

Protect Your Mass Spec

Sample Preparation
Solutions for
Biological Samples

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

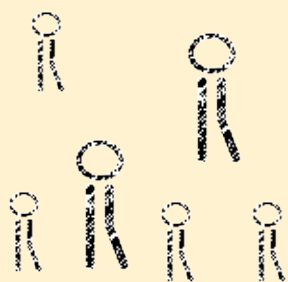


www.phenomenex.com/BioMS

Dirty Samples Could be Costing You Money and Sensitivity

Biological samples contain a wide variety of interferences. When injected onto a mass spec, these interferences can cause ion suppression, can decrease the sensitivity of your detector, and can result in increased maintenance. Preparing samples properly can reduce instrument downtime and the risk of unreliable results.

Phospholipids



Phospholipids are a primary source of ion suppression and resulting matrix effects in bioanalytical LC-MS work. When injected onto a MS, they can also build up on the MS source, requiring increased cleaning, maintenance, and system downtime.

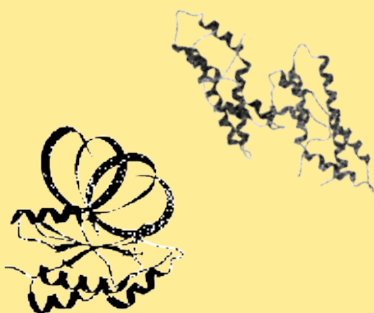
Commonly Found In:

- Plasma
- Whole Blood
- Tissue

Remedy:

- Phospholipid Removal
- Supported Liquid Extraction (SLE)
- Solid Phase Extraction (SPE)

Proteins



When left in a sample, proteins can precipitate out when introduced to organic solvent, such as many common mobile phases. This precipitant can build up on the LC column and MS source, which can result in poor results and system maintenance.

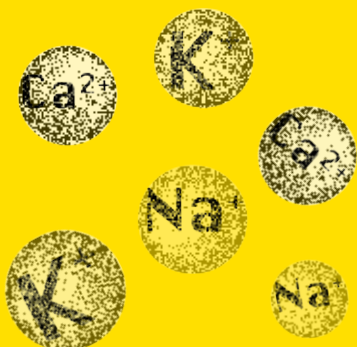
Commonly Found In:

- Plasma
- Whole Blood
- Hair
- Oral Fluid
- Tissue
- Hydrolyzed Urine

Remedy:

- Protein & Phospholipid Removal
- Supported Liquid Extraction (SLE)
- Solid Phase Extraction (SPE)

Salts



Salts, particularly those with Na or K (such as those found within cells), suppress ionization during MS analysis. Even a low concentration of salts can be disruptive, particularly when analytes are at low concentrations.

Commonly Found In:

- Plasma
- Whole Blood
- Oral Fluid
- Urine

Remedy:

- Supported Liquid Extraction (SLE)
- Solid Phase Extraction (SPE)

Improve the Performance of Your Mass Spec

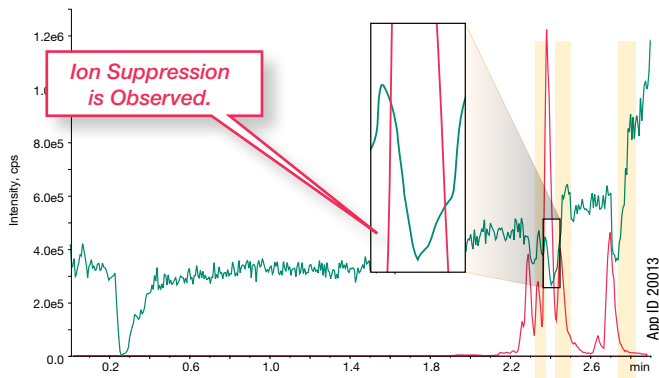
By removing interferences with sample preparation prior to analysis, even ultra-sensitive mass specs can see an instant boost in sensitivity and performance.

Phospholipid and Protein Removal

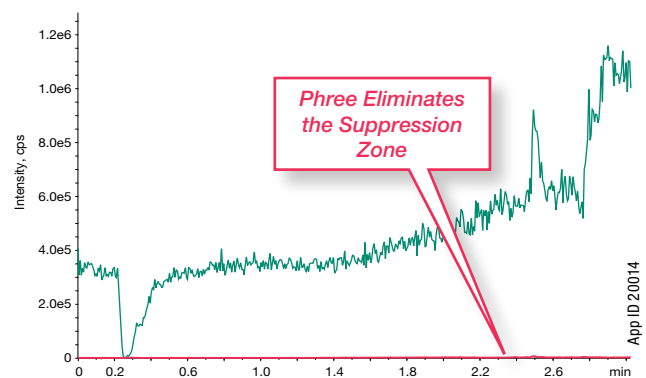
- Reduce matrix effects and decrease ion suppression
- No method development



Protein Precipitated Plasma



Phree Extracted Plasma



- Suppression Zone
- Phospholipids m/z 184-184
- Amoxapine m/z 314-271

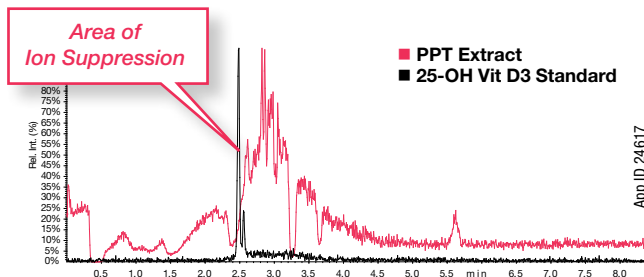
Amoxapine was infused post-column to establish an ion suppression/enhancement profile with both protein precipitated plasma (left) and Phree extracted plasma (right), showing that Phree can successfully reduce ion suppression.

Supported Liquid Extraction (SLE)

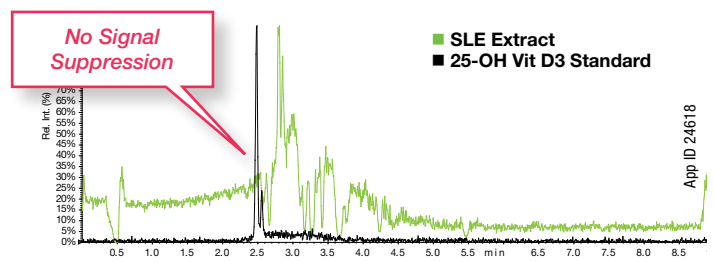
- Fast and more reliable than Liquid-Liquid
- Two unique sorbent options for cleaner samples



Protein Precipitated Plasma



Cleanup with SLE



Reduce Downtime Due to Maintenance

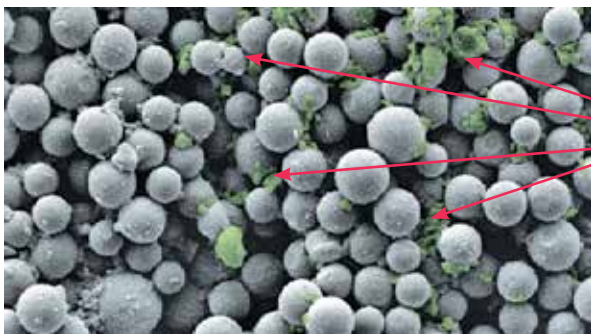
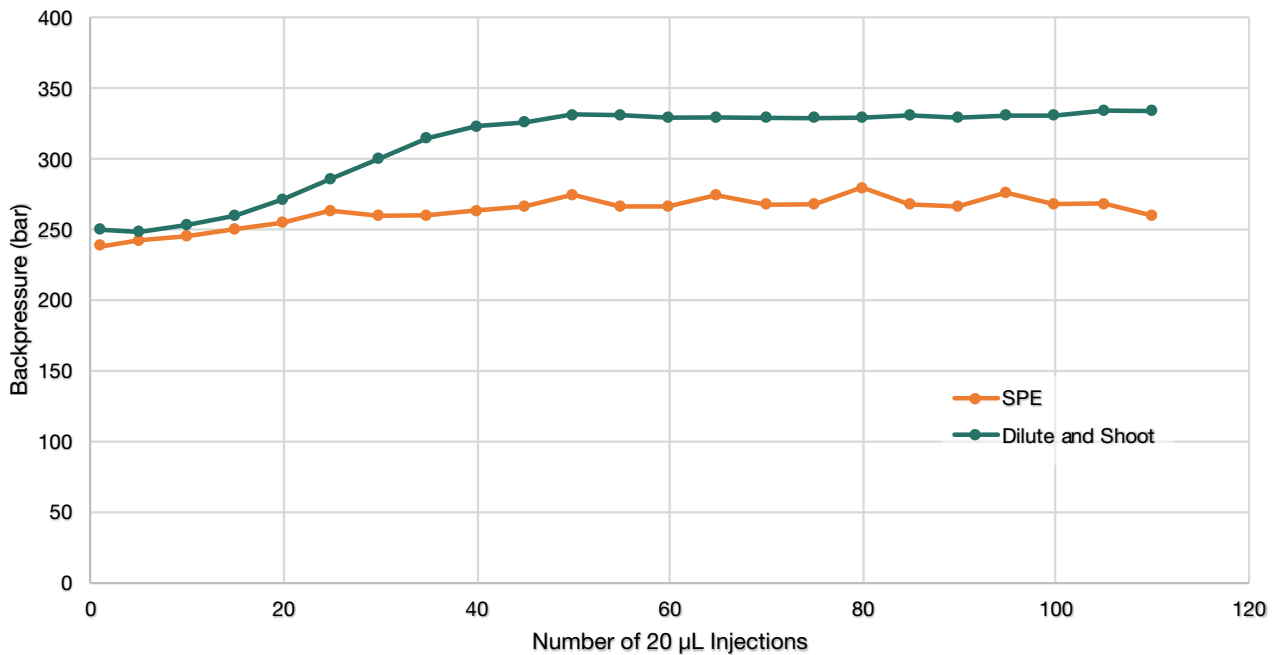
When contaminants are injected onto your LC column, they can build up and will eventually affect the mass spec source, costing valuable time and money.

Solid Phase Extraction

- Target your analytes and eliminate interferences
- Ultra clean samples for longer column lifetimes and reduced MS maintenance

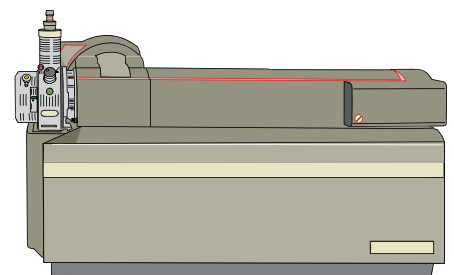


SPE vs. Dilute-and-Shoot of Hydrolyzed Urine



LC Column Particles

Column Buildup



MS Effects

- Sensitivity loss
- Inconsistent data
- Unreliable results

To find out what sample preparation product is right for your dirty samples, visit: www.phenomenex.com/SP4MS

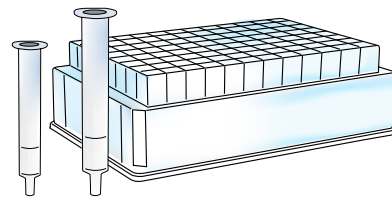
Ordering Information

Protect Your Mass Spec for Less

Novum Synthetic SLE



Part No.	Description	Unit
8E-S138-FGA	Novum SLE MINI 96-Well Plate	1/Box
8E-S138-5GA	Novum SLE MAX 96-Well Plate	1/Box
8B-S138-FAK	Novum SLE 1 cc Tubes	100/Box



Strata DE Diatomaceous Earth SLE



Part No.	Description	Unit
8E-S325-FGB	Strata DE SLE 200 µL 96-Well Plate	2/pk
8E-S325-5GB	Strata DE SLE 400 µL 96-Well Plate	2/pk

Phree Phospholipid Removal



Part No.	Description	Unit
8B-S133-TAK	Phree Phospholipid Removal 1 mL Tube	100/box
8E-S133-TGB	Phree Phospholipid Removal 96-Well Plates	2/box

Strata-X Polymeric SPE Tubes



Tubes	1 mL (100/box)		3 mL (50/box)
	30 mg	60 mg	60 mg
Strata-X	8B-S100-TAK	8B-S100-UAK	8B-S100-UBJ
Strata-X-C	8B-S029-TAK	—	8B-S029-UBJ
Strata-X-CW	8B-S035-TAK	—	8B-S035-UBJ
Strata-X-A	8B-S123-TAK	—	8B-S123-UBJ
Strata-X-AW	8B-S038-TAK	—	8B-S038-UBJ
Strata-XL	8B-S043-TAK	—	8B-S043-UBJ
Strata-XL-C	8B-S044-TAK	—	8B-S044-UBJ
Strata-XL-CW	8B-S052-TAK	—	8B-S052-UBJ
Strata-XL-A	8B-S053-TAK	—	8B-S053-UBJ
Strata-XL-AW	8B-S051-TAK	—	8B-S051-UBJ

Strata-X SPE 96-Well Plates

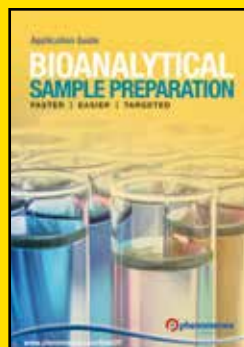
96-Well Plates (2/Box)			
Phase	10 mg	30 mg	60 mg
Strata-X	8E-S100-AGB	8E-S100-TGB	8E-S100-UGB
Strata-X-C	8E-S029-AGB	8E-S029-TGB	8E-S029-UGB
Strata-X-CW	8E-S035-AGB	8E-S035-TGB	8E-S035-UGB
Strata-X-A	8E-S123-AGB	8E-S123-TGB	8E-S123-UGB
Strata-X-AW	8E-S038-AGB	8E-S038-TGB	8E-S038-UGB
Strata-XL	—	8E-S043-TGB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

Strata-X Microelution SPE Plates

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

Become a Sample Prep Expert in Your Industry

Learn more about our techniques and view industry specific applications.

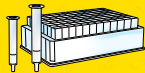


www.phenomenex.com/SP4MS

guarantee

If Phenomenex products in this brochure do not provide at least equivalent separation as compared to other products of the same phase and dimensions, return the product with comparative data within 45 days for a FULL REFUND.

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Solutions for
Biological Samples

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

Novum is patent pending.

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