

Extraction of Acidic Compounds Using Strata SAX SPE

SPE Cartridge:

Strata SAX , 500 mg / 3 ml, Phenomenex Part Number 8B-S008-HBJ

Note: Method is suitable for larger or smaller samples. Simply choose the appropriate sorbent mass per the Phenomenex document “Choosing the Proper Sorbent Mass”, then alter the processing solvent volumes per the publication “Suggested Solvent Volumes”.

Introduction:

Acidic / anionic compounds are retained in the Strata SAX cartridge by ionic interaction. Non-polar and cationic compounds are effectively removed from the sample by washes with water and MeOH.. The acids are then eluted by a mixture of water miscible organic solvent with acid modifier in order to neutralize their charged functional groups. Strong acids of pKa less than 2.0 may be difficult to quantitatively elute from a SAX cartridge. Please use a Strata NH2 in weak anion exchange mode.

Specimen Preparation:

Urine: Dilute 2.0 – 5.0 ml of urine with 5 ml of 50 mM phosphate buffer, pH 7.0.

Plasma / Serum: 1.0 – 2.0 ml. Dilute 1:1 with 50 mM phosphate buffer, pH 7.0.

Tissue samples: Homogenize sample in 50 mM phosphate buffer, pH 7.0. Filter or centrifuge to remove particulates. Load equivalent of 1 g tissue on cartridge.

Condition:

1. 2 ml methanol
2. 2 ml 50 mM phosphate buffer, pH 7.0

Load:

Apply the sample at a rate not to exceed 2 ml / minute.

Wash / Dry:

1. 2 ml DI Water
2. 2 ml MeOH
3. Dry column at full vacuum to remove all traces of wash solvents. (Typically 1 – 4 minutes at 15 in. Hg.). Release vacuum

Elute Acidic Drugs:

With the vacuum turned off, apply 2 ml MeOH/ HCl conc. (98:2). Allow to flow by gravity using vacuum at end only to draw off the last few drops.

Analysis:

The extract of this method is volatile making it easy evaporate and reconstitute in a solvent compatible with the analytical system.