

Supel[™] Swift HLB SPE cartridges - Solid Phase Extraction Made Easier

Enhance your sampling technique for accurate and precise LC-MS analysis

Supel[™] Swift HLB SPE is a polymeric stationary phase for solid phase extraction prior to instrumental analysis. It has both hydrophilic and lipophilic functional groups for the extraction of a broad range of compounds from aqueous samples. It retains analytes having different polarities and Log P values due to its hydrophilic and lipophilic balance (HLB) property. Benefits of *Supel[™] Swift HLB SPE* cartridges include:

- Suitable to the generic methodology
- Wide applicability
- Ideal for LC-MS and other workflows

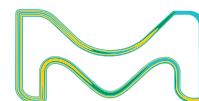
The possibility of 3-step SPE

Supel[™] Swift HLB SPE cartridges can reduce the number of steps in the solid phase extraction of your analyte from 5 to 3. You can directly load your sample onto the *Supel[™] Swift HLB SPE cartridge* bed and potentially eliminate the need for cumbersome pre-conditioning steps. This feature of the *Supel[™] Swift HLB SPE cartridges* reduces the number of errors in sample processing and simplifies sample preparation.

5-Step Method (Standard)		3-Step Method (Simplified)
Prime with 300 μ L MeOH	1 Condition	
Condition with 300 μ L H ₂ O	2 Equilibrate	
Load 200 μ L Diluted Serum	3 Load	Load 200 μ L Diluted Serum
Wash with 200 μ L 5% MeOH in H ₂ O	4 Wash	Wash with 200 μ L 5% MeOH in H ₂ O
Elute with 300 μ L 50/50 ACN/MeOH, 2x	5 Elute	Elute with 300 μ L 50/50 ACN/MeOH, 2x

Figure 1. General processing of samples (serum 1:1 diluted) with *Supel[™] Swift HLB cartridges* (30 mg/1 mL) using a 5-step method and a 3-step method

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Superior flow rates

Flow rates are critical to SPE success during the load and elute step of SPE. *Supel™ Swift HLB SPE cartridge* has an optimized sorbent design to provide fast and efficient flow rates. It shows 20% faster flow rates than another broadly marketed fast-flow HLB cartridge in the SPE of diluted plasma (**Table 1**).

Table 1. Flow/processing time comparison vs another commercially available fast-flow HLB sorbent (n=3 cartridges) at same vacuum conditions

	Supel™ Swift HLB SPE cartridge	Commercially Available Fast-Flow HLB product	Difference
Processing time (seconds)	36	45	-20%
RSD	2.6	3.2	
RSD%	7.2%	7.1%	

Excellent recovery for a wide range of compounds having different polarities and Log P values

Supel™ Swift HLB SPE cartridges offers good recovery for a wide range of compounds and polarities. **Figure 2** presents absolute recoveries of compounds ranging in log P from -0.9 to 4.8 using *Supel™ Swift HLB SPE cartridges* with both the 3-Step and 5-Step methods from plasma.

All-in-all, the 5-Step method shows better recoveries as compared to the 3-Step process. In the 5-Step process, all twenty analytes had recoveries between 80% and 120%. However, eighty percent of the analytes still showed recoveries in the 80% to 120% range by the 3-Step process.

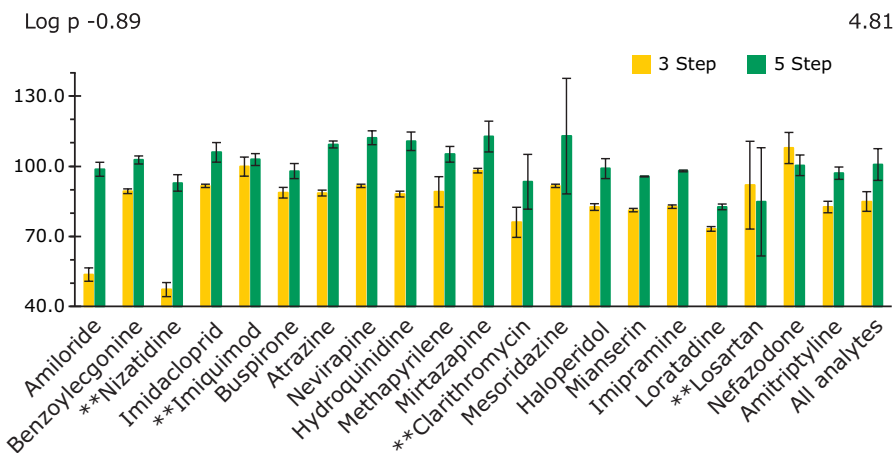


Figure 2: Summary of Recovery for the 3- and 5-Step Process using *Supel™ Swift HLB SPE cartridges*. Analytes are ordered by increasing log P values.

Reduced ion suppression/enhancement for better LC-MS analysis

Samples processed with *Supel™ Swift HLB SPE cartridges* show minimal ionization impact across the compound testing range. The exceptional performance of *Supel™ Swift HLB SPE cartridges* for signal suppression or enhancement was in stark contrast to another HLB cartridge on the market, which exhibited signal suppression/enhancement of more than 10% for most of the analytes tested.

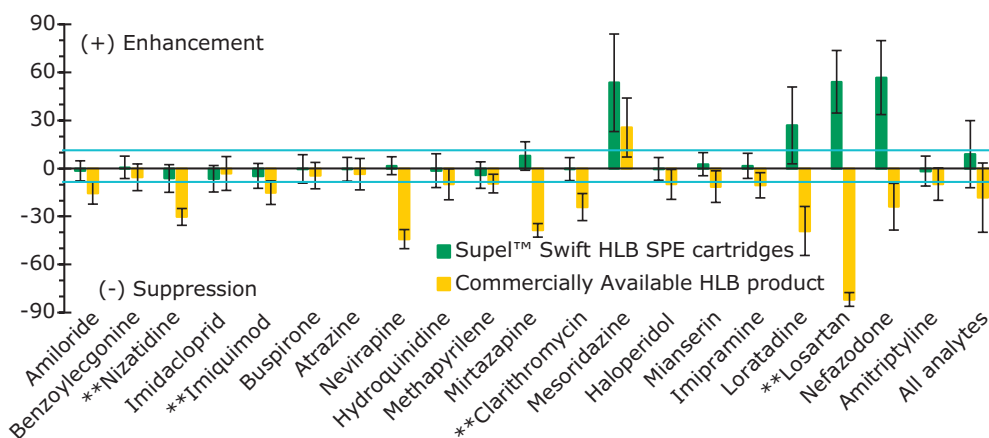


Figure 3. Signal suppression or enhancement effects for *Supel™ Swift HLB SPE cartridges* and another commercially available HLB product using the 5-Step method. Analytes are arranged in order of their increasing log P values.

** Analytes did not have an internal standard.

See our complete offering of *Supel™ Swift HLB SPE Products* at:

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