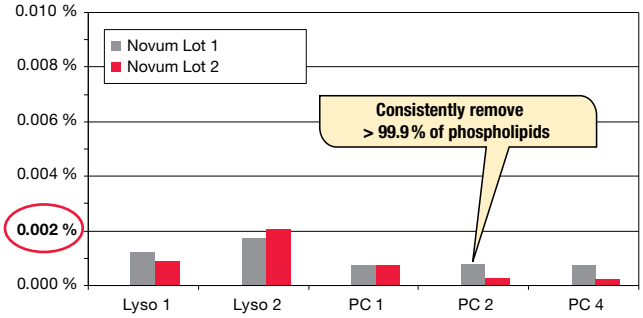
- **Rapid, automatable method for high-throughput cleanup**
- **Stop worrying about analyte loss due to emulsions**

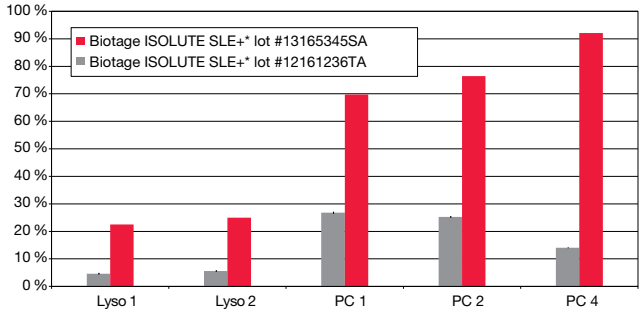
1. Russell Grant, Matthew Crawford, Brian Rappold, and Stacy Dee. Errors in Bioanalysis Due to Phospholipids – Definitive Measurement, Mechanism, and Management. ASMS 2011.

Consistent Cleanup from Lot-to-Lot

As a unique, synthetic SLE sorbent you can expect Novum to provide reliable, more consistent cleanup from lot-to-lot as compared to traditional diatomaceous earth SLE.

Lot-to-Lot Phospholipid Breakthrough: Novum SLE vs. Biotage® ISOLUTE® SLE





Lyso 1: 1-Palmitoyl-2-OH-sn-glycero-phosphocholine (m/z 496-184)
Lyso 2: 1-Oleoyl-2-OH-sn-glycero-phosphocholine (m/z 522-184)
PC 1: 1-Palmitoyl-2-Oleoyl-sn-glycero-phosphocholine (m/z 761-184)
PC 2: 1-Stearoyl-2-Lindoleoyl-sn-glycero-phosphocholine (m/z 787-184)
PC 4: 1-Oleoyl-2-Lindoleoyl-sn-glycero-phosphocholine (m/z 784-184)

Plasma extractions were performed using 200 µL plates and ethyl acetate as an elution solvent. The recommended protocol provided with each product was followed. Comparative separations may not be representative of all applications.

*Phenomenex is in no way affiliated with Biotage.

For buffer and elution solvent recommendations, technical notes, demonstration videos, and more, visit: www.phenomenex.com/Novum

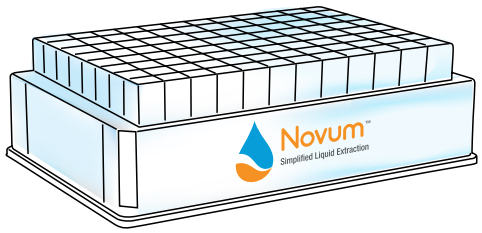
Get Down to the Lowest Extraction Levels with Novum PRO SLE

Offers the same reliable synthetic sorbent as Novum with additional clean manufacturing steps to reach low levels of detection for sensitive MS applications, with the same quality reproducibility for high-throughput samples. Novum PRO SLE offers many advantages to what is currently on the market with a synthetic sorbent ideal for more reproducible extractions and consistent holding capacity.

- **API 6500+ fit for purpose testing to ensure clean baseline with each batch**
- **Available in both MINI and MAX 96-well plate formats for high-throughput applications**

Low Level Detection

- **Applications that require low levels of detection and sensitivity can now be met by Novum PRO SLE**



Novum PRO SLE Protocol

Pretreatment: 200 µL spiked plasma and 200 µL 50 mM Sodium phosphate buffer, pH unadjusted

Load: Pretreated sample onto Novum PRO MAX SLE (8E-S539-5GA), wait 5 minutes

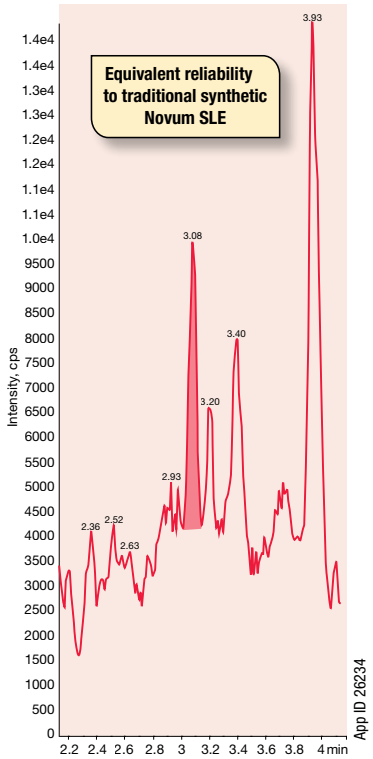
Elute: 2x 900 µL Hexane/Ethyl acetate (1:3)

Dry: Down under Nitrogen

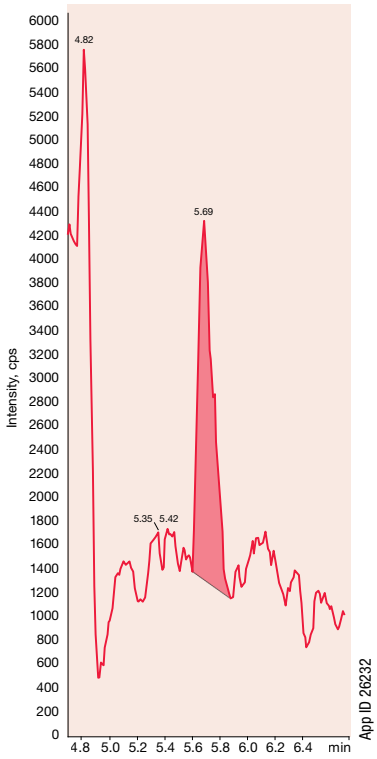
Reconstitute: 50 µL Dansyl chloride/Sodium bicarbonate (1:1), incubate at 60 °C for 10 minutes

For more applications and information about Novum PRO SLE, visit **www.phenomenex.com/NovumPRO**

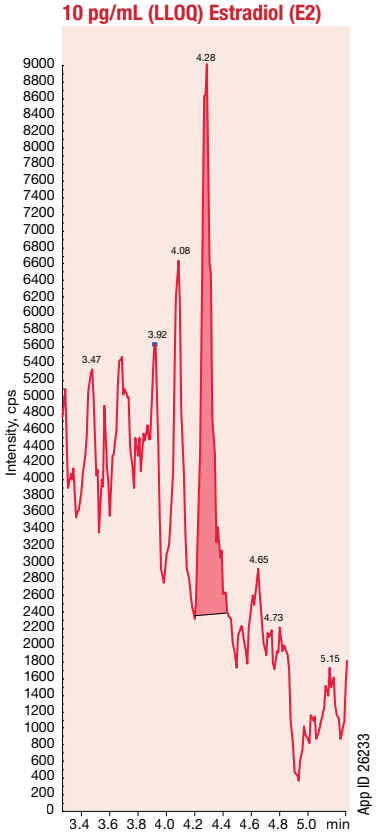
5 pg/mL (LLOQ) Estriol (E3)



10 pg/mL (LLOQ) Estrone (E1)



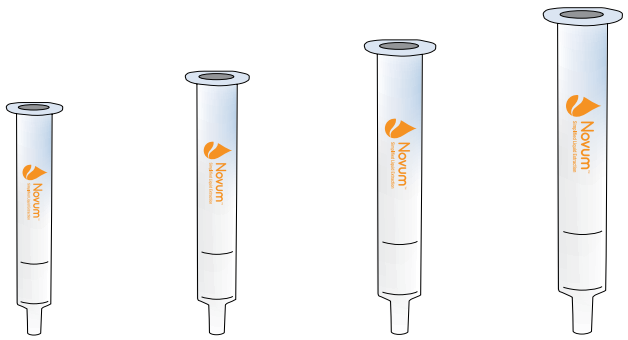
10 pg/mL (LLOQ) Estradiol (E2)



A Variety of Formats to Fit Your Sample and Throughput Requirements

Tubes

Process samples as small as 200 µL or as large as 2 mL using Novum SLE tubes. Ideal for all types of applications including bioanalytical, food safety, and environmental.

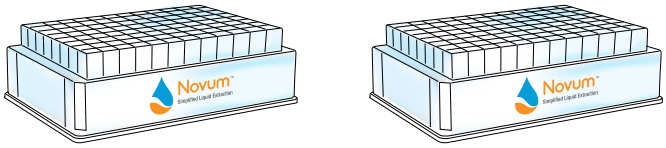


Ordering Information

Novum Simplified Liquid Extraction (SLE) Tubes				
Novum SLE Tubes	1 cc	3 cc	6 cc	12 cc
Maximum Sample Volume (after dilution)	200 µL	400 µL	1 mL	2 mL
Recommended Elution Volume	2x 600 µL	2x 900 µL	2x 2.5 mL	2x 5 mL
Part No.	8B-S138-FAK	8B-S138-5BJ	8B-S138-JCH	8B-S138-KDG
Unit	100/pk	50/pk	30/pk	20/pk

96-Well Plates

Process 96 samples at once in an easily automatable 96-well plate. Perfect for high-throughput applications.



Ordering Information

Novum Simplified Liquid Extraction (SLE) 96-Well Plates				
	Novum		Novum PRO	
Novum SLE 96-Well Plates	MINI	MAX	PRO MINI	PRO MAX
Maximum Sample Volume (after dilution)	300 µL	400 µL	300 µL	400 µL
Recommended Elution Volume	1x 1 mL	2x 900 µL	1x 1 mL	2x 900 µL
Part No.	8E-S138-FGA	8E-S138-5GA	8E-S539-FGA	8E-S539-5GA
Unit	1/pk	1/pk	1/pk	1/pk

For more information about Phenomenex sample preparation products, visit
www.phenomenex.com/sampleprepinfo

Follow Phenomenex on Social Media

Get updates on our latest innovations, industry news, and company updates around our global offices!

A Cost Effective Supported Liquid Extraction (SLE) Solution

Quickly and easily improve your liquid-liquid extractions by following a short, automatable two step extraction process. Packed with Diatomaceous Earth, Strata DE is a great alternative to traditional SLE products such as Biotage® ISOLUTE® SLE+, Thermo HyperSep™ SLE, and Agilent® Chem Elut® SLE.

SLE Protocol

Pre-treatment:	Combine 100 µL of spiked urine, 15 µL Campbell Beta-Glucuronidase (part number: DR2102), 35 µL 100 mM Ammonium Acetate (pH 4), and 150 µL of 100 mM Ammonium Bicarbonate (pH 10).
96-Well Plates:	Strata DE 400 µL Biotage ISOLUTE SLE+ 400 µL
Part No.:	8E-S325-5GB (Strata DE)
Load:	300 µL pre-treated urine sample onto plate (apply vacuum or positive pressure to pull/push sample into sorbent if necessary)
Wait:	6 minutes
Elute:	3x 600 µL Dichloromethane/IPA (95:5)
Apply:	Vacuum or apply positive pressure at 5-10" Hg for 10 seconds
Dry:	Sample under slow stream of Nitrogen at 30 °C
Reconstitute:	100 µL 0.1% Formic Acid/Methanol (4:1) with internal standard

Recovery Values and % CVs: Strata DE vs. Biotage ISOLUTE SLE+

Analyte	Strata DE		Biotage ISOLUTE SLE+	
	% Recovery	%CV (n=8)	% Recovery	%CV (n=8)
6-MAM	98	9	88	16
Alprazolam	104	10	98	11
Benzoylecgonine	88	6	98	11
Buprenorphine	93	7	102	15
Codeine	99	12	93	9
Diazepam	107	7	104	6
Fentanyl	85	5	94	8
Hydrocodone	104	11	93	11
Hydromorphone	95	9	93	11
Lorazepam	94	8	98	8
Methamphetamine	92	16	102	8
Morphine	98	12	94	12
Norbuprenorphine	101	11	92	11
Nordiazepam	100	9	92	8
Norfentanyl	113	7	110	11
Oxycodone	97	5	93	11
PCP	90	7	98	6

A Fast Extraction of 25-OH Vitamin D_2/D_3 from Serum

Strata DE provides a simple extraction method with time and cost savings across all 3 QC levels.

SLE Protocol

Pre-treatment:	Dilute 200 µL of human serum* with 100 µL of 5% Ammonium hydroxide (w/v), add 25 µL of 25-OH Vitamin-D_3-$^2H_6$ (1 µg/mL) and mix.
96-Well Plate:	Strata DE 400 µL
Part No.:	8E-S325-5GB
Load:	Pre-treated sample and wait for 5 minutes
Elute:	Sample with 600 µL MTBE by gravity, wait for 5 minutes
Repeat:	Elution step twice by gravity, and after the final elution, apply 5-10 Hg vacuum to finish elution
Dry:	40 °C under N_2
Reconstitute:	200 µL 0.1 % Formic acid in Water/0.1 % Formic acid in Methanol (30:70)

Accuracy and Precision

	QCL	QCM	QCH
Target Conc. (ng/mL)	6	50	80
	25-OH-D_2		
Mean Conc. Found	5.92	53.0	80.8
STDV	4.09	2.21	5.55
CV%	6.90	4.18	6.86
Accuracy (%)	98.7	106	101
n	6	6	6
	25-OH-D_3		
Mean Conc. Found (ng/mL)	6.59	52.7	87.2
STDV	0.50	1.74	5.50
CV%	7.62	3.30	6.31
Accuracy (%)	110	105	109
n	6	6	6

* Double Charcoal-stripped human serum was used to prepare all standards and QCs

Comparative separation may not be representative of all applications.

Strata DE Diatomaceous Earth SLE

Strata™ DE
Supported Liquid Extraction

Available for Large Volume Samples and High-throughput Cleanups

Tubes

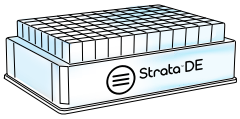
Ideal for large volume cleanups such as food and environmental applications.

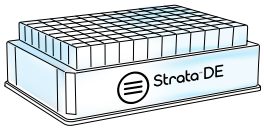
Ordering Information

Strata DE (Diatomaceous Earth SLE Tubes)		
Strata DE Tube	2 mL Capacity, 12 cc	20 mL Capacity, 60 cc
Maximum Sample Volume (after dilution)	2 mL	17 mL
Recommended Elution Volume	2x 5 mL	3x 20 mL
Part No.	8B-S325-KDG	8B-S325-VFF
Unit	20/pk	16/pk

96-Well Plates

Ideal for smaller volume, high-throughput cleanups such as Bioanalytical samples.





Ordering Information

Strata DE (Diatomaceous Earth SLE) 96-Well Plates		
Strata DE 96-Well Plates	200 µL	400 µL
Maximum Sample Volume (after dilution)	200 µL	300 µL
Recommended Elution Volume	2x 600 µL	3x 600 µL
Part No.	8E-S325-FGB	8E-S325-5GB
Unit	2/pk	2/pk

For more information on Strata DE, visit
www.phenomenex.com/stratade

Recommended volumes are the expected loadability for most samples, however, it may be possible to load more than the stated capacity without breakthrough of the sample.

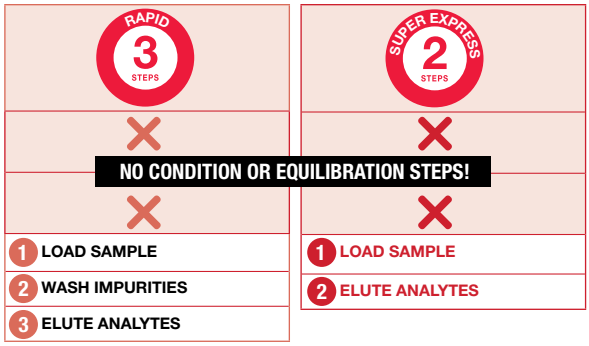
Strata-X PRO Polymeric SPE

Strata™ XPro
A Rapid Solid Phase Extraction Solution

Polymeric Sorbent with Matrix Removal Technology

Strata-X PRO works to eliminate phospholipids and harmful particulates in the sample while targeting analytes. Strata-X PRO provides high recoveries, especially for polar analytes, and less matrix effects that could result in ion suppression or enhancement when compared to traditional polymeric SPE.

- **Reversed phase polymeric sorbent designed to be water wettable**
- **Reduce protocol time by at least 40 % with 3-Step and 2-Step SPE**
- **High recoveries without conditioning or equilibration**

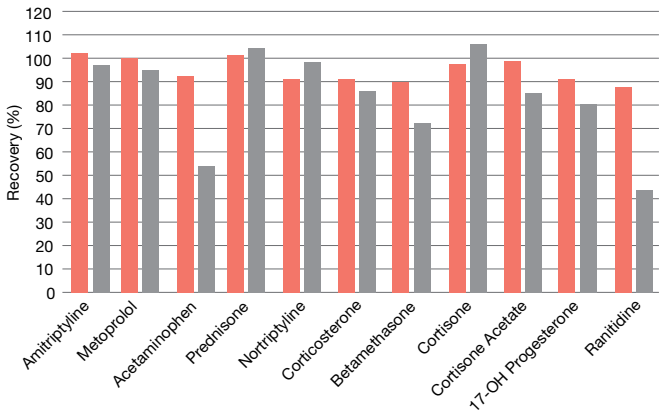


SPE Protocol

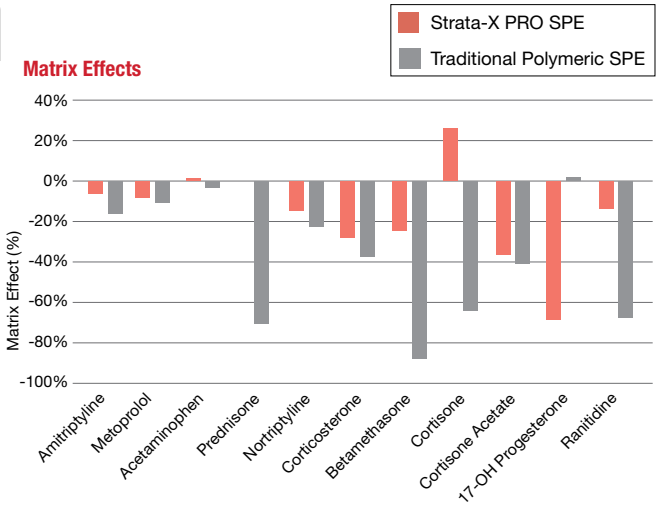
96-Well Plate: Strata-X PRO, 30 mg/well
Part No.: 8E-S536-TGA
Load: 400 µL Plasma/0.1 % Formic acid in Water (1:1)
Wash: 1 mL 5 % Methanol in Water
Dry: 1 minute at 5" Hg
Elute: 1 mL 0.1 % Formic acid in Acetonitrile/Methanol (90:10)
Dry Down: 1 minute at 5" Hg
Reconstitute: 200 µL 5 % Methanol in Water

Consistently high recoveries, with less variation between samples and less matrix effects using Strata-X PRO.

Recovery from Human Plasma



Matrix Effects



Strata-X PRO SPE

Ordering Information

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)
Giga™ Tube			
	1 g/20 mL	8B-S536-JEG	20/pk

Format	Sorbent Mass	Part Number	Unit
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

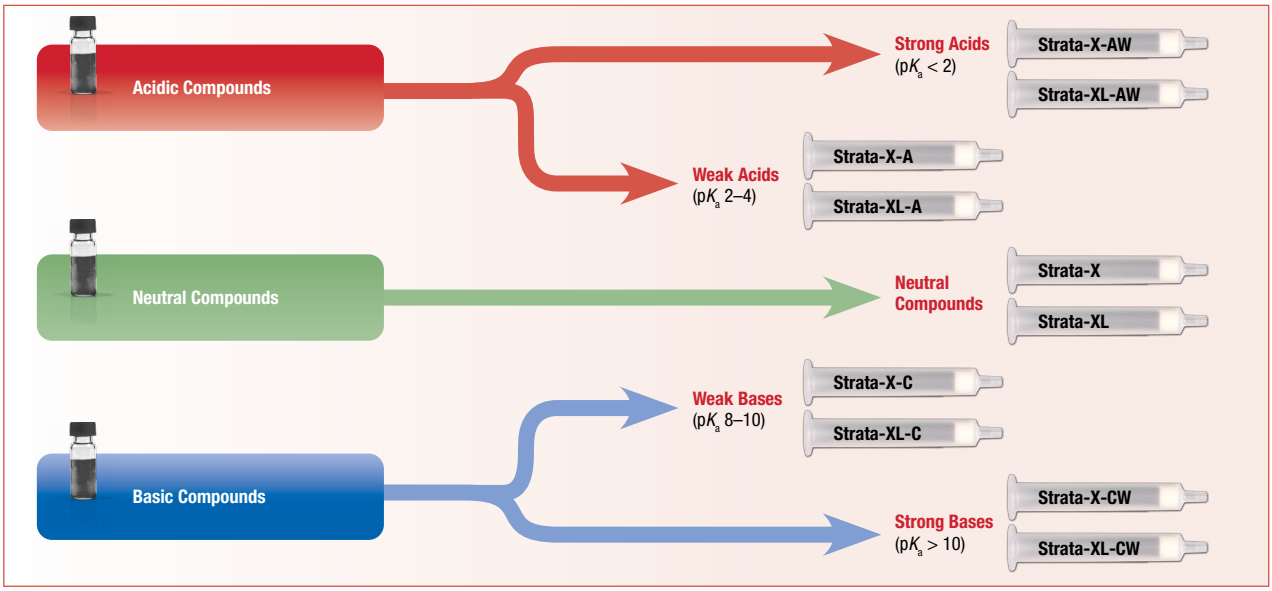
Strata-X Polymeric SPE

U.S. Patent No. 7,119,145

Strata-X

Step 1. Select a Sorbent

Compound-Directed Phase Selection



Specialty Sorbents	Application	Phase Description
Strata-X-Drug B	**Basic Drugs of Abuse**	Proprietary strong cation-exchange sorbent that eliminates the need to condition / equilibrate the sorbent. ***Now available with in-well hydrolysis capabilities**

Step 2. Select a Sorbent Mass

Loading Capacity Chart

Strata-X Phase	Plasma /Serum	Urine	Filtered Tissue Homogenates	Water (particulate-free)	Water (particulate-laden)	Mass (mg in tube)
Strata-X, X-C, X-CW, X-A, X-AW	100 µL	250 µL	10 mg	N.A.	N.A.	10 mg
	250 µL	1 mL	50 mg	N.R.	N.R.	30 mg
	500 µL	2 mL	100 mg	N.R.	N.R.	60 mg
	1 mL	4 mL	150 mg	50 mL	25 mL	100 mg
	N.A.	8 mL	300 mg	100 mL	50 mL	200 mg
	N.A.	20 mL	500 mg	500 mL	100 mL	500 mg
Strata-XL, XL-C, XL-CW, XL-A, XL-AW	50 µL	125 µL	5 mg	N.A.	N.A.	10 mg
	125 µL	500 µL	25 mg	N.R.	N.R.	30 mg
	250 µL	1 mL	50 mg	N.R.	N.R.	60 mg
	500 µL	2 mL	75 mg	25 mL	13 mL	100 mg
	N.A.	4 mL	150 mg	50 mL	25 mL	200 mg
	N.A.	10 mL	250 mg	250 mL	50 mL	500 mg

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

See the following pages for specific phase details and general extraction protocols.

General Extraction Protocols

Bases

Strata-X-C / Strata-XL-C

Strong Cation-Exchange & Reversed Phase

for Bases with pKa ≤ 10.5

Condition
1 mL Methanol
Equilibrate
1 mL Acidified Water
Load
Diluted Acidified Sample
Wash
1 mL 0.1 N HCl in water (collect this fraction to analyze Polar Neutrals)
Wash
1 mL 0.1 N HCl in Methanol (collect this fraction to analyze Neutrals/Acids)
Elute Bases
2x 500 µL 5 % NH_4OH in Methanol

Strata-X-CW / Strata-XL-CW

Weak Cation-Exchange & Reversed Phase

for Bases with pKa > 8

Condition
1 mL Methanol
Equilibrate
1 mL Water, pH 6-7
Load
Diluted Sample, pH 6-7
Wash
1 mL Water, pH 6-7
Wash
1 mL Methanol (collect this fraction to analyze Neutrals/Acids)
Elute Any Base
2x 500 µL 5 % Formic Acid in Methanol
Elute Weak Bases
2x 500 µL 5 % NH_4OH in Methanol

Neutrals

Strata-X / Strata-XL

Reversed Phase

for Neutral Compounds

Condition
1 mL Methanol
Equilibrate
1 mL Water
Load
Diluted Sample
Wash
1 mL 5-60 % Methanol
Elute
2x 500 µL 2 % Formic Acid in Methanol/Acetonitrile

Acids

Strata-X-A / Strata-XL-A

Strong Anion-Exchange & Reversed Phase

for Acids with pKa > 2

Condition
1 mL Methanol
Equilibrate
1 mL Water, pH 6-7
Load
Diluted Sample, pH 6-7
Wash
1 mL 25 mM Ammonium Acetate Buffered, pH 6-7
Wash
1 mL Methanol (collect this fraction to analyze Neutral/Bases)
Elute Acids
2x 500 µL 5 % Formic Acid in Methanol

Strata-X-AW / Strata-XL-AW

Weak Anion-Exchange & Reversed Phase

for Acids with pKa ≤ 5

Condition
1 mL Methanol
Equilibrate
1 mL Water, pH 6-7
Load
Diluted Sample, pH 6-7
Wash
1 mL 25 mM Ammonium Acetate Buffered, pH 6-7
Wash
1 mL Methanol
Elute Any Acid
2x 500 µL 5 % NH_4OH in Methanol
Elute Weak Acids
2x 500 µL 5 % Formic Acid in Methanol

*Based on 30 mg/1 mL sorbent mass.
The above is a convenient starting point for SPE method development.
Further optimization may be required to tailor the method to your specific needs.

Strata-X Polymeric SPE *(cont'd)*

U.S. Patent No. 7,119,145

Microelution SPE

Successful bioanalytical sample preparation without the dry down

- **Save 30 or more minutes per 96-well plate!**
- **At least 8x more sensitive than traditional 10 mg SPE**
- **Elution volumes as low as 25 µL**

For ordering information, go to pages 27-31.

Strata-X Microelution Method Development and Peptide Screening

Test different SPE chemistries using a single 96-well plate

Ordering Information

Strata-X Microelution Peptide Screening 96-Well Plates		
Part No.	**Description**	**Unit**
KS0-9528	Strata-X-CW 2 mg/well (6 rows) Strata-X-A 2 mg/well (6 rows)	ea

Strata-X Microelution Method Development 96-Well Plates		
Part No.	**Description**	**Unit**
KS0-9529	Strata-X-C 2 mg/well (3 rows) Strata-X-AW 2 mg/well (3 rows) Strata-X-CW 2 mg/well (3 rows) Strata-X-A 2 mg/well (3 rows)	ea

Download starting methods at:
www.phenomenex.com/microelution

A Faster SPE Solution

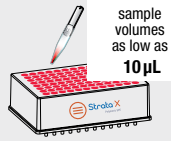
Save 30 or more minutes per 96-well plate by eliminating lengthy dry down and reconstitution steps.

Step 1 — 

Condition

Step 2 — 

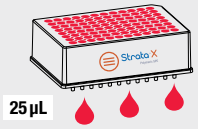
Equilibrate

Step 3 — 

Load Sample

Step 4 — 

Wash

Step 5 — 

Elute

At least 8x more sensitive than traditional 10 mg SPE!

Step 6 — NOT REQUIRED

Dry Down and Reconstitute

Save 30 or more minutes per 96-well plate! Save on labor costs, do more in less time.

Total Processing Time

30 Minutes

No Dry Down!

Throughput (in 8 hours)

DOUBLE

your throughput!*

REDUCE

Cost per Sample!*

* When compared to traditional SPE methods

Strata-X Polymeric SPE *(cont'd)*

U.S. Patent No. 7,119,145

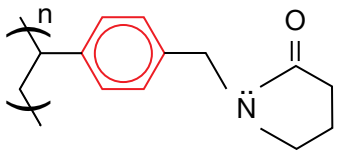
Strata-X and Strata-XL

A reversed phase functionalized polymeric sorbent that gives strong retention of neutral, acidic, or basic compounds under aggressive, high organic wash conditions.

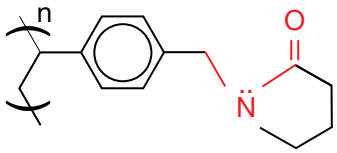
	Strata-X, 33 µm, 85 Å	Strata-XL, 100 µm, 300 Å
High Concentration Samples	X	
Large Volume Samples		X
Viscous Samples		X

3 Mechanisms of Retention

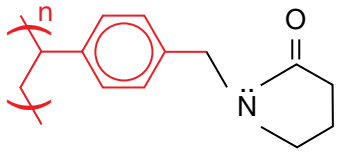
π-π Bonding



Hydrogen Bonding Dipole-Dipole Interactions



Hydrophobic Interaction



Strata-X

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	30 mg	8B-S100-TAK**	1 mL (100/box)
	30 mg	8B-S100-TBJ	3 mL (50/box)
	60 mg	8B-S100-UBJ**	3 mL (50/box)
	100 mg	8B-S100-EBJ	3 mL (50/box)
	100 mg	8B-S100-ECH	6 mL (30/box)
	200 mg	8B-S100-FBJ	3 mL (50/box)
	200 mg	8B-S100-FCH	6 mL (30/box)
	500 mg	8B-S100-HBJ	3 mL (50/box)
	500 mg	8B-S100-HCH	6 mL (30/box)
Giga™ Tube			
	500 mg	8B-S100-HDG	12 mL (20/box)
	1 g	8B-S100-JDG	12 mL (20/box)
	1 g	8B-S100-JEG	20 mL (20/box)
	2 g	8B-S100-KEG	20 mL (20/box)
	5 g	8B-S100-LFF	60 mL (16/box)
Teflon® Tube			
	200 mg	8B-S100-FBJ-T	3 mL (50/box)
	200 mg	8B-S100-FDG-T	12 mL (20/box)
96-Well Plate			
	10 mg	8E-S100-AGB	2 Plates/Box
	30 mg	8E-S100-TGB	2 Plates/Box
	60 mg	8E-S100-UGB	2 Plates/Box
96-Well Microelution Plate			
	2 mg	8M-S100-4GA	ea

On-line Extraction Cartridge

Description	Part Number	Unit/Box
Strata-X on-line extraction cartridge, 20 x 2.0 mm	00M-S033-B0-CB	ea
Cartridge holder, 20 mm	CH0-5845	ea

**Tab-less tubes available. Contact Phenomenex for details.

Strata-XL

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	30 mg	8B-S043-TAK	1 mL (100/box)
	60 mg	8B-S043-UBJ	3 mL (50/box)
	100 mg	8B-S043-EBJ	3 mL (50/box)
	200 mg	8B-S043-FBJ	3 mL (50/box)
	200 mg	8B-S043-FCH	6 mL (30/box)
	500 mg	8B-S043-HCH	6 mL (30/box)
Giga Tube			
	2 g	8B-S043-KDG	12 mL (20/box)
	2 g	8B-S043-KEG	20 mL (20/box)
	5 g	8B-S043-LEG	20 mL (20/box)
	5 g	8B-S043-LFF	60 mL (16/box)
	10 g	8B-S043-MFF	60 mL (16/box)
96-Well Plate			
	30 mg	8E-S043-TGB	2 Plates/Box

* To control flow rate with Strata-XL, use a stopcock (AH0-6048) when processing samples with a vacuum manifold.

Create a customized SPE method in under 1 minute.
www.phenomenex.com/mdtool

Strata-X Polymeric SPE *(cont'd)*

U.S. Patent No. 7,119,145

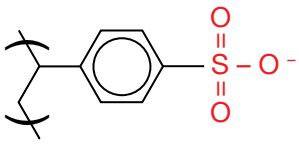
Strata-X-C and Strata-XL-C

A strong cation-exchange functionalized polymeric sorbent that allows for complete retention of basic compounds with a pK_a less than 10.5, making 100 % organic wash conditions possible.

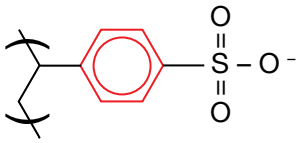
	Strata-X-C, 33 µm, 85 Å	Strata-XL-C, 100 µm, 300 Å
High Concentration Samples	X	
Large Volume Samples		X
Viscous Samples		X

3 Mechanisms of Retention

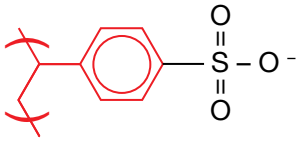
Strong Cation-Exchange



π-π Bonding



Hydrophobic Interaction



Strata-X-C

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	30 mg	8B-S029-TAK**	1 mL (100/box)
	30 mg	8B-S029-TBJ	3 mL (50/box)
	60 mg	8B-S029-UBJ**	3 mL (50/box)
	100 mg	8B-S029-EBJ	3 mL (50/box)
	100 mg	8B-S029-ECH	6 mL (30/box)
	200 mg	8B-S029-FBJ	3 mL (50/box)
	200 mg	8B-S029-FCH	6 mL (30/box)
	500 mg	8B-S029-HBJ	3 mL (50/box)
	500 mg	8B-S029-HCH	6 mL (30/box)
Giga™ Tube			
	500 mg	8B-S029-HDG	12 mL (20/box)
	1 g	8B-S029-JDG	12 mL (20/box)
	1 g	8B-S029-JEG	20 mL (20/box)
	2 g	8B-S029-KEG	20 mL (20/box)
	5 g	8B-S029-LFF	60 mL (16/box)
96-Well Plate			
	10 mg	8E-S029-AGB	2 Plates/Box
	30 mg	8E-S029-TGB	2 Plates/Box
	60 mg	8E-S029-UGB	2 Plates/Box
96-Well Microelution Plate			
	2 mg	8M-S029-4GA	ea

On-line Extraction Cartridge

Description	Part Number	Unit/Box
Strata-X-C on-line extraction cartridge, 20 x 2.0 mm	00M-S048-B0-CB	ea
Cartridge holder, 20 mm	CH0-5845	ea

Strata-XL-C

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	30 mg	8B-S044-TAK	1 mL (100/box)
	60 mg	8B-S044-UBJ	3 mL (50/box)
	100 mg	8B-S044-EBJ	3 mL (50/box)
	100 mg	8B-S044-ECH	6 mL (30/box)
	200 mg	8B-S044-FBJ	3 mL (50/box)
	200 mg	8B-S044-FCH**	6 mL (30/box)
	500 mg	8B-S044-HBJ	3 mL (50/box)
	500 mg	8B-S044-HCH	6 mL (30/box)
Giga Tube			
	2 g	8B-S044-KDG	12 mL (20/box)
	2 g	8B-S044-KEG	20 mL (20/box)
	5 g	8B-S044-LEG	20 mL (20/box)
	5 g	8B-S044-LFF	60 mL (16/box)
	10 g	8B-S044-MFF	60 mL (16/box)
96-Well Plate			
	30 mg	8E-S044-TGB	2 Plates/Box

**Tab-less tubes available. Contact Phenomenex for details.

Create a customized SPE method in under 1 minute.
www.phenomenex.com/mdtool

Strata-X Polymeric SPE *(cont'd)*

U.S. Patent No. 7,119,145

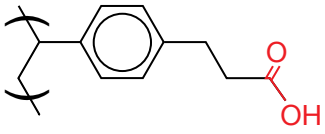
Strata-X-CW and Strata-XL-CW

A weak cation-exchange functionalized polymeric sorbent that allows for complete retention of basic compounds with a pK_a greater than 8, including quaternary amines, making 100 % organic wash conditions possible.

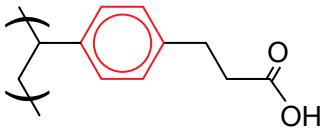
	Strata-X-CW, 33 µm, 85 Å	Strata-XL-CW, 100 µm, 300 Å
High Concentration Samples	X	
Large Volume Samples		X
Viscous Samples		X

3 Mechanisms of Retention

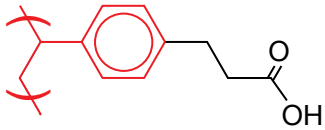
Weak Cation-Exchange



π-π Bonding



Hydrophobic Interaction



Strata-X-CW

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	30 mg	8B-S035-TAK**	1 mL (100/box)
	30 mg	8B-S035-TBJ	3 mL (50/box)
	60 mg	8B-S035-UBJ**	3 mL (50/box)
	100 mg	8B-S035-ECH	6 mL (30/box)
	200 mg	8B-S035-FBJ	3 mL (50/box)
	200 mg	8B-S035-FCH	6 mL (30/box)
	500 mg	8B-S035-HBJ	3 mL (50/box)
	500 mg	8B-S035-HCH	6 mL (30/box)
Giga™ Tube			
	1 g	8B-S035-JDG	12 mL (20/box)
	1 g	8B-S035-JEG	20 mL (20/box)
	2 g	8B-S035-KEG	20 mL (20/box)
	5 g	8B-S035-LFF	60 mL (16/box)
96-Well Plate			
	10 mg	8E-S035-AGB	2 Plates/Box
	30 mg	8E-S035-TGB	2 Plates/Box
	60 mg	8E-S035-UGB	2 Plates/Box
96-Well Microelution Plate			
	2 mg	8M-S035-4GA	ea

Strata-XL-CW

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	30 mg	8B-S052-TAK	1 mL (100/box)
	60 mg	8B-S052-UBJ	3 mL (50/box)
	100 mg	8B-S052-EBJ	3 mL (50/box)
	100 mg	8B-S052-ECH	6 mL (30/box)
	200 mg	8B-S052-FBJ	3 mL (50/box)
	200 mg	8B-S052-FCH	6 mL (30/box)
	500 mg	8B-S052-HBJ	3 mL (50/box)
	500 mg	8B-S052-HCH	6 mL (30/box)
Giga Tube			
	2 g	8B-S052-KEG	20 mL (20/box)
96-Well Plate			
	30 mg	8E-S052-TGB	2 Plates/Box

On-line Extraction Cartridge

Description	Part Number	Unit/Box
Strata-X-CW on-line extraction cartridge, 20 x 2.0 mm	00M-S036-B0-CB	ea
Cartridge holder, 20 mm	CH0-5845	ea

**Tab-less tubes available. Contact Phenomenex for details.

Create a customized SPE method in under 1 minute.
www.phenomenex.com/mdtool

Strata-X Polymeric SPE *(cont'd)*

U.S. Patent No. 7,119,145

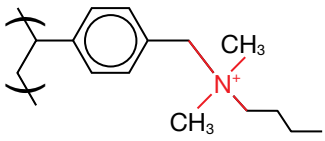
Strata-X-A and Strata-XL-A

A strong anion-exchange functionalized polymeric sorbent that allows for complete retention of weakly acidic compounds with pK_a greater than 2, making 100 % organic wash conditions possible.

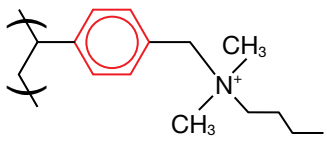
	Strata-X-A, 33 µm, 85 Å	Strata-XL-A, 100 µm, 300 Å
High Concentration Samples	X	
Large Volume Samples		X
Viscous Samples		X

3 Mechanisms of Retention

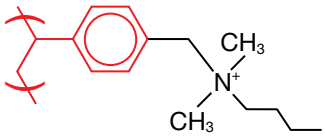
Strong Anion-Exchange



π-π Bonding



Hydrophobic Interaction



Strata-X-A

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	30 mg	8B-S123-TAK**	1 mL (100/box)
	30 mg	8B-S123-TBJ	3 mL (50/box)
	60 mg	8B-S123-UBJ	3 mL (50/box)
	100 mg	8B-S123-EBJ	3 mL (50/box)
	100 mg	8B-S123-ECH	6 mL (30/box)
	200 mg	8B-S123-FBJ	3 mL (50/box)
	200 mg	8B-S123-FCH	6 mL (30/box)
	500 mg	8B-S123-HBJ	3 mL (50/box)
	500 mg	8B-S123-HCH	6 mL (30/box)
Giga™ Tube			
	500 mg	8B-S123-HDG	12 mL (20/box)
	1 g	8B-S123-JDG	12 mL (20/box)
	1 g	8B-S123-JEG	20 mL (20/box)
	2 g	8B-S123-KEG	20 mL (20/box)
	5 g	8B-S123-LFF	60 mL (16/box)
96-Well Plate			
	10 mg	8E-S123-AGB	2 Plates/Box
	30 mg	8E-S123-TGB	2 Plates/Box
	60 mg	8E-S123-UGB	2 Plates/Box
96-Well Microelution Plate			
	2 mg	8M-S123-4GA	ea

Strata-XL-A

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	30 mg	8B-S053-TAK	1 mL (100/box)
	60 mg	8B-S053-UBJ	3 mL (50/box)
	100 mg	8B-S053-EBJ	3 mL (50/box)
	100 mg	8B-S053-ECH	6 mL (30/box)
	200 mg	8B-S053-FBJ	3 mL (50/box)
	200 mg	8B-S053-FCH	6 mL (30/box)
	500 mg	8B-S053-HCH	6 mL (30/box)
Giga Tube			
	2 g	8B-S053-KEG	20 mL (20/box)
	5 g	8B-S053-LFF	60 mL (16/box)
	10 g	8B-S053-MFF	60 mL (16/box)
96-Well Plate			
	30 mg	8E-S053-TGB	2 Plates/Box

**Tab-less tubes available. Contact Phenomenex for details.

Create a customized SPE method in under 1 minute.
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Strata-X Polymeric SPE *(cont'd)*

U.S. Patent No. 7,119,145

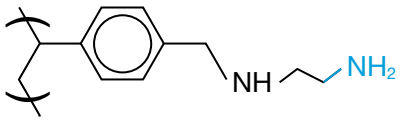
Strata-X-AW and Strata-XL-AW

A weak anion-exchange functionalized polymeric sorbent that allows for complete retention of acidic compounds with pK_a less than 5, making 100 % organic wash conditions possible.

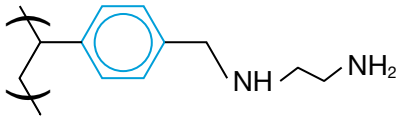
	Strata-X-AW, 33 µm, 85 Å	Strata-XL-AW, 100 µm, 300 Å
High Concentration Samples	X	
Large Volume Samples		X
Viscous Samples		X

3 Mechanisms of Retention

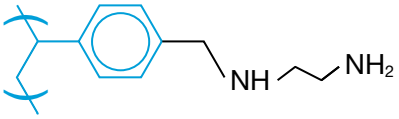
Weak Anion-Exchange



π-π Bonding



Hydrophobic Interaction



Strata-X-AW

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	30 mg	8B-S038-TAK**	1 mL (100/box)
	30 mg	8B-S038-TBJ	3 mL (50/box)
	60 mg	8B-S038-UBJ	3 mL (50/box)
	100 mg	8B-S038-EBJ	3 mL (50/box)
	100 mg	8B-S038-ECH	6 mL (30/box)
	200 mg	8B-S038-FBJ	3 mL (50/box)
	200 mg	8B-S038-FCH	6 mL (30/box)
	500 mg	8B-S038-HBJ	3 mL (50/box)
	500 mg	8B-S038-HCH	6 mL (30/box)
Giga™ Tube			
	500 mg	8B-S038-HDG	12 mL (20/box)
	1 g	8B-S038-JDG	12 mL (20/box)
	1 g	8B-S038-JEG	20 mL (20/box)
	5 g	8B-S038-LFF	60 mL (16/box)
96-Well Plate			
	10 mg	8E-S038-AGB	2 Plates/Box
	30 mg	8E-S038-TGB	2 Plates/Box
	60 mg	8E-S038-UGB	2 Plates/Box
96-Well Microelution Plate			
	2 mg	8M-S038-4GA	ea

Strata-XL-AW

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	30 mg	8B-S051-TAK	1 mL (100/box)
	60 mg	8B-S051-UBJ	3 mL (50/box)
	100 mg	8B-S051-EBJ	3 mL (50/box)
	100 mg	8B-S051-ECH	6 mL (30/box)
	200 mg	8B-S051-FBJ	3 mL (50/box)
	200 mg	8B-S051-FCH	6 mL (30/box)
	500 mg	8B-S051-HCH	6 mL (30/box)
Giga Tube			
	2 g	8B-S051-KEG	20 mL (20/box)

On-line Extraction Cartridge

Description	Part Number	Unit/Box
Strata-X-AW on-line extraction cartridge, 20 x 2.0 mm	00M-S038-B0-CB	ea
Cartridge holder, 20 mm	CH0-5845	ea

**Tab-less tubes available. Contact Phenomenex for details.

Create a customized SPE method in under 1 minute.
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Strata-X Polymeric SPE *(cont'd)*

U.S. Patent No. 7,119,145

Strata-X-Drug B

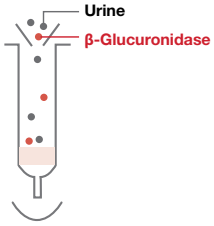
Proprietary sorbents that are designed and quality controlled for basic and drugs of abuse analysis. These sorbents do not require a conditioning/equilibrating step.

Now In-Well Hydrolysis Capabilities!

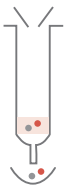
Strata-X-Drug B Plus Protocol

Pre-treatment

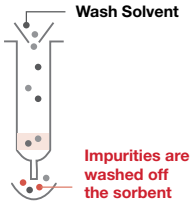
Load
urine and β-Glucuronidase enzyme to start incubation. Wait 30 min - 3 hours.



1 INITIATE VACUUM
to start SPE method. Ensure pH is between 4 - 6.



2 WASH



3 ELUTE ANALYTE

Strata-X-Drug B Starting Methods

	1	2	3
	Opiates, 6-MAM, PCP, Amphetamines, Methadone, Healthcare Opiates, and Propoxyphene*	Marijuana Metabolites	Cocaine Metabolites
Condition	Not Required		
Load	Pre-treated urine sample	Pre-treated urine sample	Pre-treated urine sample
Wash 1	600 µL of 100 mM Sodium acetate buffer (pH 5.0)	600 µL of 100 mM Sodium acetate buffer (pH 5.0)	600 µL of 0.1 N Hydrochloric acid
Wash 2	600 µL Methanol	600 µL of Acetonitrile/100 mM Sodium acetate buffer (pH 5.0) (30:70)	600 µL Methanol
Dry	10 minutes under full vacuum	15 minutes under full vacuum	10 minutes under full vacuum
Elute	2x 300 µL of Ethyl acetate/ Isopropanol/ Ammonium hydroxide (70:20:10)	2x 300 µL of Ethyl acetate/Isopropanol (85:15)	2x 300 µL of Ethyl acetate/Isopropanol/ Ammonium hydroxide (70:20:10)

* Opiates, 6-MAM, PCP, Amphetamines, Methadone, Healthcare Opiates, and Propoxyphene can be extracted simultaneously or separately using the same SPE methodology.

Methods are written for 30 mg/well Strata-X-Drug B 96-well plate; however they can be scaled to accommodate smaller or larger sample sizes and sorbent masses.

Strata-X-Drug B
Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	10 mg	8B-S128-AAK	1 mL (100/box)
	30 mg	8B-S128-TAK	1 mL (100/box)
	30 mg	8B-S128-TBJ	3 mL (50/box)
	60 mg	8B-S128-UBJ	3 mL (50/box)
	60 mg	8B-S128-UCH	6 mL (30/box)
	60 mg	8B-S128-UCL	6 mL (200/bag)
Giga™ Tube			
	100 mg	8B-S128-EDG	12 mL (20/box)
96-Well Plate			
	10 mg	8E-S128-AGB	2 Plates/box
	30 mg	8E-S128-TGB	2 Plates/box
	60 mg	8E-S128-UGB	2 Plates/box

Strata-X-Drug B Plus
Ordering Information

Format	Sorbent Mass	Part Number	Unit
96-Well Plate			
	10 mg	8E-S128-AGB-P	2 Plates/box
	30 mg	8E-S128-TGB-P	2 Plates/box

Need help with method development or selecting a Solid Phase Extraction sorbent? Chat with our live technical experts 24/7.
www.phenomenex.com/chat

Strata™ Solid Phase Extraction

Strata Traditional Solid Phase Extraction (SPE) Sorbents

Material Characteristics

Phase	Particle Size (µm)	Pore Size (Å)	Surface Area (m^2/g)	Carbon Load (%)	Bonding	End Capping	Ionic Capacity (meq/g)
Reversed Phase							
C18-E	55	70	500	18.0	trifunctional	Yes	—
C18-U	55	70	500	17.0	trifunctional	No	—
C18-T	55	140	300	15.0	trifunctional	Yes	—
C8	55	70	500	10.5	trifunctional	Yes	—
Phenyl	55	70	500	10.5	trifunctional	Yes	—
Normal Phase							
CN	55	70	500	10.0	trifunctional	No	—
NH_2	50	60	490	6.5	trifunctional	No	1.3
Silica (Si-1)	60	70	490	0.0	—	—	—
Ion-Exchange							
SCX	60	70	500	6.0	trifunctional	No	0.2
WCX	55	70	500	8.0	trifunctional	No	0.8
SAX	55	70	500	6.5	trifunctional	No	0.9
Mixed-Mode							
Screen-C	55	70	500	proprietary	trifunctional	—	—
Screen-A	55	70	500	proprietary	trifunctional	—	—
ABW	55	70	500	7.0	—	—	—
Specialty							
FL (Florisil®)	170	80	300	0.0	—	—	—
EPH (Extractable Petroleum Hydrocarbon)	120	30	proprietary	0.0	—	—	—
AL-N (Alumina-Neutral)	120	60	165	—	—	—	—
SDB-L	100	260	500	—	—	—	—
Eco-Screen	proprietary	proprietary	proprietary	—	—	—	—
PAH	proprietary	proprietary	proprietary	proprietary	—	—	—
GCB (Graphitized Carbon Black)	proprietary	proprietary	70-100	proprietary	proprietary	proprietary	proprietary
PFAS (WAX/GCB)	proprietary	proprietary	proprietary	proprietary	proprietary	proprietary	proprietary
Activated Carbon	proprietary	proprietary	proprietary	proprietary	proprietary	proprietary	proprietary

Determine the Correct Sorbent Mass

Silica-Based Sorbents (Strata C18-E, C8, SCX, SAX, WCX, NH_2, etc.)	
Sample Matrix	**Sorbent Mass**
Blood, serum, plasma	50 mg sorbent per 250 µL
Urine	50 mg sorbent per 500 µL
Filtered tissue homogenates	100 mg sorbent per 100 mg tissue
Environmental Samples	**Sorbent Mass**
Water (particulate-free) drinking	500 mg/100 mL - 500 mL sample
Water (particulate-laden) rivers, runoff, etc.	1 g/100 mL - 500 mL sample
Soil Extracts	1 g/100 g of soil extract

Determine the Correct Sorbent Wash and Elution Volumes

Strata™ Solid Phase Extraction Silica-Based Sorbent Mass	10 mg	50 mg	100 mg	150 mg	200 mg	500 mg	1 g	2 g	5 g	10 g
Practical Minimum Wash and Elution Volume 4 bed volumes	60 µL	300 µL	600 µL	900 µL	1.2 mL	3 mL	6 mL	12 mL	30 mL	60 mL
Recommended Wash and Elution Volume 8 bed volumes	120 µL	600 µL	1.2 mL	1.8 mL	2.4 mL	6 mL	12 mL	24 mL	60 mL	120 mL

Create a customized SPE method in under 1 minute.
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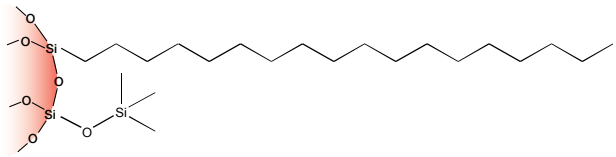
Strata™ Solid Phase Extraction

Reversed Phase Sorbents

C18-E

End-capped C18 sorbent that offers strong hydrophobic retention with negligible secondary polar interactions from active silanol groups.



Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	50 mg	8B-S001-DAK	1 mL (100/box)
	100 mg	8B-S001-EAK**	1 mL (100/box)
	100 mg	8B-S001-EBJ	3 mL (50/box)
	200 mg	8B-S001-FBJ**	3 mL (50/box)
	200 mg	8B-S001-FCH	6 mL (30/box)
	500 mg	8B-S001-HBJ	3 mL (50/box)
	500 mg	8B-S001-HCH	6 mL (30/box)
	1 g	8B-S001-JEG	20 mL (20/box)
Giga™ Tube			
	500 mg	8B-S001-HDG	12 mL (20/box)
	2 g	8B-S001-KDG	12 mL (20/box)
	5 g	8B-S001-LEG	20 mL (20/box)
	10 g	8B-S001-MFF	60 mL (16/box)
	20 g	8B-S001-VFF	60 mL (16/box)
	50 g	8B-S001-YSN	150 mL (8/box)
	70 g	8B-S001-ZSN	150 mL (8/box)
96-Well Plate			
	25 mg	8E-S001-CGB	2 Plates/Box
	50 mg	8E-S001-DGB	2 Plates/Box
	100 mg	8E-S001-EGB	2 Plates/Box

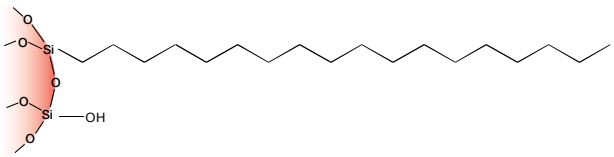
On-line Extraction Cartridge

Description	Part Number	Unit/Box
Strata C18-E on-line extraction cartridge, 20 x 2.0 mm	00M-S039-B0-CB	ea
Cartridge holder, 20 mm	CH0-5845	ea

**Tab-less tubes available. Contact Phenomenex for details.

C18-U

C18 sorbent with no end-capping, giving the phase moderate hydrophobic selectivity with slight polar selectivity due to the active silanol groups.

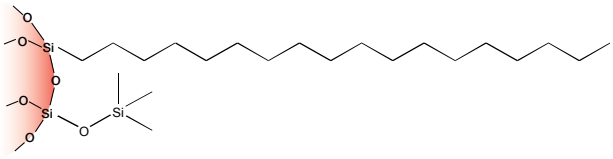


Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S002-EAK	1 mL (100/box)
	200 mg	8B-S002-FBJ	3 mL (50/box)
	500 mg	8B-S002-HBJ	3 mL (50/box)
	500 mg	8B-S002-HCH	6 mL (30/box)
	1 g	8B-S002-JCH	6 mL (30/box)
96-Well Plate			
	50 mg	8E-S002-DGB	2 Plates/Box
	100 mg	8E-S002-EGB	2 Plates/Box

C18-T

A wide-pore C18 sorbent that offers strong hydrophobic selectivity and accommodates molecules up to 75 kD in size.



Ordering Information

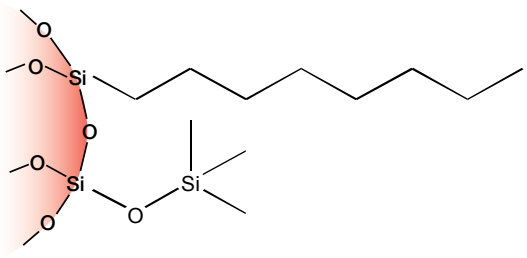
Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S004-EAK	1 mL (100/box)
	200 mg	8B-S004-FBJ	3 mL (50/box)
	500 mg	8B-S004-HBJ	3 mL (50/box)
	500 mg	8B-S004-HCH	6 mL (30/box)
	1 g	8B-S004-JCH	6 mL (30/box)
96-Well Plate			
	50 mg	8E-S004-DGB	2 Plates/Box

Strata™ Solid Phase Extraction

Reversed Phase Sorbents

C8

An end-capped C8 sorbent that offers moderate hydrophobic retention with negligible secondary polar interactions from active silanol groups.



Ordering Information

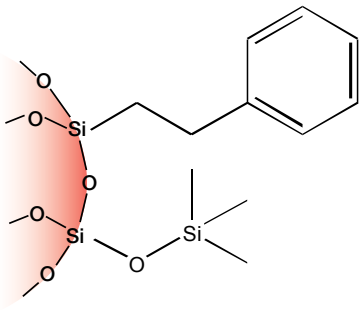
Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S005-EAK	1 mL (100/box)
	200 mg	8B-S005-FBJ	3 mL (50/box)
	500 mg	8B-S005-HBJ	3 mL (50/box)
	500 mg	8B-S005-HCH	6 mL (30/box)
	1 g	8B-S005-JCH	6 mL (30/box)
Giga™ Tube			
	2 g	8B-S005-KDG	12 mL (20/box)
	5 g	8B-S005-LEG	20 mL (20/box)
	10 g	8B-S005-MFF	60 mL (16/box)
96-Well Plate			
	25 mg	8E-S005-CGB	2 Plates/Box

On-line Extraction Cartridge

Description	Part Number	Unit/Box
Strata C8 on-line extraction cartridge, 20 x 2.0 mm	00M-S101-B0-CB	ea
Cartridge holder, 20 mm	CH0-5845	ea

Phenyl

A short alkyl chain with a phenyl group provides moderate hydrophobic selectivity and aromatic selectivity through π-π interactions.



Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S006-EAK	1 mL (100/box)
	200 mg	8B-S006-FBJ	3 mL (50/box)
	500 mg	8B-S006-HBJ	3 mL (50/box)
	500 mg	8B-S006-HCH	6 mL (30/box)
	1 g	8B-S006-JCH	6 mL (30/box)
96-Well Plate			
	25 mg	8E-S006-CGB	2 Plates/Box
	100 mg	8E-S006-EGB	2 Plates/Box

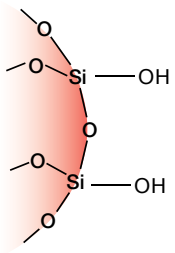
Don't see the size or format you want? Contact Phenomenex or your local distributor for other dimensions, Giga tubes, bulk sorbent pricing, and part numbers.

Strata™ Solid Phase Extraction

Normal Phase Sorbents

Silica (Si-1)

Unbonded silica particle that offers strong polar selectivity.



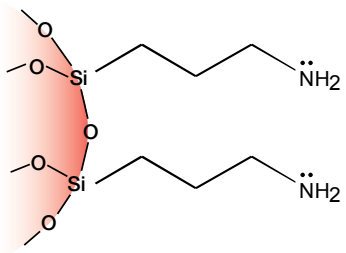
Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S012-EAK**	1 mL (100/box)
	200 mg	8B-S012-FBJ	3 mL (50/box)
	500 mg	8B-S012-HBJ**	3 mL (50/box)
	500 mg	8B-S012-HCH	6 mL (30/box)
	1 g	8B-S012-JCH**	6 mL (30/box)
Giga™ Tube			
	500 mg	8B-S012-HDG	12 mL (20/box)
	1 g	8B-S012-JDG	12 mL (20/box)
	2 g	8B-S012-KDG	12 mL (20/box)
	5 g	8B-S012-LEG	20 mL (20/box)
	10 g	8B-S012-MFF	60 mL (16/box)
	20 g	8B-S012-VFF	60 mL (16/box)
96-Well Plate			
	50 mg	8E-S012-DGB	2 Plates/Box
	100 mg	8E-S012-EGB	2 Plates/Box

**Tab-less tubes available. Contact Phenomenex for details.

NH_2/WAX

This amino phase offers strong polar selectivity and hydrogen bonding under normal phase conditions or can be used as a weak anion-exchange sorbent.

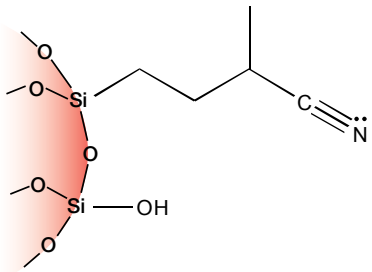


Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S009-EAK	1 mL (100/box)
	200 mg	8B-S009-FBJ	3 mL (50/box)
	500 mg	8B-S009-HBJ	3 mL (50/box)
	500 mg	8B-S009-HCH	6 mL (30/box)
	1 g	8B-S009-JCH	6 mL (30/box)
Giga Tube			
	500 mg	8B-S009-HDG	12 mL (20/box)
	2 g	8B-S009-KDG	12 mL (20/box)
	5 g	8B-S009-LEG	20 mL (20/box)
	10 g	8B-S009-MFF	60 mL (16/box)
	20 g	8B-S009-VFF	60 mL (16/box)
96-Well Plate			
	25 mg	8E-S009-CGB	2 Plates/Box
	50 mg	8E-S009-DGB	2 Plates/Box
	100 mg	8E-S009-EGB	2 Plates/Box

Cyano (CN)

A polar phase with slight hydrophobic selectivity in reversed phase mode and moderate polar selectivity in normal phase mode.



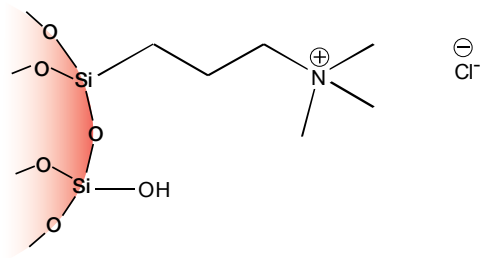
Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S007-EAK	1 mL (100/box)
	200 mg	8B-S007-FBJ	3 mL (50/box)
	500 mg	8B-S007-HBJ	3 mL (50/box)
	500 mg	8B-S007-HCH	6 mL (30/box)
	1 g	8B-S007-JCH	6 mL (30/box)
Giga Tube			
	2 g	8B-S007-KDG	12 mL (20/box)
96-Well Plate			
	50 mg	8E-S007-DGB	2 Plates/Box

Ion-Exchange Sorbents

SAX (strong anion-exchange)

The quaternary amine phase remains positively charged under all conditions, giving a strong anion-exchange mechanism of retention.

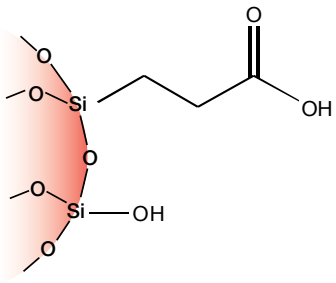


Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S008-EAK	1 mL (100/box)
	100 mg	8B-S008-EBJ	3 mL (50/box)
	200 mg	8B-S008-FBJ	3 mL (50/box)
	500 mg	8B-S008-HBJ	3 mL (50/box)
	500 mg	8B-S008-HCH	6 mL (30/box)
	1 g	8B-S008-JCH	6 mL (30/box)
Giga™ Tube			
	500 mg	8B-S008-HDG	12 mL (20/box)
	2 g	8B-S008-KDG	12 mL (20/box)
	5 g	8B-S008-LEG	20 mL (20/box)
	20 g	8B-S008-VFF	60 mL (16/box)
96-Well Plate			
	25 mg	8E-S008-CGB	2 Plates/Box
	50 mg	8E-S008-DGB	2 Plates/Box
	100 mg	8E-S008-EGB	2 Plates/Box

WCX (weak cation-exchange)

A carboxylic acid group is bonded to the surface of the silica particle, giving a weak cation-exchange selectivity.

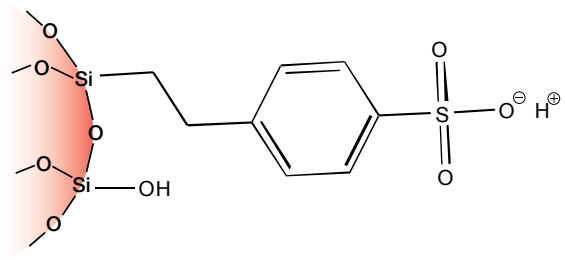


Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S027-EAK	1 mL (100/box)
	200 mg	8B-S027-FBJ	3 mL (50/box)
	500 mg	8B-S027-HBJ	3 mL (50/box)
	500 mg	8B-S027-HCH	6 mL (30/box)
	1 g	8B-S027-JCH	6 mL (30/box)
Giga Tube			
	2 g	8B-S027-KDG	12 mL (20/box)
	5 g	8B-S027-LEG	20 mL (20/box)
96-Well Plate			
	25 mg	8E-S027-CGB	2 Plates/Box
	50 mg	8E-S027-DGB	2 Plates/Box

SCX (strong cation-exchange)

A benzene sulfonic acid group is bonded to the surface of the silica particle, giving strong cation-exchange selectivity.



Ordering Information

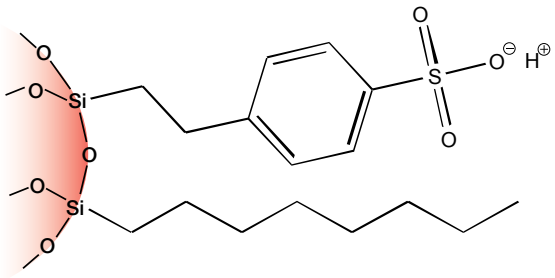
Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S010-EAK	1 mL (100/box)
	100 mg	8B-S010-EBJ	3 mL (50/box)
	200 mg	8B-S010-FBJ	3 mL (50/box)
	500 mg	8B-S010-HBJ	3 mL (50/box)
	500 mg	8B-S010-HCH	6 mL (30/box)
	1 g	8B-S010-JCH	6 mL (30/box)
Giga Tube			
	2 g	8B-S010-KDG	12 mL (20/box)
	5 g	8B-S010-LEG	20 mL (20/box)
	10 g	8B-S010-MFF	60 mL (16/box)
	20 g	8B-S010-VFF	60 mL (16/box)
96-Well Plate			
	25 mg	8E-S010-CGB	2 Plates/Box
	50 mg	8E-S010-DGB	2 Plates/Box
	100 mg	8E-S010-EGB	2 Plates/Box

Strata™ Solid Phase Extraction

Mixed-Mode Sorbents

Screen-C

Incorporates the hydrophobic selectivity of a C8 phase and strong cation-exchange for the extraction of basic drugs from biological matrixes.

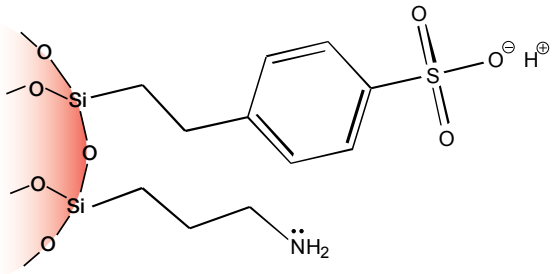


Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S016-EAK**	1 mL (100/box)
	100 mg	8B-S016-EBJ	3 mL (50/box)
	150 mg	8B-S016-SBJ	3 mL (50/box)
	150 mg	8B-S016-SCH	6 mL (30/box)
	200 mg	8B-S016-FBJ	3 mL (50/box)
	200 mg	8B-S016-FCH	6 mL (30/box)
	300 mg	8B-S016-RBJ	3 mL (50/box)
	300 mg	8B-S016-RCH	6 mL (30/box)
	500 mg	8B-S016-HCH	6 mL (30/box)
96-Well Plate			
	50 mg	8E-S016-DGB	2 Plates/Box

ABW

Offers a strong cation-exchange group and a weak anion-exchange group for the extraction or fractionation of complex mixtures.

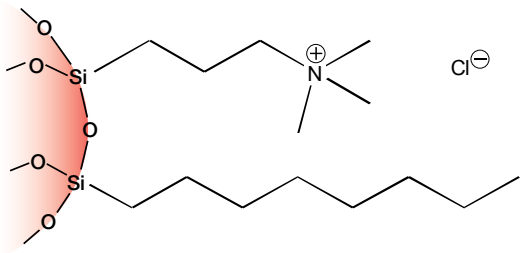


Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	200 mg	8B-S030-FBJ	3 mL (50/box)
	1 g	8B-S030-JCH	6 mL (30/box)
Giga™ Tube			
	2 g	8B-S030-KDG	12 mL (20/box)
	5 g	8B-S030-LEG	20 mL (20/box)

Screen-A

Incorporates the hydrophobic selectivity of a C8 phase and strong anion-exchange for the extraction of acidic drugs from biological matrixes.



Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	100 mg	8B-S019-EAK	1 mL (100/box)
	200 mg	8B-S019-FBJ	3 mL (50/box)
	200 mg	8B-S019-FCH	6 mL (30/box)
	500 mg	8B-S019-HCH	6 mL (30/box)

**Tab-less tubes available. Contact Phenomenex for details.

Strata™ Solid Phase Extraction

Specialty Sorbents

Alumina-N (AL-N)

A polar phase that allows for the extraction of polar compounds from food and environmental samples.

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	500 mg	8B-S313-HBJ	3 mL (50/box)
	1 g	8B-S313-JCH	6 mL (30/box)
Giga™ Tube			
	2 g	8B-S313-KDG	12 mL (20/box)

Eco-Screen

This proprietary normal phase sorbent is topped with sodium sulfate to remove any excess water and used for the extraction of hydrocarbons from environmental samples, resulting in high recoveries of naphthalene.

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	1 g	8B-S046-JBJ	3 mL (50/box)

GCB (graphitized carbon black)

This high quality non-porous graphitized carbon offers better retention of polar compounds compared to C8 or C18 silica products making it ideal for pesticide and PFAS extraction or pigment clean-up.

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	200 mg	8B-S528-FCH	6 mL (30/box)
	500 mg	8B-S528-HCH	6 mL (30/box)

Florisil® (FL-RP)

A modified silica sorbent that contains a magnesium ion, allowing for the retention of polar and halogenated compounds, like pesticides, from environmental samples.

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	500 mg	8B-S013-HBJ	3 mL (50/box)
	500 mg	8B-S013-HCH	6 mL (30/box)
	1 g	8B-S013-JCH	6 mL (30/box)
	2.5 g	8B-S013-8CH	6 mL (30/box)
Giga Tube			
	2 g	8B-S013-KDG	12 mL (20/box)
	5 g	8B-S013-LEG	20 mL (20/box)
	10 g	8B-S013-MFF	60 mL (16/box)

Activated Carbon

A high surface area fully porous sorbent that offers a better retention of polar compounds compared to C8 and C18 silica products. Designed and manufactured from high quality chromatography-grade porous carbon. Improved recovery when working with high polar analytes from aqueous matrices.

Strata AC (Activated Carbon) Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	400 mg	CS0-9210	Pass Through Cartridge (50/box)
	2 g	CS0-9209	6 mL (30/box)

PFAS (WAX/GCB or GCB/WAX)

Consists of a stacked single cartridge solution filled with polymeric WAX and GCB to meet DOD guidelines and PFAS extraction from soils and sediments. It is ideal for complex biota matrices and reduces the need for multiple extraction tubes.

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	WAX/GCB 200 mg/50 mg	CS0-9207	6 mL (30/box)
	WAX/GCB 500 mg/50 mg	CS0-9208	6 mL (200/box)
	GCB/WAX 50 mg/200 mg	CS0-9214	6 mL (30/box)
	WAX/GCB 250 mg/50 mg	CS0-9215	6 mL (200/box)
	GCB/WAX 250 mg/100 mg	CS0-9217	6 mL (30/box)
	WAX/GCB 200 mg/10 mg	CS0-9218	6 mL (30/box)
	GCB/WAX 10 mg/200 mg	CS0-9219	6 mL (30/box)
	WAX/GCB 250 mg/100 mg	CS0-9220	20 mL (20/box)
	GCB/WAX 100mg/250 mg	CS0-9221	20 mL (20/box)

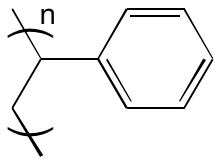
Additional Designed for PFAS part numbers available on page 41.

Strata™ Solid Phase Extraction

Specialty Sorbents

SDB-L (styrene-divinylbenzene)

A rugged polymer sorbent that is pH stable from 1-14 and offers hydrophobic and aromatic selectivity for reversed phase applications.

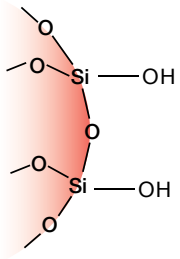


Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	50 mg	8B-S014-DAK	1 mL (100/box)
	100 mg	8B-S014-EAK	1 mL (100/box)
	200 mg	8B-S014-FBJ	3 mL (50/box)
	200 mg	8B-S014-FCH	6 mL (30/box)
	500 mg	8B-S014-HBJ	3 mL (50/box)
	500 mg	8B-S014-HCH	6 mL (30/box)
	1 g	8B-S014-JCH	6 mL (30/box)
Giga™ Tube			
	10 g	8B-S014-MFF	60 mL (16/box)
96-Well Plate			
	50 mg	8E-S014-DGB	2 Plates/Box

EPH (Extractable Petroleum Hydrocarbons)

This specialty normal phase sorbent was developed for the fractionation of aliphatic and aromatic hydrocarbons from environmental samples.



Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	500 mg	8B-S031-HBJ	3 mL (50/box)
Giga Tube			
	5 g	8B-S031-LEG	20 mL (20/box)
Teflon® Giga Tube			
	1.5 g	8B-S031-7CH-T	6 mL (30/box)
	2.5 g	8B-S031-8CH-T	6 mL (30/box)
	5 g	8B-S031-LEG-T	20 mL (20/box)

PAH (Polycyclic Aromatic Hydrocarbons)

This proprietary sorbent was designed to provide high recoveries of polycyclic aromatic hydrocarbons from water (as specified in EPA Method 550.1) while simultaneously removing humic acids from the extract.

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	500 mg	8B-S130-HCH	6 mL (30/box)
	750 mg	8B-S130-WCH	6 mL (30/box)
	1.5 g	8B-S130-7CH	6 mL (30/box)

Sodium Sulfate

A specialized sorbent that is used for the removal of aqueous residues from organic solutions in an effort to reduce blow-down time.

Ordering Information

Format	Sorbent Mass	Part Number	Unit
Tube			
	1 g	8B-S124-JCH	6 mL (30/box)
Giga Tube			
	5 g	8B-S124-LEG	20 mL (20/box)

Don't see the size or format you want? Contact Phenomenex or your local distributor for other dimensions, Giga tubes, and bulk sorbent pricing and part numbers.

NEW!

Designed for PFAS

Complete Product Portfolio

- PFAS QC tested SPE media
- Sub-components verified for the absence of PFAS
- High reproducibility
- Low background contamination

Designed for PFAS Product	Description	Part No.	Feature
	Strata™-X-AW 33 µm Polymeric Weak Anion-PFAS 200 mg/6 mL	8B-S541-FCH	Cartridges for reproducible extraction of PFAS from water, soils, and sediment matrices with 2x gains in productivity.
	Strata-X-AW 33 µm Polymeric Weak Anion-PFAS 150 mg/6 mL	8B-S541-SCH	
	Strata-X-AW 33 µm Polymeric Weak Anion-PFAS 500 mg/6 mL	8B-S541-HCH	
	Strata-X-AW 33 µm Polymeric Weak Anion-PFAS 250mg/20mL	8B-S541-FEG	
	Strata PFAS (WAX/GCB) 200 mg/50 mg/6 mL	CS0-9207	Strata PFAS is a stacked solid phase extraction cartridge for EPA method 1633 and DOD QSM 5.1/5.3 applications.
	Strata PFAS (WAX/GCB) 500 mg/50 mg/6 mL	CS0-9208	
	Strata PFAS (WAX/GCB) 250 mg/50 mg/6 mL	CS0-9215	
	Strata PFAS (GCB/WAX) 50 mg/200 mg/6 mL	CS0-9214	
	Strata PFAS (GCB/WAX) 250 mg/100 mg/6 mL	CS0-9217	Reliable SPE with 2x gains in productivity.
	Strata PFAS (WAX/GCB) 200mg/10mg/6mL	CS0-9218	Reproducible extraction.
	Strata PFAS (GCB/WAX) 10mg/200mg/6mL	CS0-9219	Reduced need for multiple tubes, transfer steps, and wasted time.
	Strata PFAS (WAX/GCB) 250mg/100mg/20 mL	CS0-9220	
	Strata PFAS (GCB/WAX) 100mg/250mg/20 mL	CS0-9221	
	SecurityCAP™ mobile phase safety filter for PFAS testing, 6-month capacity, 1/4 in-28 thread	AC2-0961-P	A mobile phase safety cap for PFAS applications that is easy to install and protects HPLC/ UHPLC solvents from external contaminants.
	SecurityCAP mobile phase starter kit for PFAS testing, 3-port GL45 caps and 6-month safety filter	AC2-4345-P	
	SecurityCAP mobile phase starter kit for PFAS testing, 2-port GL45 caps and 6-month safety filter	AC2-4245-P	
	Verex™ 9 mm Black PP cap, preslit w/ blue silicone/clear PP liner	AR0-89P7-12 AR0-89P7-13	Verex caps and vials prevent sample loss and sample contamination.
	Verex 9 mm Black PP cap, nonslit w/ blue silicone/clear PP liner	AR0-89N7-12 AR0-89N7-13	
	Verex 9 mm PP vial, clear, 300 µL	AR0-39P2-13	
	Verex 9 mm PP vial, clear, 700 µL	AR0-39P1-13	
	Verex 9 mm PP vial, clear, 1.7 mL	AR0-39P0-13	
	Verex 9 mm PP vial, clear, 300 µL 100/pk	AR0-39P2-12	
	Verex 9 mm PP vial, clear, 700 µL 100/pk	AR0-39P1-12	
	Verex 9 mm PP vial, clear, 1.7 mL 100/pk	AR0-39P0-12	

To learn more, visit www.phenomenex.com/PFAS

Optimized Oligo Purification and Analysis

- **RPC, HPLC, prep LC, desalting, and solid phase extraction (SPE) solutions**
- **DNA, RNA/RNAi, longmers, dye-labeled, and modified oligonucleotides**
- **High efficiency LC-MS protocols for characterization/QC**
- **Personalized technical support and customer service**

Each product in the Clarity BioSolutions portfolio has been designed to effectively purify or characterize synthetic oligonucleotides used in biological research, therapeutic development and biochemical manufacturing. Purification solutions include reversed phase HPLC (RP-HPLC), ion-exchange LC (IEX-LC), reversed phase cartridge (RPC), and desalting, while characterization solutions include high efficiency reversed phase (RP-LC-MS) columns.

Clarity BioSolutions Product Selection

Purification

	Clarity QSP™ SPE	Clarity Oligo-RP™ Columns Clarity Oligo-XT Columns	Clarity RP-Desalting™
Primary Use	High-throughput, trityl-on RPC purification	RP-HPLC purification of failure sequences from target sequences	Quick removal of salt & excess reagent
Purities	>90 %	>90 %	~70 %
Recoveries	~90 %	~70 %	~70 %
Synthesis Scale Load	Up to 50 µmol	Up to 50 µmol	Up to 1 µmol
Oligo Types	DNA, RNA/RNAi, Thioates, Dye-labeled, Modified		

Characterization / Analysis

	Clarity Oligo-RP Columns	Clarity Oligo-MS™ Columns Clarity Oligo-XT Columns	Clarity OTX™ SPE
Primary Use	RP-LC-MS analysis with optimized selectivity and sensitivity	Rapid, high efficiency RP-LC-MS analysis for QC and characterization	Extraction of oligo therapeutics from biological samples for LC-MS bioanalysis
Oligo Length	≤ 60 mer	≤ 60 mer	≤ 40 mer
Recommended Mobile Phase	TEA / HFIP	TEA/HFIP/MeOH	N/A

Material Characteristics

Clarity Products	Particle Support	Bonded Phase	Particle Shape/Size (µm)	Pore Size (Å)	Surface Area (m^2/g)
Clarity QSP SPE Products	Polymer (PSDVB)	Hydrophilic polymer coating	30, 70	500	300
Clarity Oligo-RP LC Columns	TWIN (silica, organic composite)	C18	3, 5, 10	110	375
Clarity RP-Desalting Tubes	Silica	C18	55	140	300
Clarity Oligo-MS LC Columns	Core-Shell	C18	1.7, 2.6, 5	100	200* (*effective)
Clarity OTX SPE Products	Polymer (surface modified PSDVB)	Mixed-mode anion exchanger	33	85	800
Clarity Oligo-XT LC Columns	Core-Shell	C18	1.7, 2.6, 5	100	200

U.S. Patent No. 7,119,145

Clarity OTX™ Extraction Kits

Rapid Isolation of Oligo Therapeutics from Biological Samples

- **> 80 % typical extraction recoveries**
- **No liquid-liquid extraction (LLE) required**
- **Suitable for a majority of therapeutic oligos, tissues, and fluids**
- **Optimized for LC-MS bioanalysis**
- **Can be automated for high-throughput**

Effective Recovery

The Clarity OTX extraction solution was designed to effectively isolate a wide range of therapeutic oligonucleotides from fluids and tissues. It utilizes a mixed-mode solid phase extraction sorbent in conjunction with carefully formulated buffers to consistently deliver greater than 80 % recoveries.

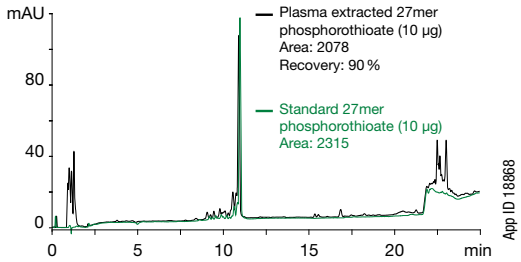
Sample Preparation:

- Add an equal volume of Lysis-Loading buffer to biological fluid matrix
- Vortex briefly

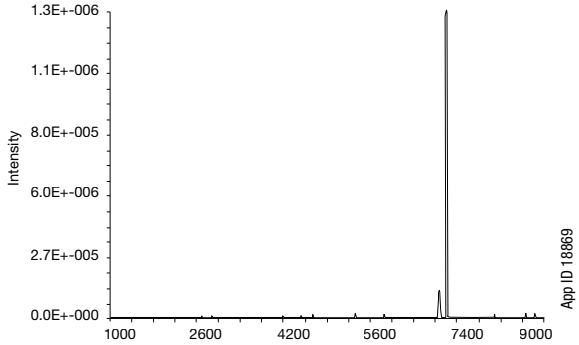
Extraction Protocol

Condition: 1 mL Methanol (Vacuum ~2" Hg)
Equilibrate: 1 mL Equilibration buffer (Vacuum ~3" Hg)
Load sample: 0.4 mL - 3 mL volume (Vacuum ~3" Hg)
Vacuum: ~10" Hg for ~10 seconds to completely evacuate solution through cartridge
Wash: 6 mL Wash buffer (2 mL x 3) (Vacuum 3-4" Hg)
Vacuum: 10-15" Hg for ~1 minute
Elute: 1 mL Elution buffer (Vacuum ~3" Hg)
LC-MS Prep: Dry down or lyophilize and reconstitute in 100 µL water or aqueous buffer

UV Recovery Data



MS Recovery Data

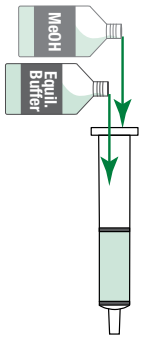


The above illustrates the recovery of a 27mer thioate from 200 µL of human plasma. The UV data shows that 90 % recovery is achieved with the Clarity OTX extraction protocol. The MS data further demonstrates that plasma contaminants are effectively removed and complete isolation and recovery of the target is achieved.

Designed for Throughput

In just 4 steps and 15 minutes, scientists can extract therapeutic oligos and their metabolites from biological samples. This is accomplished by eliminating the need for liquid-liquid extraction and providing a 96-well plate format which is amenable to parallel processing.

2010 R&D 100 Award Recipient

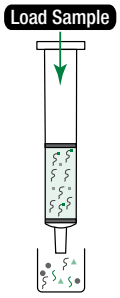


STEP 1

Preparation of SPE sorbent to selectively retain the oligo of interest and its metabolites.

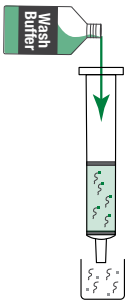
STEP 2

Salts, sugars, large proteins and genomic DNA flow through the cartridge. The oligo of interest, proteins, and lipids bind to the sorbent via a mixed-mode, weak anionic interaction.



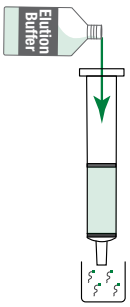
STEP 3

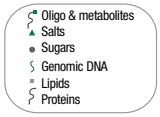
The Wash Buffer is formulated to strip off lipids and remaining proteins from the sorbent, while not disturbing the oligo therapeutics and its metabolites.



STEP 4

The addition of the Elution Buffer releases the target oligo therapeutic and its metabolites. The elution volume can be dried down or lyophilized and reconstituted prior to LC-MS anlaysis.





Clarity BioSolutions for Synthetic DNA/RNA *(cont'd)*

U.S. Patent No. 7,119,145

Clarity OTX™ *(cont'd)*

Flexible Formats

To test proof of concept or for low sample volumes, Clarity OTX is available as a starter kit, which includes either a 96-well plate or 50 solid phase extraction cartridges and all the buffers (lysis-loading, equilibration, wash, and elution) required for the extraction protocol.

For labs that must process large volumes of biological samples, 96-well plates, 1 L quantities of lysis-loading buffer, and the formulations for the other three buffers are available.

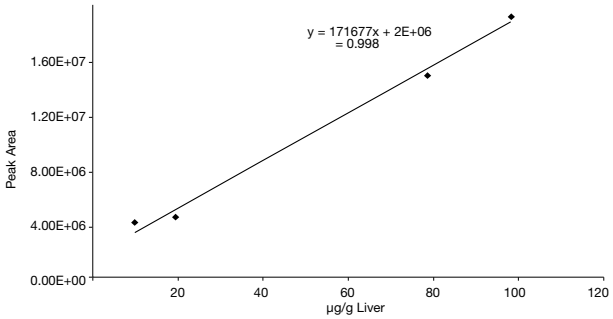
Eliminate MS Interfering Contaminants

The Clarity OTX extraction protocol effectively removes cell debris such as proteins, genomic DNA, and lipids which significantly mask the oligo therapeutics of interest. By removing these contaminants, MS noise is considerably reduced.

Excellent Linearity

Significant effort was made to develop an extraction solution that would provide good linearity and reliable quantitative results.

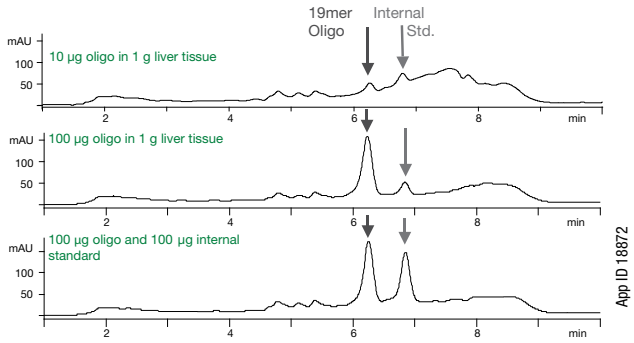
Liver Tissue Linearity Curve



From low to high ng/mL concentrations, excellent linearity is achieved on the MS by extracting oligo therapeutics and their metabolites using the Clarity OTX methodology. Linearity for a 19mer P-S oligonucleotide in 1 g of liver tissue, based on MS peak area, was evaluated at four different oligo concentrations in liver tissue from 100 µg to 10 µg. High recovery and good linearity is seen across physiological relevant concentrations for this initial study.

Detect Low Dosage Levels

Due to the typical 85 % and greater recoveries of the parent oligonucleotide therapeutic and its metabolites and the elimination of interfering compounds, detection in low sensitivity ranges is possible when using a sensitive MS.



UV chromatograms of oligonucleotide extracted from liver tissue using Clarity OTX. The 19mer extracted phosphorothioate oligonucleotide was spiked with 10 µg of an oligonucleotide internal standard before analysis. The top two chromatograms represent different levels of the incubated P-S oligo. The bottom chromatogram is an external standard of equal amounts of the 19mer oligo and internal standard. Note the high recovery of the oligonucleotide and low level of plasma contaminants from the incubated samples.

Ordering Information

Clarity OTX			
Part No.	**Description**		**Unit**
KS0-8494	Clarity OTX Starter Kit- Tubes	Includes: 100 mg/3 mL cartridges (x50) Lysis-loading buffer (100 mL) Equilibration buffer (250 mL) Wash buffer (350 mL) Elution buffer (100 mL)	ea
KS0-9253	Clarity OTX Starter Kit- 96-Well Plate	100 mg/ 96-well plate (x1) Lysis-loading buffer (100 mL) Equilibration buffer (250 mL) Wash buffer (350 mL) Elution buffer (100 mL)	ea
8M-S103-4GA	Clarity OTX Microelution Well Plate	2 mg/ well	1/box
8E-S103-CGA	Clarity OTX Well Plate	25 mg/ well	1/box
8E-S103-EGA	Clarity OTX Well Plate	100 mg/ well	1/box
8B-S103-EBJ	Clarity OTX Cartridge	100 mg/3 mL	50/box
8B-S103-HCH	Clarity OTX Cartridge	500 mg/6 mL	30/box
AL0-8579	Clarity OTX Lysis-Loading Buffer V2.0	1 L	ea

Contact your local sales representative for additional part numbers.

U.S. Patent No. 7,119,145

Clarity QSP™ Cartridges and 96-Well Plates

High-throughput, RPC Purification

- **> 90 % typical purities & recoveries for RNA & DNA**
- **For oligos 10 – 100 mer**
- **Simple 3-step process for trityl-on oligos**
- **Cost-effective solution for high purity**
- **Purification without using ion-pairing agents**

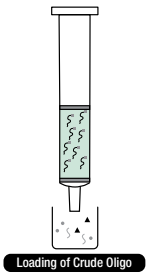
The Quick, Simple, Pure (QSP) Protocol

Following the easy, step-by-step QSP protocol anyone can deliver high purity RNA and DNA. The process includes brief sample preparation followed by 3 simple steps to isolate the oligo of interest from impurities and failure sequences. The QSP sorbent and loading buffers have been engineered to work synergistically with crude synthetic mixtures to produce greater than 90 % recoveries and purities in less than 20 minutes.

Pre-treatment: Trityl-on oligo sample preparation. Mix equal volume of loading buffer with cleavage/deprotection solution

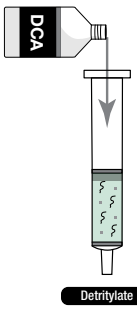
STEP 1

Load crude oligo cocktail
All trityl-off impurities flow directly through; no wash required.



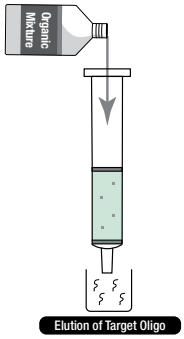
STEP 2

Detritylate
Less than 2 % depurination observed. A faint orange band will appear at top half of cartridge indicating DMT retention.



STEP 3

Elute target oligo
pH buffered solutions used to maintain safe pH for oligo; select elution buffer based on downstream requirements.



Dual-Component System

Two components, loading buffer and SPE cartridge or 96-well plate, are required for Clarity QSP purification. Various loading buffers have been formulated specifically for DNA and RNA chemistries so that one-step loading in synthetic cocktails is permissible and no ion-pairing reagents are required. Multiple SPE formats are available to suit a wide range of synthesis scales and automation requirements. 96-well plates are of a standard footprint and should fit most commercial vacuum manifolds and liquid handling robots.

2008 R&D 100 Award Recipient

Loading Buffers

- DNA: for all DNA and RNA-TOM chemistries
- RNA-TBDMS: for RNA-TBDMS and 2' modified RNA chemistries

SPE Formats

- 60 mg/ 3 mL cartridges: < 200 nmol scale
- 150 mg/ 3 mL cartridges: < 1 µmol scale
- 5 g/ 60 mL cartridges: 5 – 25 µmol scale

- 50 mg/ 96-well plate: 200 nmol scale per well

96-well plate

Negligible Depurination

Significant effort was made during the development of Clarity QSP to minimize the causes of depurination. The lower acid concentrations and limited exposure times within the protocol generate less than 2 % depurination.

Request a FREE copy of Technical Note TN-0008, Avoiding Depurination During Trityl-on Purification for more information.

U.S. Patent No. 7,119,145

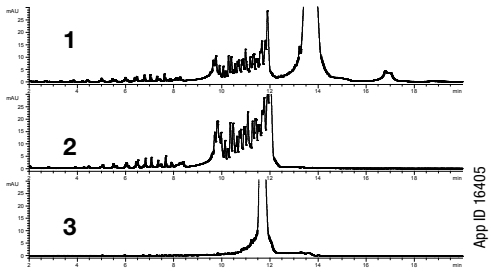
Clarity QSP™ *(cont'd)*

High Purity, High Yield DNA and RNA

Clarity QSP is a next generation trityl-on purification solution that was specifically designed to complement contemporary synthetic processes and consistently deliver high purities and recoveries for all types of synthetic DNA and RNA sequences. Complete discrimination between full-length trityl-on sequences from impurities is guaranteed. The final elution step delivers concentrated, full-length sequences in a stable media suitable for in vivo applications and downstream analysis conducive for MS, NMR, CE, and HPLC.

53nt DNA Purification

Sequence: ACAGTCGTACAGTCATATATTACTATTCAGTGTCTACTGCAGTCGTTATCTAT
Synthesis Scale: 200 nmol
Format: 50 mg / 1 mL



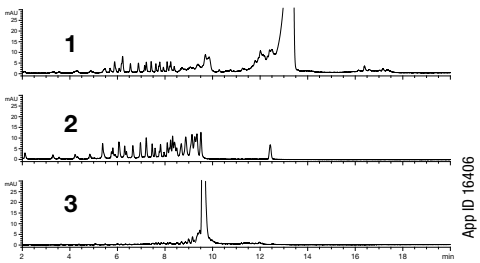
1. Crude Trityl-on
2. Load fraction
3. Detritylated final elution

OD_{260}

Crude Trityl-on	Load Fraction	Detritylated Final Elution	Recovery	Purity (Peak area)
39.7	6.51	29.6	89%	93%

High-Throughput DNA Purification

Sequence: GTGGATCTGCGCACTTCAGGCTCCTGGGCT
Synthesis Scale: 200 nmol
Format: 96-Well Plate (50 mg / well)



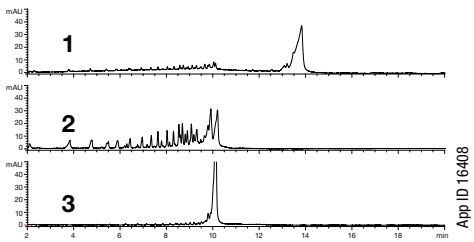
1. Crude Trityl-on
2. Load fraction
3. Detritylated final elution

OD_{260}

Crude Trityl-on	Load Fraction	Detritylated Final Elution	Recovery	Purity (Peak area)
28.3	5.3	20.8	90.3%	92%

Crude 27nt RNA Purification (TBDMS Chemistry)

Sequence: Proprietary
Synthesis Scale: 1 µmol
Format: 150 mg / 3 mL



1. Crude Trityl-on
2. Load fraction
3. Detritylated final elution

OD_{260}

Crude Trityl-on	Load Fraction	Detritylated Final Elution	Recovery	Purity (Peak area)
33.4	9.22	22.9	94%	84%

For more information on the Clarity QSP protocol, depurination, or applications, please request a copy of the Clarity QSP User's Manual.

Ordering Information

Clarity QSP Well Plate & Cartridges

Part No.	Description		Unit
Formats			
8E-S102-DGB	Clarity 30 µm QSP 96-Well Plate	50 mg/well	1/box
8B-S102-UBJ	Clarity 30 µm QSP Cartridge	60 mg/3 mL	50/box
8B-S102-SBJ	Clarity 30 µm QSP Cartridge	150 mg/3 mL	50/box
8B-S042-LFF	Clarity 70 µm QSP Cartridge	5 g/60 mL	16/box
Buffers*			
AL0-8280	Clarity QSP DNA Loading Buffer	1 L	ea
AL0-8282	Clarity QSP RNA-TBDMS Loading Buffer	1 L	ea

* RNA-TOM loading buffer available upon request

Clarity BioSolutions for Synthetic DNA/RNA *(cont'd)*

U.S. Patent No. 7,119,145

Clarity RP-Desalting™ Tubes and Well Plates

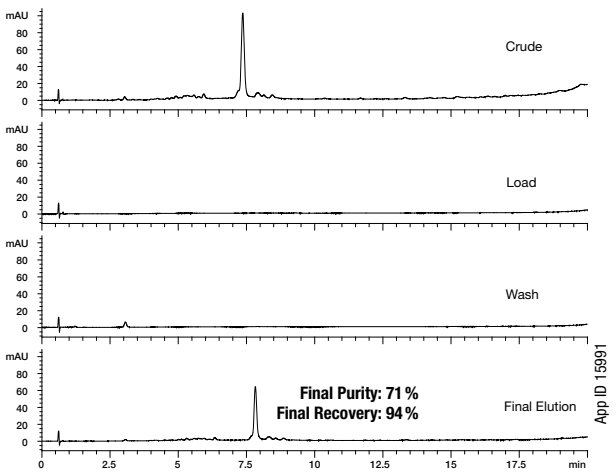
Quick, Simple Removal of Salt and Reagent

- **70 % typical purity by removing salt and excess reagent**
- **80 % typical recovery of target oligo**
- **For cleanup of trityl-off DNA and RNA sequences**
- **Removes salt prior to MS analysis**
- **Also in a high-throughput 96-well plate format**

Clarity QSP™ and Oligo-RP™ can be used to yield highly purified target oligonucleotides (> 85 % purity) from a synthesis mixture. For simple desalting and reagent removal of a trityl-off synthetic oligonucleotide, Clarity RP-Desalting tubes can be used. Clarity RP-Desalting tubes are a poly-functional silica-based C18 sorbent that provides a high capacity, fast and effective desalting process.

Desalting of Dye-Labeled DNA

Column: Clarity 3 µm Oligo-RP C18
Dimensions: 50 x 4.6 mm
Part No.: 00B-4441-E0
Mobile Phase: A: 50 mM TEAA, pH 7.5 / 5 % Acetonitrile
B: Methanol
Gradient: A/B (90:10) to A/B (40:60) in 20 min
Flow Rate: 1 mL/ min
Detection: UV @ 260 nm
Sample: 25nt DNA oligonucleotide

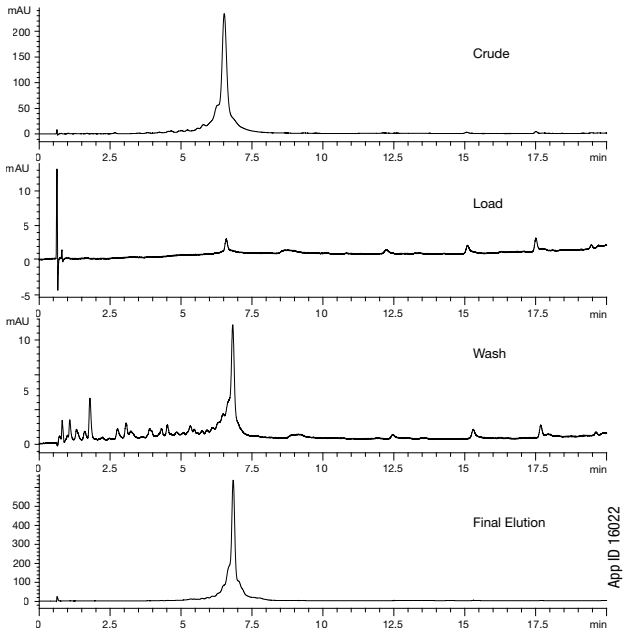


A quencher-labeled sample of DNA (25nt) with the sequence FAMTTGACTTAGACTTAGA-CTTAGTTT was desalted using Clarity RP-Desalting tubes in the 200 mg/3 mL format. Collection fractions were then analyzed for purity and recovery using the above protocol.

Crude DNA Desalting

Column: Clarity 3 µm Oligo-RP C18
Dimensions: 50 x 4.6 mm
Part No.: 00B-4441-E0
Mobile Phase: A: 50 mM TEAA / 5 % Acetonitrile
B: Methanol
Gradient: A/B (90:10) to A/B (40:60) in 20 min
Flow Rate: 1 mL/ min
Detection: UV @ 260 nm
Sample: 40nt DNA

16022



Ordering Information

Clarity RP-Desalting Tubes

Part No.	Description	Unit
8B-S041-FBJ	Clarity RP-Desalting Cartridge 200 mg/3 mL(50/box)*	ea
8B-S041-HBJ	Clarity RP-Desalting Cartridge 500 mg/3 mL(50/box)**	ea

Clarity RP-Desalting Well Plates

Part No.	Description	Unit
8E-S041-SGA	Clarity RP-Desalting 150 mg/well*	ea

** For 200 µmol synthesis*
*** For 1 µmol synthesis*

For more information on the Clarity products please contact your Phenomenex technical consultant.

Biozen MagBeads

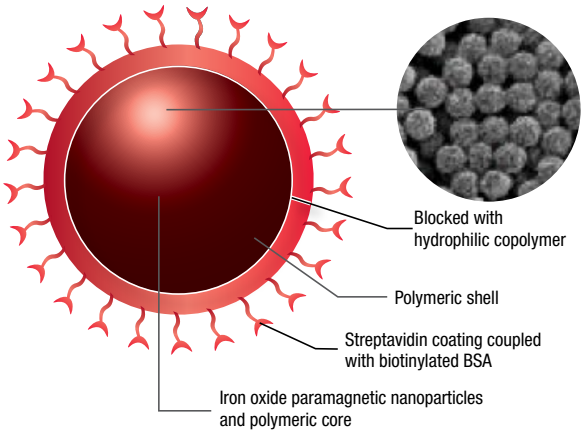
Streptavidin Coated

Uniform and efficient magnetic particles result in faster and reliable purification, clean-up, and isolation of proteins and peptide molecules.

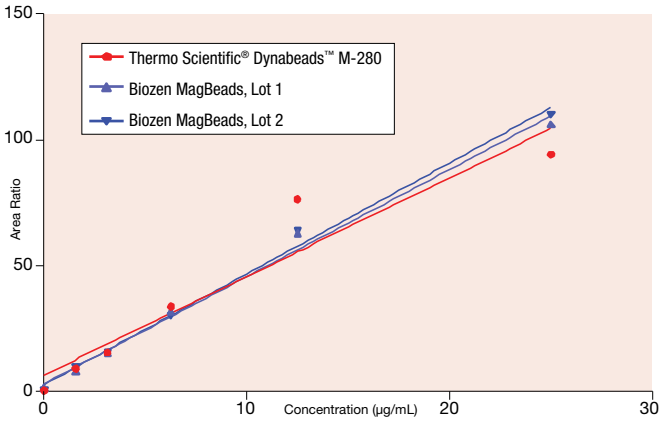
- **Excellent for binding biotinylated capture antibodies**
- **1.0 µm Streptavidin coated magnetic beads**
- **Available in 25 mg, 50 mg, and 500 mg formats**

Material Characteristics

Bead Type	Bead Diameter	Outside Coating Type	Biotin Binding Capacity	Coating Specification	Concentration	Available Formats
Iron coated	1 µm	Streptavidin	> 200 pmol Biotin/mg	Tosyl-activated, blocked with hydrophilic copolymer	20 mg/mL	25 mg, 50 mg, 500 mg



Area Ratio, Rituximab



Immunocapture Bead	Correlation Coefficient
M-280	0.9176
Biozen MagBeads, Lot 1	0.9914
Biozen MagBeads, Lot 2	0.9941

Ordering Information

Product	Coating	Formats	Part No.	Concentration	Bead Size
Biozen MagBeads	Streptavidin	25 mg (1.25 mL) 50 mg (2.5 mL) 500 mg (25 mL)	KS0-9531 KS0-9532 KS0-9533	20 mg/mL	0.95-1.15 µm

Learn More:
www.phenomenex.com/BiozenMagBeads

N-Glycan Clean-Up

HILIC Solid Phase Extraction (SPE)

High recovery of labeled released N-glycans in a microelution format allowing for streamlined processing and clean-up of small sample volumes.

Ordering Information

Biozen Solid Phase Extraction	Format	Sorbent Mass	Part No.	Unit
Biozen N-Glycan Clean-Up	Microelution 96-Well Plate	5 mg/well	8M-S009-NGA	1/box

Sepra Bulk Sample Preparation Sorbents

- **Provides reproducible recoveries from capture to purification**
- **Removes contaminants and eliminates matrix effects**
- **Offers controlled selectivity for target analytes**
- **Results in high-throughput sample purification**

Phenomenex offers a wide mix of bulk media including an array of large particle media for today's chemists who need effective capture and concentrating resins.

Sepra media offers purification of proteins, peptides, nucleic acids, antibodies, tryptic digests, nucleotides, viruses, and small molecular weight pharmaceuticals in a low pressure environment. It is an excellent economical alternative to high pressure RPC while still offering high resolution and loading capacity.

Capture and Concentrate Resins

Media Base Material	Brand	Phase	Particle Size (µm)	Pore Size (Å)	Surface Area (m^2/g)	Carbon Load (%)	pH Stability	Ordering Information Sepra Bulk Sorbents Phase	100 g	1 kg
Silica	**Sepra**									
		C18-E	50	65	500	17	2-9	C18-E	04G-4348	04K-4348
		C18-T	50	135	300	15	2-9	C18-T	04G-4405	04K-4405
		C8	50	65	500	10	2-9	C8	04G-4406	—
		Phenyl	50	65	500	10	2-9	Phenyl	04G-4407	—
		CN	50	65	500	10	2-9	CN	04G-4409	—
		NH_2	50	65	500	5	2-9	NH_2	04G-4408	04K-4408
		Florisil®	170 (60/100 mesh)	80	300	0	2-9	Florisil®	04G-4411	04K-4411
		SCX	50	65	500	9	2-9	SCX	04G-4413	04K-4413
		SAX	50	65	500	6	2-9	SAX	04G-4414	04K-4414
		WCX	55	70	500	8	2-9	WCX	04G-S027	—
		Silica	50	65	500	0	2-9	Silica	04G-4410	04K-4410
		EPH	200	70	Proprietary	0	2-7.5	EPH	04G-4508	—
Small Pore Polymer	**Sepra ZT**									
		ZT	30	85	800	–	1-14	ZT	04G-4426	—
		ZT-SCX	30	85	800	–	1-14	ZT-SCX	04G-4466	—
		ZT-WCX	30	85	800	–	1-14	ZT-WCX	04G-4478	—
		ZT-SAX	30	85	800	–	1-14	ZT-SAX	04G-4485	—
		ZT-WAX	30	85	800	–	1-14	ZT-WAX	04G-4463	—
Large Pore Polymer	**Sepra ZTL**									
		ZTL	115	330	500	–	1-14	ZTL	04G-4470	—
		ZTL-SCX	115	330	500	–	1-14	ZTL-SCX	04G-4467	04K-4467
		ZTL-WCX	115	330	500	–	1-14	ZTL-WCX	Inquire	Inquire
		ZTL-SAX	115	330	500	–	1-14	ZTL-SAX	Inquire	Inquire
		ZTL-WAX	115	330	500	–	1-14	ZTL-WAX	04G-4494	—
Styrenedivinylbenzene Polymer	**Sepra SDB-L**									
		SDB-L	95	255	500	–	1-14	SDB-L	04G-4412	04K-4412

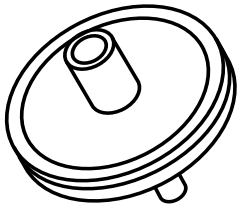
Find our complete Sepra Sample Preparation Bulk Media online at:
www.phenomenex.com/Sepra

Interested in MSPD for your analysis? Please contact us for technique and accessory information.

Florisil® is a registered trademark of U.S. Silica Co.

Sample Preparation Tools and Resources

Search Hundreds of Applications

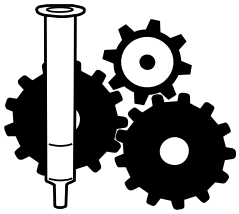


Syringe Filter Finder Tool

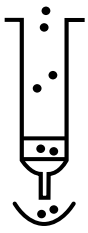
Sample Preparation Support at Your Fingertips

Find all the Sample Preparation Tools and Resources you need at

www.phenomenex.com/SamplePrep



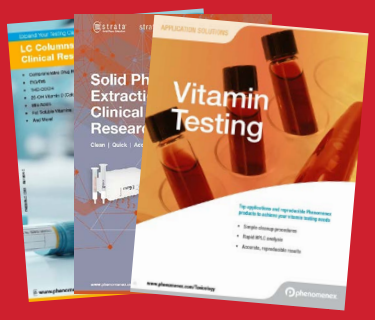
SPE Method Development Tool



Sample Preparation Basics Overview

Clinical Research Resources

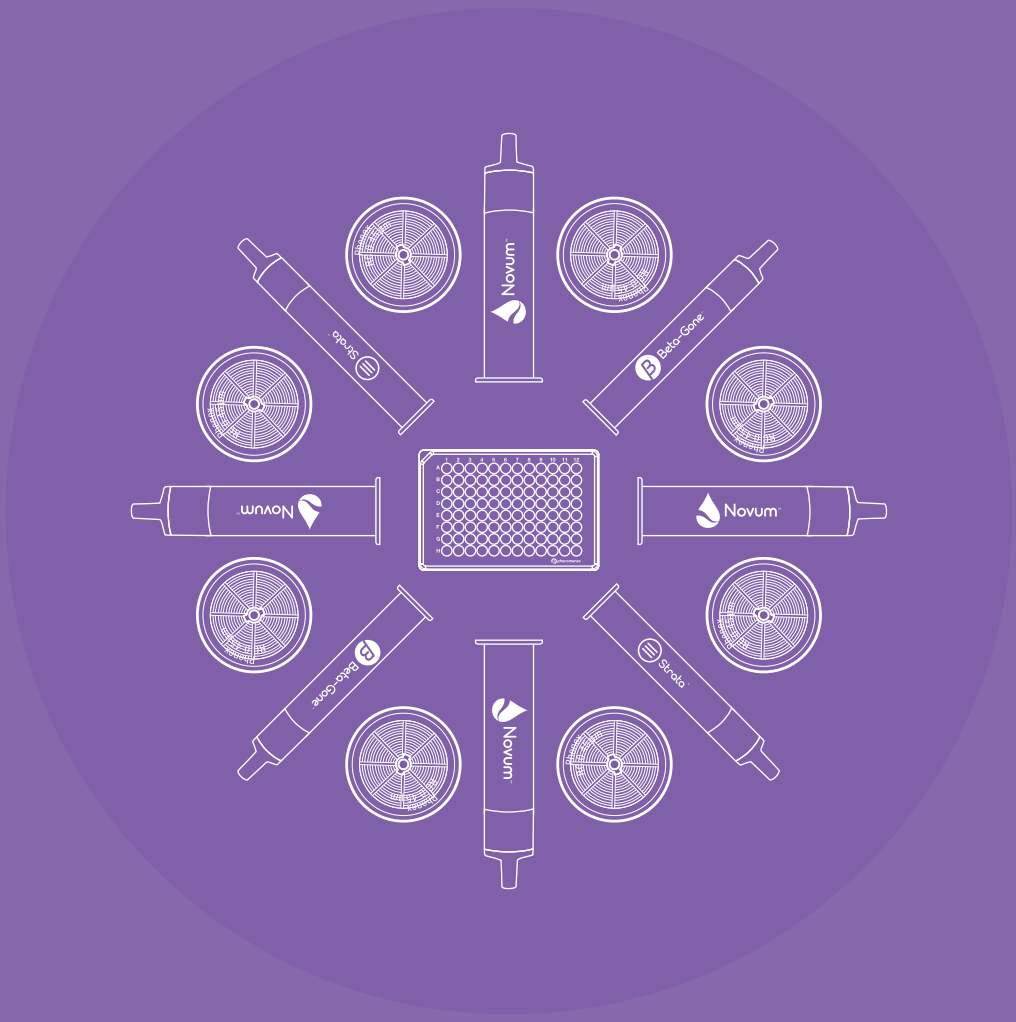
Guides, applications, and products for high sensitivity and rapid extractions



- **Find the Right LC Column for Your Research**
  Simplify your selection of core-shell and fully porous LC columns with our application examples.
- **Easily Set Up a Sample Preparation Method**
  Discover unique and reliable SPE phases using our product finder.
- **Explore our Dedicated Drug Analysis and Endocrinology Web Pages**
  Access easy-to-navigate webinars, applications, and documents designed for clinical research customers.
- **Discover a Complete Portfolio of Consumables and Accessories**
  HPLC columns, 96-well plates, sample vials, syringe filters, for effective sample clean up and research analysis.

Find these tools and more at: **www.Phenomenex.com/Clinical**

Sample Preparation Accessories Contents



Sample Preparation Accessories

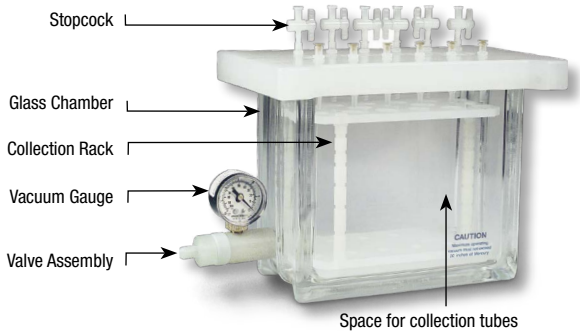
Vacuum Manifolds

SPE Tube Vacuum Manifold

- **Process up to 12 or 24 samples at one time**
- **Process up to 10 large volume samples at one time**
- **Female Luer inlets fit all male Luer tipped SPE tubes and cartridges**

Ordering Information

Part No.	Description	Unit
24 – Position Vacuum Manifold*		
VM24	SPE 24-Position Vacuum Manifold Set, complete assembly	ea
24 – Position Vacuum Manifold Replacement Parts		
A82404	SPE Gasket	ea
VM24-J	SPE Collection Rack	ea
A82411	SPE 24-Position Vacuum Waste Container, polypropylene	ea
A81213	SPE Luer Stopcocks	12/pk
12 – Position Vacuum Manifold*		
VM12	SPE 12-Position Vacuum Manifold Set, complete assembly	ea
12 – Position Vacuum Manifold Replacement Parts		
A80106	SPE Gasket	ea
A81216	SPE Collection Rack Assembly, including plates, legs and clips	ea
A81215	SPE 12-Position Vacuum Waste Container, polypropylene	ea
A81213	SPE Luer Stopcocks	12/pk
A81217	Legs for 12-Position Cover	4/pk



- Fits 13 mm and 16 mm test tubes up to 125 mm in height.
- A flow rate of 1 – 3 drops per second (1 – 3 mL /min) is recommended during the loading and elution steps for typical small volume samples (< 5 mL). At these critical steps the analytes are chemically interacting with the sorbent.
- Large volume samples (> 100 mL) in large cartridges (>1 gram) may be processed at flow rates between 5 – 10 mL/minute.
- Conditioning and Wash steps are generally not flow critical.
- Individual stopcocks are typically not needed when using the Strata-X family of sorbents. They are very forgiving of improper flow rates and are truly resistant to deconditioning effects caused by excessive drying during the method.
- Reversed phase methods are more forgiving of fast flow rates than ion-exchange or normal phase.

Compatible with:

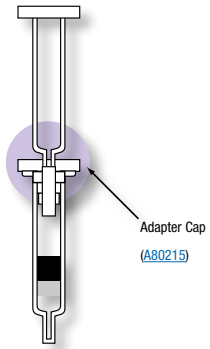
Phree™ Phospholipid Solutions · Beta-Gone™ β-Glucuronidase Removal Products · Novum™ Simplified Liquid Extraction · Clarity™ Biosolutions

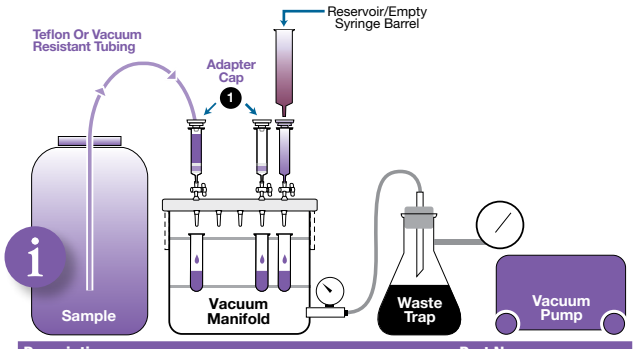
Strata™ Solid Phase Extraction · Strata X Polymeric SPE · Strata XPro A Rapid Solid Phase Extraction Solution

Processing Large Sample Volumes

Have Large Sample Volume but Need a Small Bed Mass?

Use an adapter cap to attach another SPE tube, which can be used to increase the reservoir size for washing or eluting solvents.





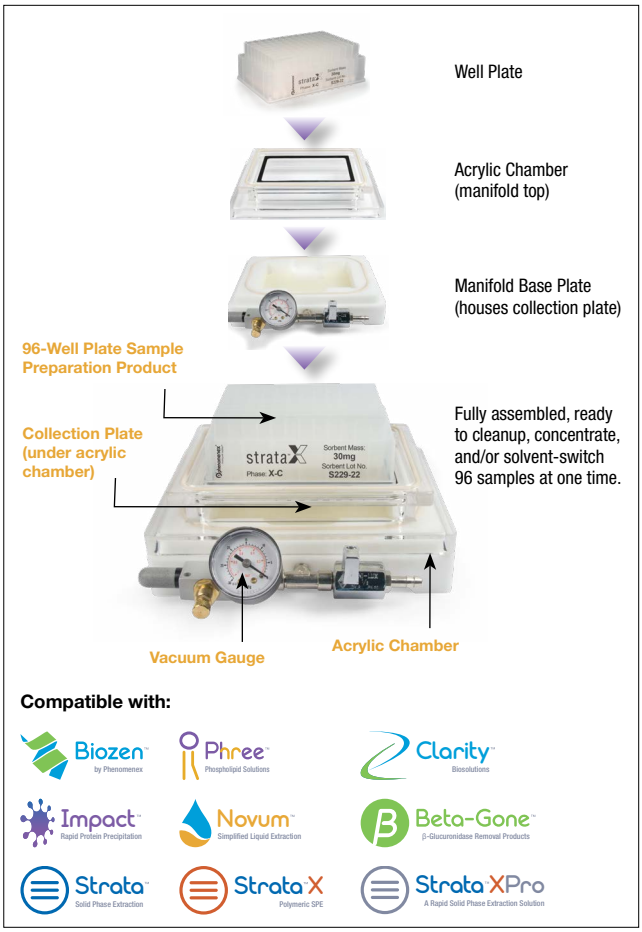
Description	Part No.
1 Adapter Cap	A80215

* Manifolds include: Vacuum-tight glass chamber, vacuum gauge assembly, polypropylene lid with gasket, male and female luers and yellow end plugs, stopcock valves, collection rack assemblies, polypropylene needles, lid support legs. Waste container included with 12-position manifold.

Sample Preparation Accessories *(cont'd)*

96-Well Plate Vacuum Manifold

- **Includes vacuum valve attachment and two collection plate spacer inserts**
- **Made of durable acrylic**
- **Designed to accommodate 96-well plates, collection plates, protein precipitation plates, and filtration plates**



Compatible with:

Biozen by Phenomenex · Phree Phospholipid Solutions · Clarity Biosolutions
Impact Rapid Protein Precipitation · Novum Simplified Liquid Extraction · Beta-Gone β-Glucuronidase Removal Products
Strata Solid Phase Extraction · Strata X Polymeric SPE · Strata XPro A Rapid Solid Phase Extraction Solution

Ordering Information

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

**Manifold, compatible with 2 mL Impact plate, Novum SLE 96-well plate, Phree Phospholipid Removal plate, Strata, and Strata-X 96-well plate formats.

Collection plate spacers accommodate various collection plate heights.

Vacuum Manifold Accessoriesfor Tube and 96-Well Plates

Ordering Information

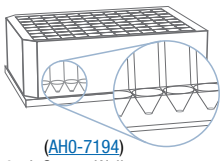
General Vacuum Manifold Accessories		
Part No.	**Description**	**Unit**
A80215	Adapter Caps for 1, 3 and 6 mL SPE tubes, polyethylene, with Luer tip	12/pk
A80100	SPE Manifold Needles, polypropylene	12/pk
A80102	SPE Manifold Needles, stainless steel	12/pk
A80104	Female Luer Fittings	12/pk
A80105	Male Luer Fittings	12/pk
A01003	Vacuum Gauge and Valve Assembly	ea
A80111	Retaining Clips	12/pk
A80117	Plugs/ Dust Caps	12/pk
A81213	Stopcocks	12/pk

Sample Preparation Accessories *(cont'd)*

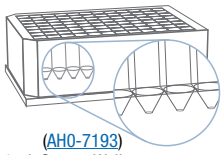
Collection Plates

- **Available in conical V- and round-bottom formats**
- **Made of chemically inert polypropylene**
- **Available in 350 µL, 1 and 2 mL volumes**

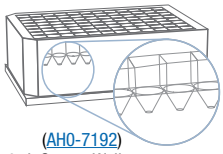
Conical V- and round-bottom for maximized sample delivery



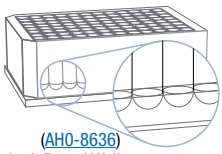
(AH0-7194)
2 mL Square Well



(AH0-7193)
1 mL Square Well



(AH0-7192)
350 µL Square Well



(AH0-8636)
2 mL Round Well

Ordering Information

Collection Plates*

Part No.	Description	Unit
AH0-7192	350 µL/well 96-Square Well Conical V-bottom Collection Plate	50/pk
AH0-7193	1 mL/well 96-Square Well Conical V-bottom Collection Plate	50/pk
AH0-7194	2 mL/well 96-Square Well Conical V-bottom Collection Plate	50/pk
AH0-8636	2 mL/well 96-Round Well Round Bottom, 8 mm Collection Plate	50/pk
AH0-9332	1.2 mL/well 96-Round Well Round Bottom Collection Plate	50/pk
AH0-9333	0.5 mL/well 96-Round Well V-Bottom, 7 mm Collection Plate, Sterile	50/pk
AH0-9341	0.5 mL/well 96-Round Well Conical Bottom, 7 mm Collection Plate	50/pk
AH1-7028-LB	2 mL/well 96-Round Well Round Bottom, 8 mm, PP Low Bind	50/pk

Filtration Plate

- **Available in 0.7 µm membrane porosity**
- **Inert surface eliminates non-specific binding for maximized results**
- **Cost effective solution to meet all filtration goals**

Ordering Information

Filtration Plates

Part No.	Description	Unit/Box
AF0-8300	0.7 µm Glass Fiber 96-Well Filtration Plate	2

Sealing Mats and Tape

- **Fits all Phenomenex 96-well plates, square-well collection plates, round-well collection plates, protein precipitation plates, and filtration plates**
- **Pierceable and Pre-Slit available**

Ordering Information

Sealing Mats*

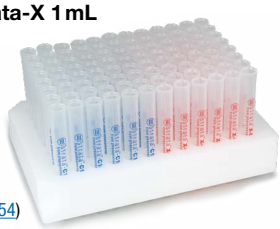
Part No.	Description	Unit
AH0-8597	Sealing Mats, Pierceable, 96-Square Well, Silicone	50/pk
AH0-8598	Sealing Mats, Pre-Slit, 96-Square Well, Silicone	50/pk
AH0-8631	Sealing Mats, Pierceable, 96-Round Well 7 mm, Silicone	50/pk
AH0-8632	Sealing Mats, Pre-Slit, 96-Round Well 7 mm, Silicone	50/pk
AH0-8633**	Sealing Mats, Pierceable, 96-Round Well 8 mm, Silicone	50/pk
AH0-8634**	Sealing Mats, Pre-Slit, 96-Round Well 8 mm, Silicone	50/pk
AH0-8199	Sealing Mats, Pierceable, 96 Square Well, Santoprene™	100/pk
AH0-7195	Sealing Mats, Pierceable, 96-Square Well, Ethylene Vinyl Acetate (EVA)	50/pk
AH0-7362	Sealing Tape Pad	10/pk

*Square well sealing mats compatible with 2 mL Impact plates, Novum SLE 96-well plate, Phree Phospholipid Removal plate, Strata and Strata-X 96-well plates, and 96 square well collection plates.

**8 mm round-well sealing mats compatible with 2 mL round-well 8 mm collection plates (AH0-8636)

96-Well Tab-less Tube Holders

- **Easily process partial plates**
- **Arrange multiple SPE sorbents in one plate**
- **Easily replace a single SPE tube**
- **Compatible with Strata™ and Strata-X 1 mL tab-less SPE tubes**



(AH0-9054)

Ordering Information

96-Well Tab-less Tube Holders

Part No.	Description	Unit
AH0-9054	96-Well 1 mL Tab-less Tube Holder for use with the 96-Well plate vacuum manifold (AH0-8950)	ea
AH0-9055	96-Well 1 mL Tab-less Tube Holder for use with positive pressure manifolds	ea

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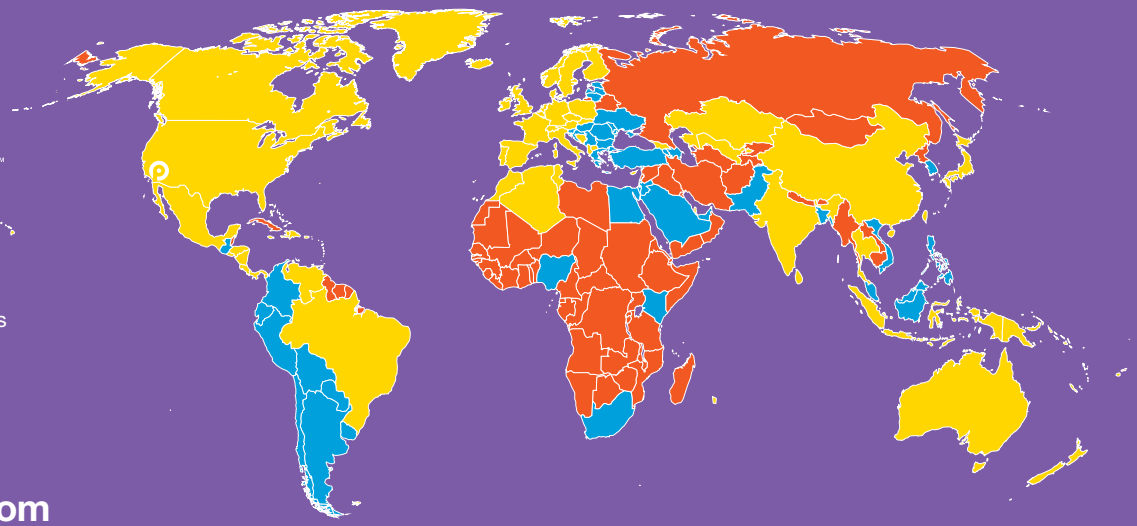

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