

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

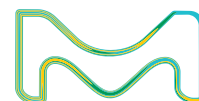
The possibility of 3-step SPE

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

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.



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.

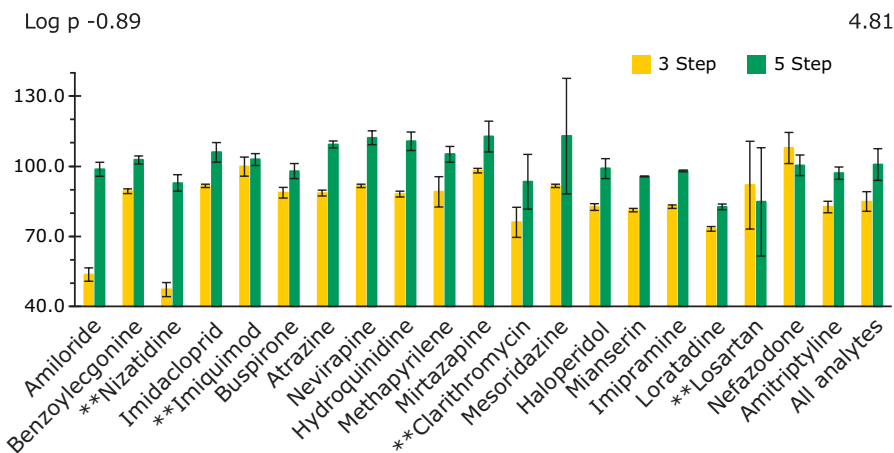


Figure 2: Summary of Recovery for the 3- and 5-Step Process using *Supel™ Swift HLB SPE cartridges*. Analytes are ordered by increasing log P values.

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.

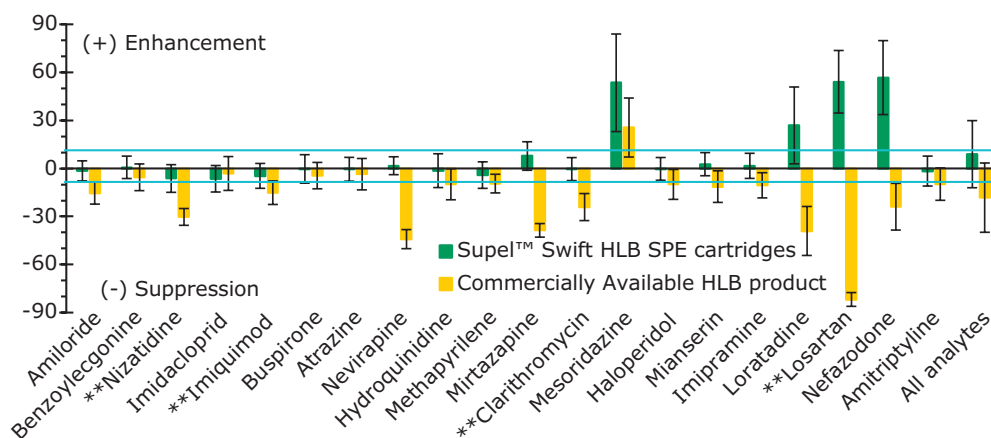


Figure 3. Signal suppression or enhancement effects for *Supel™ Swift HLB SPE cartridges* and another commercially available HLB product using the 5-Step method. Analytes are arranged in order of their increasing log P values.

** Analytes did not have an internal standard.

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

fishersci.com/supleco

© 2020 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved. MilliporeSigma, the vibrant M, Supelco, and Supel are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources. MS_FL6258EN Ver. 1.0 32097 07/2020 BN20201618

Contact us today:

In the United States

Order online: fishersci.com

Fax an order: 1-800-926-1166

Call customer service: 1-800-766-7000

In Canada

Order online: fishersci.ca

Fax an order: 1-800-463-2996

Call customer service: 1-800-234-7437

