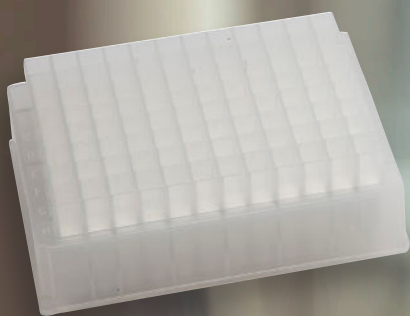




Get a Quicker Cleanup: Resprep SLE Cartridges and 96-Well Plates

- Just load, wait 5 min, then elute.
- Removes proteins, phospholipids, and salts.



Also available in 96-well plates



RESTEK

Pure Chromatography

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Resprep SLE Cartridges and 96-Well Plates

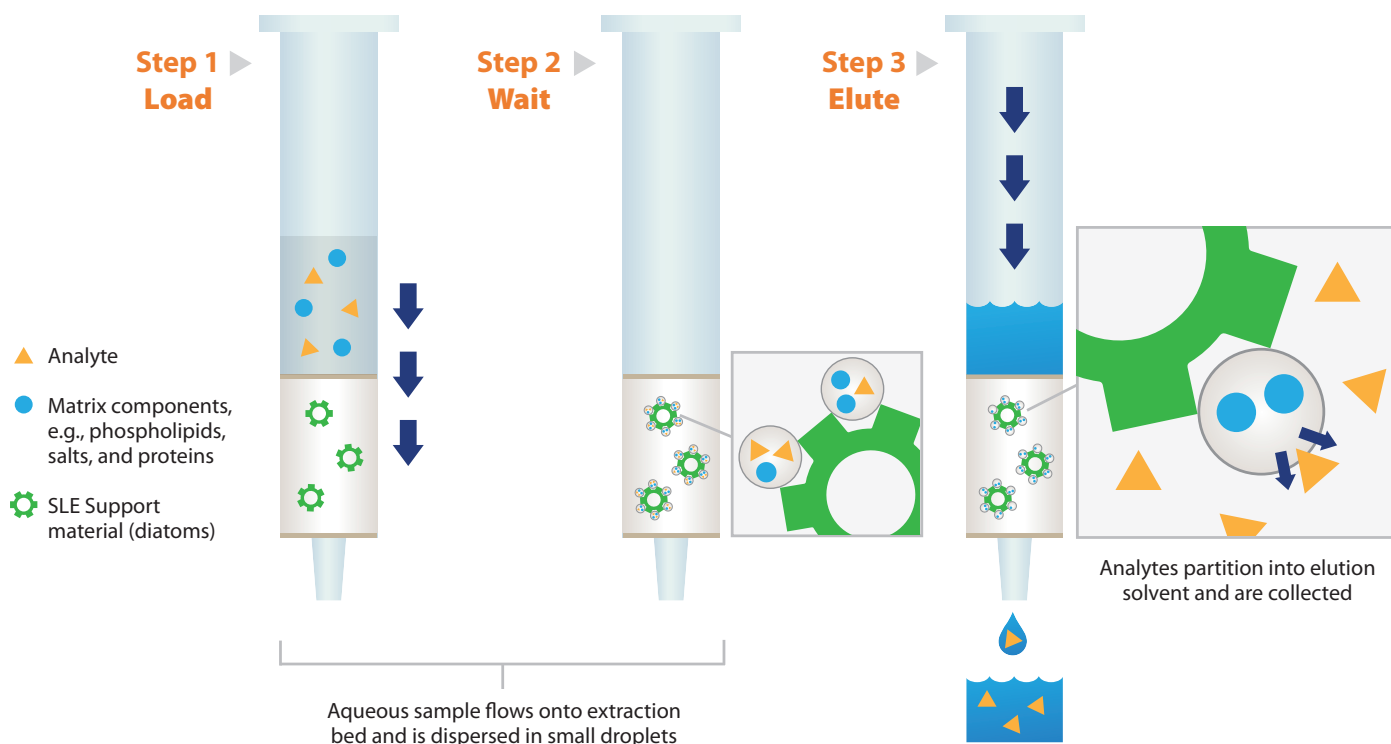
Dilute-and-shoot is only effective when you are working with relatively clean matrices—complex biological samples, such as whole blood, require a cleanup step or your results may be inaccurate. Matrix components, such as proteins, phospholipids, and salts, introduce interferences and suppression/enhancement effects that compromise data integrity. Solid phase extraction (SPE) and liquid-liquid extraction are excellent ways to produce clean extracts, but they are time-consuming and not always necessary. Your first step in developing a sample preparation procedure should be supported liquid extraction (SLE); if your samples do not require extensive treatment, SLE cleanup is a quick, efficient, and fully automatable solution.

Benefits of SLE Cleanup

- Faster and easier than SPE and liquid-liquid extraction: just load, wait 5 minutes, then elute.
- Effective removal of proteins, phospholipids, and salts.
- Quick concentration step increases sensitivity.
- Easy to automate for high-throughput laboratories.
- Suitable for a wide range of analytes and sample matrices.

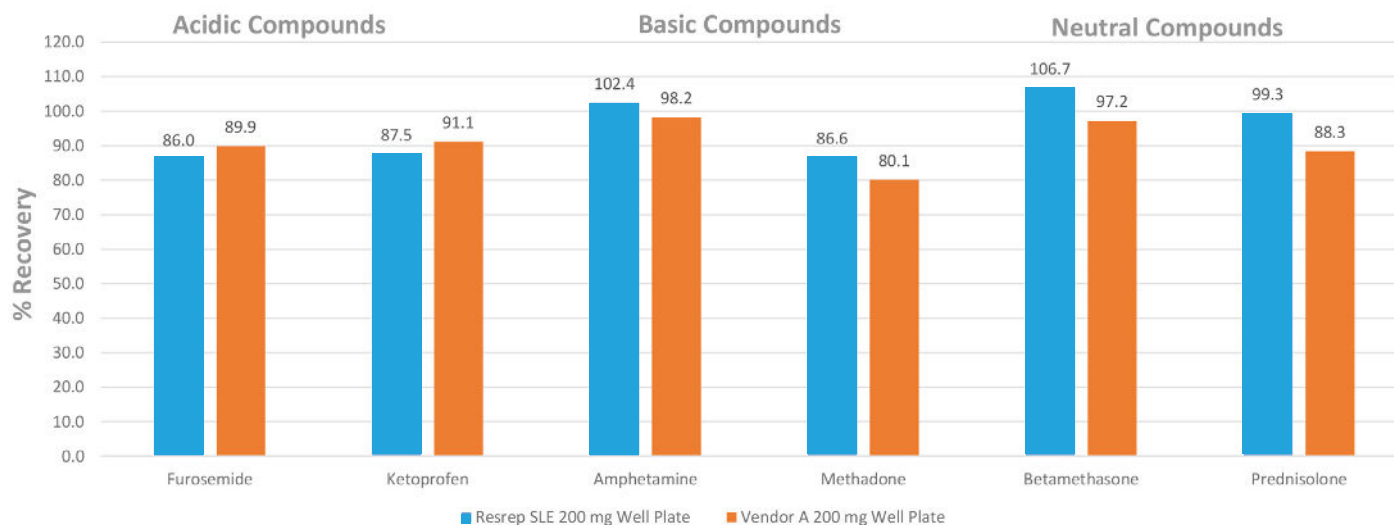
How Does SLE Cleanup Work?

SLE is essentially a scaled-down liquid-liquid extraction without the solvent waste and time-consuming, variation-introducing shaking steps. In SLE cleanup, samples are diluted in an aqueous solution and loaded onto a cartridge or 96-well plate containing a diatomaceous support material. Simply load the sample, wait 5 minutes for the water to fully disperse through the high surface area of the support, then elute your target compounds with a nonpolar solvent. The matrix materials remain in the polar aqueous phase absorbed in the support material while the analytes of interest partition cleanly into the nonpolar extraction solvent. It's ideal for neutral (nonionizable) compounds and can also be used for acids and bases following a simple pH adjustment for charge suppression.



Reliable Recoveries for a Wide Range of Compounds

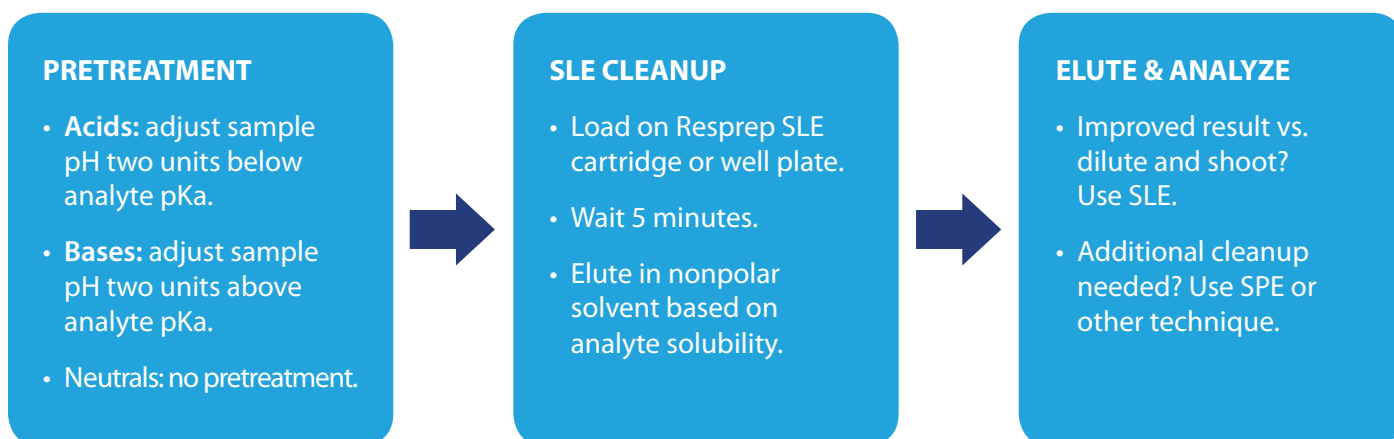
If your sample matrix does not require the intensive cleanup power of SPE or liquid-liquid extraction, why spend time and resources on a more complex procedure? For many compounds, excellent analytical results can be obtained with a quick and easy SLE cleanup. As shown in this comparison, accurate and precise results—with performance matching a leading supplier—were obtained for acidic, basic, and neutral analytes following a simple Resprep SLE cleanup of plasma samples.



Experimental detail: Gender-pooled and K2EDTA-treated human plasma samples were fortified at concentrations ranging from 0.0125 µg/mL to 2.18 µg/mL. Acidic compound aliquots were diluted in 2% formic acid (aqueous) while basic compound aliquots were diluted in 5% ammonium hydroxide (aqueous). 200 µL of diluted sample (1:1 dilution with pretreatment solutions) were loaded onto a 200 mg Resprep SLE well plate (cat. # 28304). After 5 min, the samples were eluted with 1 ml of 50:50 dichloromethane:ethyl acetate. 100 µL 50 mM HCl was added to the basic pretreated wells; then, all wells were blown down to dryness and reconstituted in 1:1 methanol:water. Recovery values were determined using matrix-matched calibration. N≥36 wells for each treatment; 4.7–14.4 %RSD across all compounds.

How Do I Get Started?

Evaluating whether SLE cleanup will work for your application is simple. If your analytes are neutral compounds, simply dilute in an aqueous solution and load them onto a Resprep SLE cartridge or 96-well plate. Wait 5 minutes, then elute in a nonpolar solvent. If you are analyzing acids or bases, pretreat the samples by adjusting the pH relative to the analytes' pKa values. By changing the pH, you suppress the molecular charges, which increases partitioning into the extraction solvent. Analyze and compare to your current method. If your results have improved relative to dilute-and-shoot, adopting SLE will be advantageous; but, if your samples still require additional cleanup, then SPE is recommended.



Volume guidelines: Selecting an SLE format with sufficient loading capacity (1 mg sorbent to 1 µL diluted sample) is very important because the entire sample volume (including 1:1 dilution in buffer) is absorbed into the diatomaceous earth sorbent. For example, a 100 µL sample should be diluted 1:1 with buffer for a total volume of 200 µL, which requires use of a 200 mg SLE product.

Resprep SLE Cartridges and 96-Well Plates

- Faster and easier than SPE and liquid-liquid extraction: just load, wait 5 minutes, then elute.
- Effective removal of proteins, phospholipids, and salts.
- Quick concentration step increases sensitivity.
- Easy to automate for high-throughput laboratories.
- Suitable for a wide range of sample matrices and analyte pKa values.

Description	qty.	cat.#
Resprep SLE cartridges, 200 mg/3 mL cartridge	50-pk.	28302
Resprep SLE cartridges, 400 mg/3 mL cartridge	50-pk.	28303
Resprep SLE 96-well plates, 200 mg/2 mL each well	1-pk.	28304
Resprep SLE 96-well plates, 400 mg/2 mL each well	1-pk.	28305



28302

Collection Well Plates

- Polypropylene plates with round-bottom wells reduce liquid retention; conical bottom provides optimal recovery of reagents.
- Nunc shared-wall technology allows increased well volume for optimum storage capacity and improved mixing.

Description	Well Shape	Well Bottom	qty.	cat.#
1.3 mL 96-Well Plates	round	round	5-pk.	26495
1.3 mL 96-Well Plates	round	round	case of 50	26494



26494

Resprep VM-96 Vacuum Manifold for 96-Well Plates

- Heavy-duty, stainless-steel and aluminum body stays in place and does not slide like lighter models.
- Viewing window allows easy observation of plate height and drip rate.
- Customize plate height to your exact requirements.

Description	qty.	cat.#
Resprep VM-96 vacuum manifold	ea.	25858



25858

Resprep Quick-Replace SPE Vacuum Manifolds (12- or 24-Port)

- Disposable, quick-replace valve liners ensure a clean flow path and eliminate cross-contamination of samples extracted on the same port.
- Individual screw-type valves in each SPE port provide precise flow control.

Description	qty.	cat.#
Resprep QR-12 Quick-Replace vacuum manifold [includes: cover with 12 flow control valves & gasket; glass basin with vacuum gauge & valve assembly; collection rack (base, 3 support rods, center plate, 10 mm test tube plate, 12 clips); plate for 16 mm test tubes; 12 test tubes (10 x 75 mm); 12 liner guides (stainless steel); 100 quick-replace disposable liners (PTFE)]	kit	28298-VM
Resprep QR-24 Quick-Replace vacuum manifold [includes: cover with 24 flow control valves & gasket; glass basin with vacuum gauge & valve assembly; collection rack (base, 2 support rods, center plate, 10 mm test tube plate, 8 clips); plate for 16 mm test tubes; 24 test tubes (10 x 75 mm); 24 liner guides (stainless steel); 100 quick-replace disposable liners (PTFE)]	kit	28299-VM



28298-VM

Learn more at www.restek.com/ResprepSLE