

Resprep SLE 96-Well Plates and Cartridges

cat.# 28302-28305

General Procedure

All 96 wells do not have to be used at once. If using a vacuum manifold, we recommend sealing any unused wells with sealing tape to ensure that the wells in use receive the proper vacuum.

1. Select a clean, appropriately sized collection vessel [e.g., 2.0 mL Resprep 96-well collection plate (cat.# 26493) or 2.0 mL, 9 mm vials (cat.# 26596)].
2. Position the collection vessel in the manifold (unless using a manual setup).
3. Pretreat the sample following your method, or the solvent, volume, and dilution guidelines given below. If using internal standards, add them now.
4. Load sample onto Resprep SLE plate or cartridge.
5. Apply light vacuum or pressure (-0.2 bar, 3 psi) for a few seconds to initiate loading the sample into the sorbent bed. Confirm that the sample remains loaded and does not drip out.
6. Wait 5 minutes to allow the sample to be absorbed into the sorbent.
7. Elute with a water-immiscible extraction solvent under gravity for 5-10 minutes.
8. Apply a light vacuum (similar to the initial vacuum) for 30 seconds to complete elution.
9. Evaporate the final sample extract to dryness and reconstitute as appropriate.

Volume Guidelines

Selecting an SLE format with sufficient loading capacity (1 mg sorbent to 1 μ L 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 μ L sample should be diluted 1:1 with buffer for a total volume of 200 μ L, which requires use of a 200 mg SLE product.

Sample Pretreatment

- o For pH neutral (nonionizable) analytes, no sample pretreatment is necessary.
- o For acidic and basic analytes, partitioning into the organic extraction solvent can be optimized by first pretreating the sample as follows to suppress the charge:
 - For acidic compounds, adjust the pH of the sample two pH units below the pKa value of the analytes.
 - For basic compounds, adjust the pH of the sample two pH units above the pKa value of the analytes.

Extraction Solvent Choice

Always use high-purity (spectroscopic grade or better) solvents to minimize interference from impurities. Select the organic extraction solvent based on analyte solubility using these general guidelines:

- o For nonpolar analytes, use nonpolar solvents such as dichloromethane and hexane.
- o For polar analytes, use more polar extraction solvents such as ethyl acetate and MTBE.

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#804-04-002 Rev. date: 12/19



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