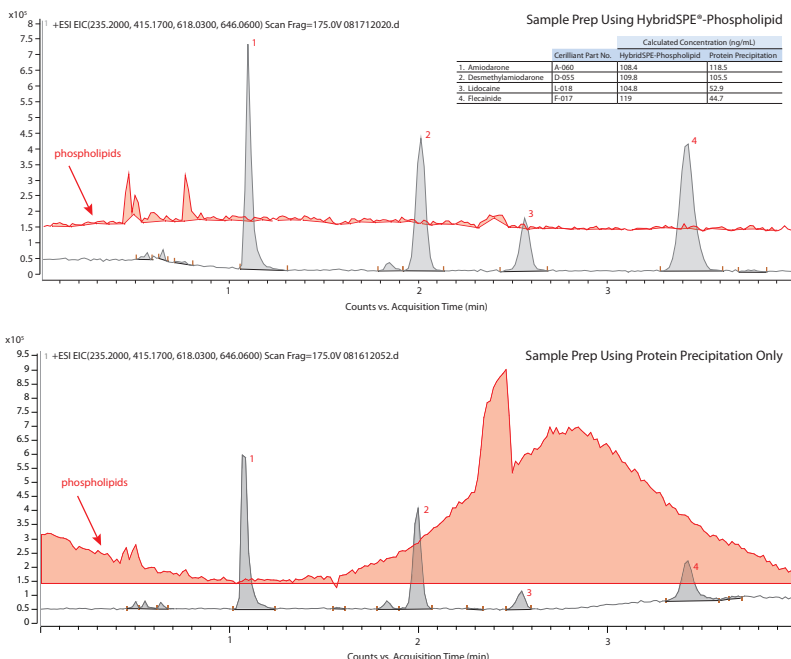


LC/MS (TOF) Analysis of Antiarrhythmic Drugs and Metabolites in Plasma on Ascentis® Express 2.7 µm HILIC: Improvement in Analyte Response after Solid Phase Extraction (SPE) using HybridSPE®-Phospholipid

The basic characteristics of antiarrhythmic cardiac drugs and associated metabolites make them targets for HILIC chromatographic separation. HILIC mobile phases consist of a high composition of acetonitrile which facilitates the direct analysis of precipitated plasma samples without the need for additional sample solvent exchange. In most cases, the high organic mobile phase also increases analyte response with ESI(+) MS detection. This application used HybridSPE-Phospholipid sample prep to remove phospholipids and precipitated proteins prior to LC/MS analysis on Ascentis Express HILIC. These chromatograms compare the response with HybridSPE-Phospholipid vs. standard protein precipitation sample prep methods. Fluka CHROMASOLV solvents provided clean, robust operation. Cerilliant CRMs provided reliable quantification.

market focus	.....	Clinical
sample	..... rat plasma stabilized with K ₂ EDTA spiked directly from stock standard to a level of 400 ng/mL	
sample preparation	.....	SPE (Solid Phaes Extraction)
SPE tube/cartridge	.....	HybridSPE-Phospholipid 96-Well Plate, 50 mg/2 mL (575656-U)
sample addition	.....	apply 100 µL of plasma to plate, followed by 300 µL of 1% formic acid acetonitrile. Agitate via vortex for 4 min.
elution	.....	place on vacuum manifold and apply 10" Hg vacuum for 4 minutes. Collect filtrate and analyze directly.
column	.....	Ascentis Express HILIC, 10 cm x 2.1 mm I.D., 2.7 µm particles (53939-U)
mobile phase	.....	[A] 5 mM ammonium formate; [B] 5 mM ammonium formate in acetonitrile; (5:95, A:B, pH 7.0 with formic acid)
flow rate	.....	0.4 mL/min
pressure	.....	1305 psi (90 bar)
column temp.	.....	35 °C
detector	.....	ESI(+), full scan, m/z 100-1000
injection	.....	0.5 µL
sample	.....	plasma extract, analyte concentration of final sample work-up is equivalent to 100 ng/mL
Application No.	.....	G005819



Related Products

- accessory
 - IKA® VORTEX 3 (Aldrich Z654779)
 - IKA® VORTEX 3 (Aldrich Z654760)
- analytical column
 - Ascentis® Express HILIC, 2.7 Micron HPLC Column (Supelco 53939-U)
- mobile phase component
 - Acetonitrile (Fluka 14261)
 - Ammonium formate (Fluka 14266)
 - Formic acid (Fluka 14265)
 - Water (Fluka 14263)

Related Products

- SPE tube or plate
 - HybridSPE®-Phospholipid (Supelco 575656-U)
- standard
 - Amiodarone hydrochloride solution (Cerilliant A-060)
 - N-Desethylamiodarone hydrochloride solution (Cerilliant D-055)
 - (±)-Flecainide solution (Cerilliant F-017)
 - Lidocaine solution (Cerilliant L-018)