

Instruction for Use – ZIC®-HILIC SPE Solid Phase Extraction Cartridge

Read before use!

P/N 2942-xxx

Specification

The ZIC®-HILIC solid phase extraction (SPE) cartridge has a zwitterionic stationary phase covalently attached to porous silica. The permanent and hydrophilic zwitterion functionality makes the SPE suitable for application in Hydrophilic Interaction Liquid Chromatography (HILIC). Weak electrostatic interactions between charged analytes and the neutral zwitterionic stationary phase results in a unique selectivity and especially for analytes that are poorly retained on reversed phase columns.

The ZIC®-HILIC SPE can be used for sample clean-up or as a tool for method development to obtain the orthogonal selectivity compared to reversed phase for the cleaning and enrichment of peptides, carbohydrates, proteins, protein digests, and various polar compounds.

Suggested Procedure for its Use in HILIC mode

1. Wash the SPE with water or a suitable buffer.
2. Wash the SPE with the organic solvent used (e.g., acetonitrile).
3. Preferably dissolve the sample in acetonitrile or a solution containing at least 50% (v/v) of acetonitrile.
4. Apply the sample gently onto the SPE sorbent.
5. Withdraw the solution by vacuum or push by an external pressure.
6. If required, wash the sorbent with acetonitrile or a solution containing a suitable acetonitrile/buffer solution.
7. Remove the wash solution by vacuum or push by an external pressure.
8. Elute the polar compounds with a small volume of water or a suitable buffer (possibly containing acetonitrile).

The sample obtained after step [8] is suitable for injection into a reversed phase system. The high content of water will ensure that peak-compression is obtained, which means that a large volume injected will be enriched on-column.

Note: Samples eluted from reversed phase extraction columns may in some cases be directly enriched on a ZIC®-HILIC SPE.

Materials & Chemical Compatibility

The SPE is made from polypropylene and has 20 µm porous polypropylene frits to retain the material. The particle size is 50 µm and the material has a surface area above 450 m²/g (BET determined).

The ZIC®-HILIC SPE can be operated in the pH range 2-8, while strongly alkaline solutions and washing with sodium hydroxide should be avoided.

Column Wash, Storage & Disposal

The SPE is delivered dry or slightly wetted by remaining ethanol. The recommended SPE conditioning procedure is an initial washing with the organic solvent under use (e.g., acetonitrile). Dispose the SPE according to local regulations.

Warning

Use of the product in applications not specified, or failure to follow instructions contained in this information insert, may result in improper functioning of the product, personal injury, or damage to property or the product.

Ordering Information

This product is available as 1, 3, and 6 mL inert polypropylene cartridges.

Product P/N	Material mg	Volume mL	Units per box	Product P/N	SPE material mg	Volume mL	Units per box
2942-010	25	1	100	2942-042	200	6	6
2942-020	50	1	100	2942-052	500	6	6
2942-030	100	1	100	2942-062	1000	6	6
2942-040	200	1	100	2942-072	2000	6	6
2942-031	100	3	100				
2942-041	200	3	100				
2942-051	500	3	100				
2942-061	1000	3	100				

HILIC Literature

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