

Filtration



Protein Precipitation



Phospholipid Removal + Protein Precipitation



QuEChERS



Simplified Liquid Extraction



β -Glucuronidase Removal



Solid Phase Extraction



Immunocapture



Download the Full Guide and Exclusive Offers



SAMPLE PREPARATION MADE SIMPLE

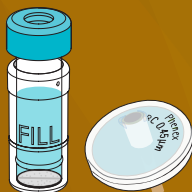
Overview



www.phenomenex.com/SamplePrep

 **phenomenex**

Filtration



Typically, is performed by pushing samples or solvents through a syringe filter to reduce contaminant and particulates from negatively affecting the system or column.

Filtration can:

- Eliminate contaminants and particulates prior to column and system
- Clean samples and extend column lifetimes
- Decrease the incidence of high backpressures
- Decrease system downtime
- Provide more consistent, reproducible results

Phenex Syringe filters:

Phenex Syringe filters are available in several different membrane chemistries, porosities, and diameters. They are excellent for rapid filtration of GC and LC samples prior to analysis.



www.phenomenex.com/Phenex
to select the right syringe filter and
request your free sample

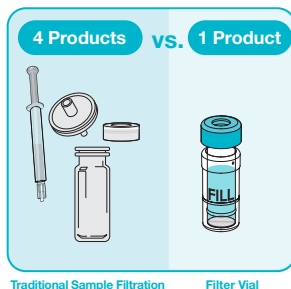




Verex Filter Vials: Reduce 4 Products to 1

Verex Filter Vials combines syringe filter and vial technology, eliminating the need for separate syringes, syringe filters, vials, and cap/septa, allowing you to reduce lab waste and simplify your workflow.

Verex Filter Vials combines syringe filter and vial technology allowing you to reduce lab waste and simplify your workflow. Verex Filters gives you ability to eliminate the need for separate syringes, syringe filters, vials and cap/septa.



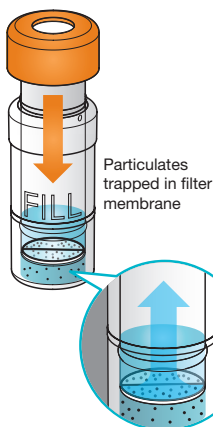
- Dimensions: 12 x 32 mm
- Vial material: Polypropylene
- Cap: PTFE/Silicone pre-slit septa
- Filtering capacity: 450 μ L
- Dead-volume: 30 μ L

How to Use Filter Vials

- 1** The sample is placed in the external vial using a pipette or syringe.



- 2** By compressing the internal plunger, the sample is pushed through the membrane and filtered.



Now the Verex Filter Vial is ready to be placed into the autosampler!



Simply dispense your sample and filter!

Protein Precipitation

A quick and easy way to remove proteins from the sample using an organic solvent or a salt.

- Typically used with plasma, whole blood, and other proteinaceous biological samples
- Proteins decrease HPLC/UHPLC column lifetime and can interfere with MS detector sensitivity
- No method development and easy to run protocol-96 samples cleaned up in under 15 minutes!
- Fast analysis, reliability, no more filtrate transfer steps



www.phenomenex.com/Impact
For more details

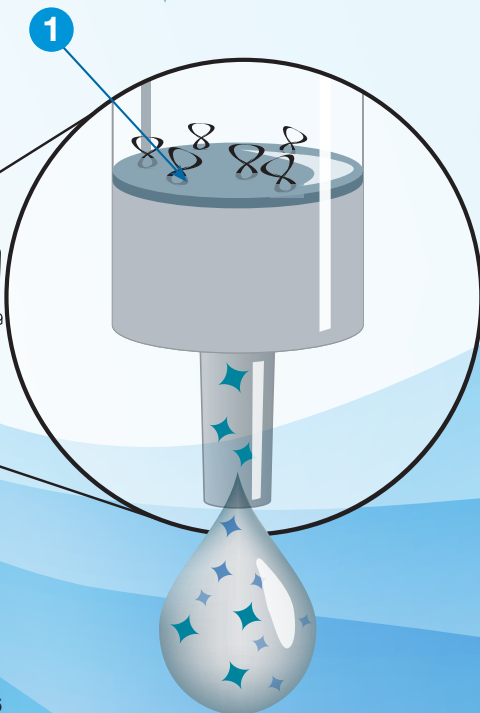
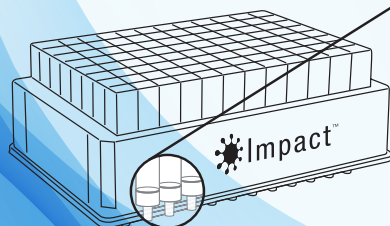


1 Specifically treated oleophobic membrane filters hold organic solvent and trap protein precipitates

2 Fast, easy to follow protocol: perform precipitation and filtration sequentially in the same plate

8 Proteins

◆ Target Analyte



Fast Analysis

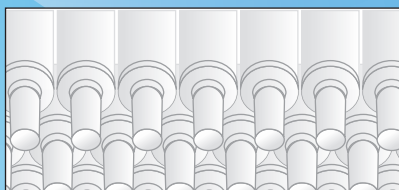
- Save time and increase efficiency by performing precipitation and filtration sequentially in the same plate
- Fast, easy to follow protocol; clean 96 samples in under 15 minutes
- Automatable process for higher productivity

Reliability

- Filtering instead of pelleting precipitated protein ensures clean samples without additional transfer steps
- Avoid injecting protein onto your column resulting in longer column lifetime and improved chromatography

No More Filtrate Transfer Steps

- No manual or automated filtrate transfer steps required
- Reduce errors and risk of contamination



Solvent Shielding Technology™

Specially treated filters effectively hold organic solvent and trap protein precipitates for up to 25 minutes, allowing for direct in-well precipitation upon sample addition. The precipitate is then filtered out via vacuum, centrifuge or positive pressure resulting in a clean, protein depleted extract.

Phospholipid Removal

Endogenous phospholipids are a primary source of ion suppression and resulting matrix effects in bioanalytical LC/MS work.

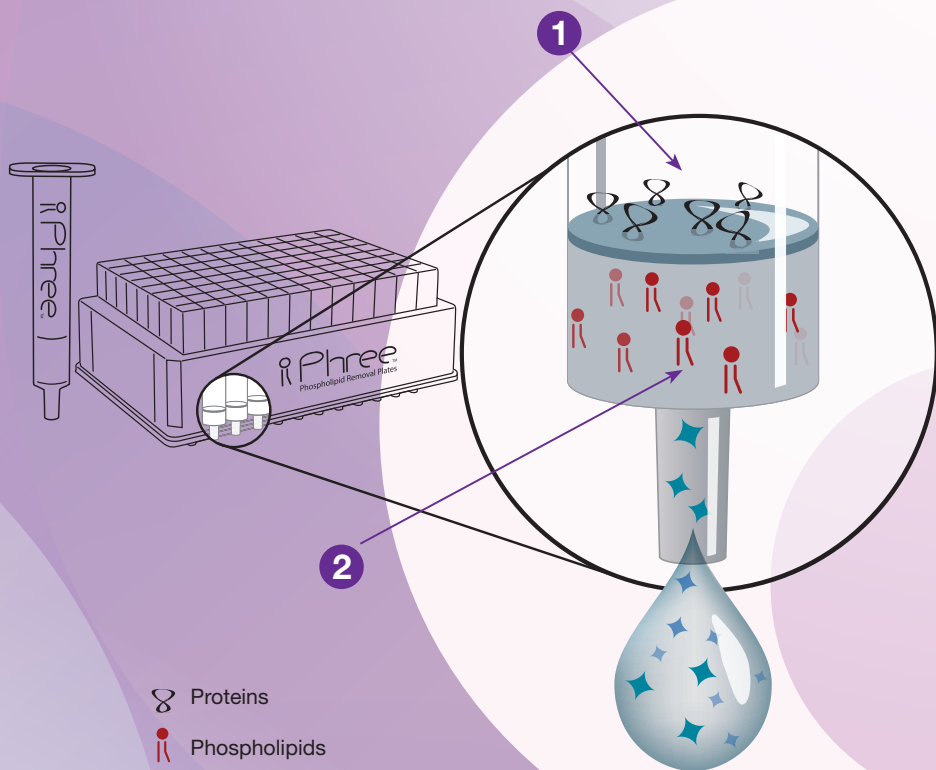
The presence of phospholipids can result in:

- Irreproducible results
- Quantitation issues
- Loss in method sensitivity
- Matrix-to-matrix bias
- Reduce Ion Suppression
- Maximize Sensitivity and Column Lifetime
- Reduce Matrix Effects



www.phenomenex.com/Phree
to see how Phree can work for you

Phospholipid Removal + Protein Precipitation



1 Remove Proteins

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

2 Eliminate Phospholipids

The Phree sorbent selectively removes phospholipids from precipitated plasma samples.

QuEChERS

Quick, Easy, Cheap, Effective, Rugged, and Safe

An easier and cheaper way to examine residues in food. The QuEChERS technique radically simplifies multi-residue analysis in food and other complex samples.

- Decreases complicated long extraction procedures
- Reduces use of hazardous solvents
- Easy to use with two-step method

Step 1 **Extraction**

Pesticides and analytes of interest must first be extracted from the food sample. This process relies on the combination of organic solvent and various salts to partition the analytes from food samples into an organic layer (typically acetonitrile).

Step 2 **Clean Up/Dispersive SPE (dSPE)**

An aliquot of the organic layer from the extraction step is subjected to further clean up by dispersive SPE. This step selectively removes unwanted interferences such as lipids and pigments.

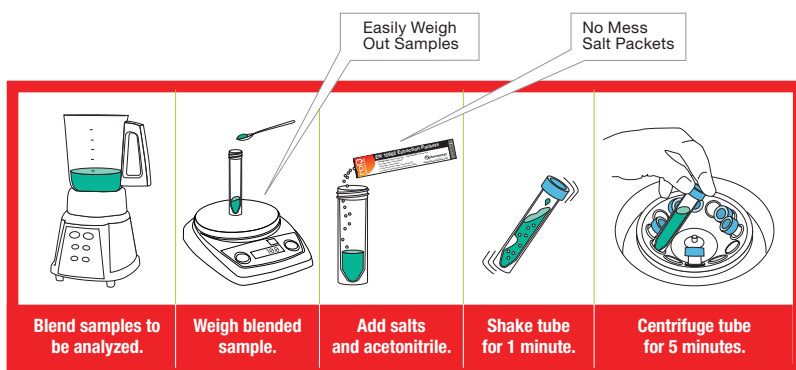


www.phenomenex.com/roQ
and choose the right kit for your sample

Cleaner Samples with roQ QuEChERS Kits

Step 1: Extraction

The combination of organic solvent and various salts facilitates the partition of the analytes from food samples into an organic layer.



Step 2: Clean-Up/dSPE

An aliquot of the organic layer from the extraction step is subjected to further clean up by dispersive SPE. This step selectively removes unwanted interferences such as lipids and pigments.

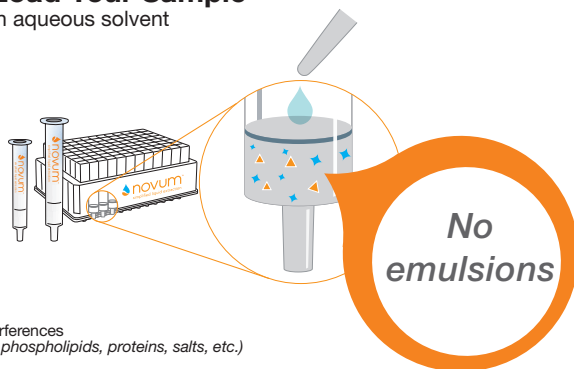


Simplified Liquid Extraction (SLE)

A faster, easier, and more reliable way to perform liquid-liquid extraction.

- Greatly reduces the presence of phospholipids
- Avoid inferior results due to emulsions
- Increases throughput
- Solvent and time savings

1 Load Your Sample in aqueous solvent



▲ Interferences
(i.e. phospholipids, proteins, salts, etc.)

◆ Target Analytes



www.phenomenex.com/Novum
Need ultra-low detection limits?

Supported Liquid Extraction (SLE) is a faster, easier, and more reliable way to perform liquid-liquid extractions

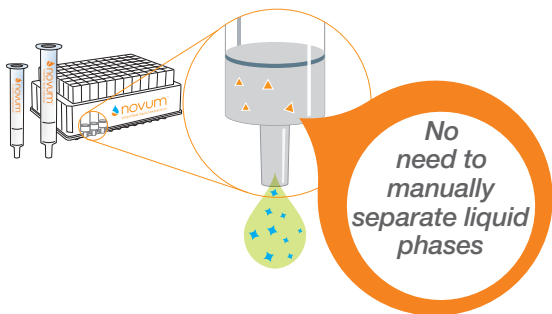
- Eliminate interferences from your analysis
- Remove unwanted interferences such as proteins and phospholipids from biological samples without performing extensive method development
- Provides consistent, reliable results from lot-to-lot
- In two unique sorbent types:

Natural Diatomaceous Earth

Synthetic Dependable Sorbent

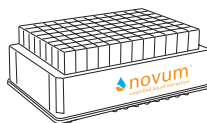


2 Collect Your Target Analytes in water immiscible solvent



Try Novum PRO SLE

Get down to low extraction levels (LLOD) with reduced background noise due to our advanced manufacturing processes for Novum PRO SLE—all with the same easy 2-step method for an advanced clean-up.





β-Glucuronidase Removal

Urine that has been hydrolyzed using β-Glucuronidase reduce large enzymes that can ruin LC column lifetimes and increase MS maintenance, costing labs time and more money.

- Cleanup hydrolyzed urine in under 1 minute
- No Method Development
- Remove large interferences and increase sensitivity better than dilute-and-shoot



β-Gone Plus Protocol



www.phenomenex.com/BetaGone
for more details

Clean-up Hydrolyzed Urine in Under ONE Minute

In two steps, ensure that your samples are free of β -Glucuronidase

No Method Development No Additional Time

- A better clean up than Dilute-and-Shoot, without adding any additional minutes to your work-flow.
- This method can be automated to save even more time. Even faster than protein precipitation or SPE!



Now with In-Well Hydrolysis Capabilities!

Save time on transfer steps and reduce consumable costs with β -Gone Plus 96-Well Plates.

Solid Phase Extraction (SPE)

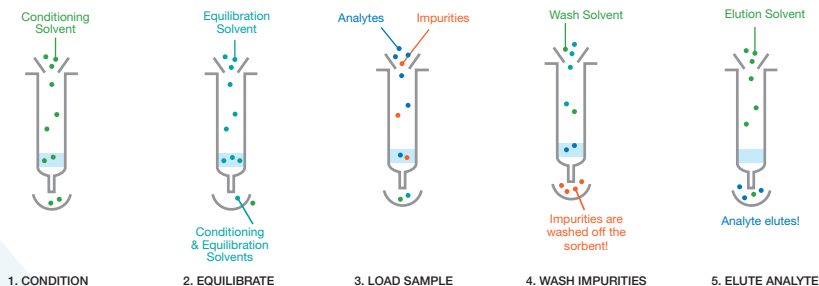
Targeted form of sample preparation that allows you to isolate your analyte of interest while removing any interfering compounds that may be in your sample.

- Targeted analyte extraction for clean extracts
- Concentration of samples for better chromatographic results
- Solvent switching for GC or LC compatibility



www.phenomenex.com/SPE
for more details

SPE General Protocol



Choose your SPE:



Strata

Strata Silica-Based SPE is a good choice for labs looking for additional cleanliness, reproducibility batch-to-batch, and concentrated samples.



Strata-X

Polymeric sorbent available in reversed phase and ion-exchange capabilities for a wide range of applications with pH stability. Recommended for rugged, reproducible and robust extractions.



Strata-X PRO

A fast and effective protocol that provides high recoveries and reduced matrix effects for LC-MS/MS. Strata-X PRO SPE eliminates the need for conditioning and equilibration saving over 40% of the sample preparation time.



Clarity OTX

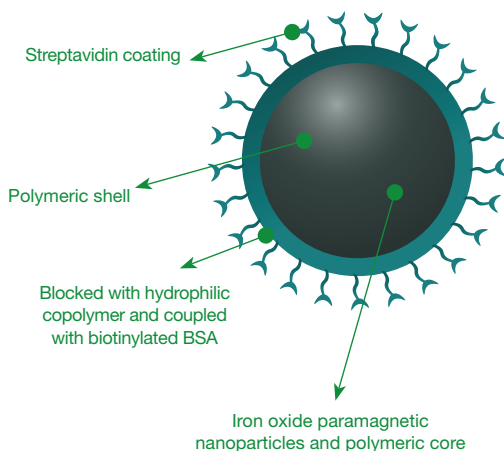
For oligonucleotide therapeutics from biological samples with high recoveries and conveniently combined in a kit for over 80% recoveries and no liquid-liquid extractions required.



Immunocapture

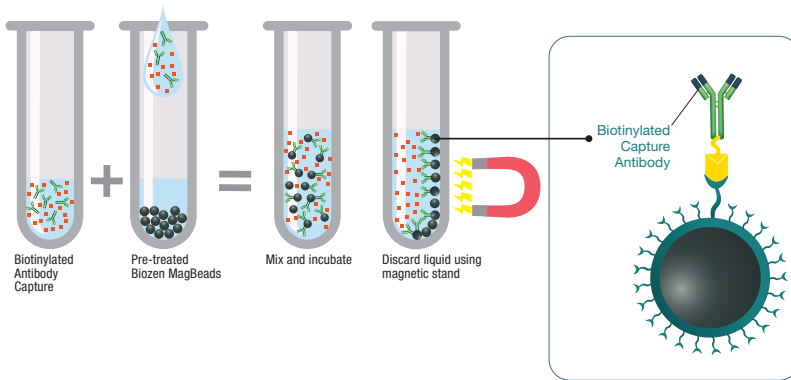
Uniform magnetic bead particles for isolating and cleaning up proteins and peptides.

- Non-saturated, accurate binding surface orientation
- Blocked with copolymer and hydrophilic coupled with biotinylated BSA which properly orients capture antibody
- Clean extracts lead to longer column lifetime and better chromatographic results
- Improves binding efficiency

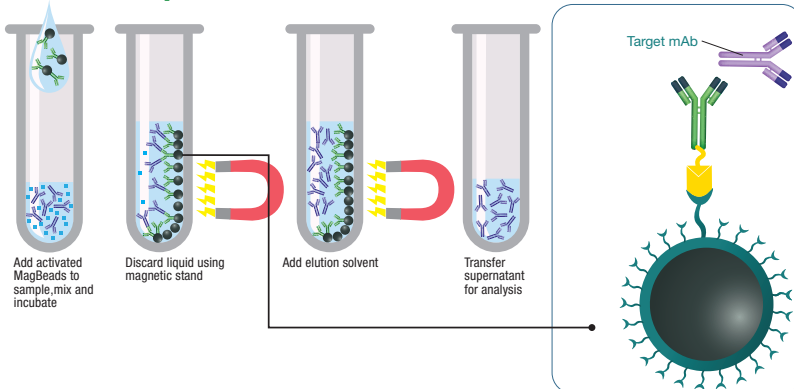


www.phenomenex.com/biozenspe
for more details

MagBead Activation



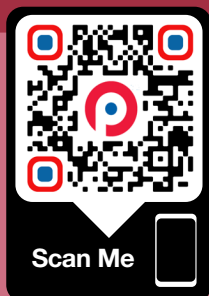
Immunocapture



Non-saturated, accurate binding surface orientation blocked with copolymer and hydrophilic coupled with biotinylated BSA which:

- Properly orients capture antibody
- Prevents surface crowding and ligand inactivation through non-specific binding
- Enhances dispersion of particles
- Improves binding efficiency

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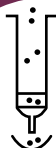


Sample Preparation Support
at Your Fingertips

Sample Preparation Tools and Resources



SPE Method
Development Tool



Sample Preparation
Basics Overview

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Disclaimer

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

Clarity OTX is patented by Phenomenex. U.S. Patent No. 7,119,145.

Novum is patent pending.

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