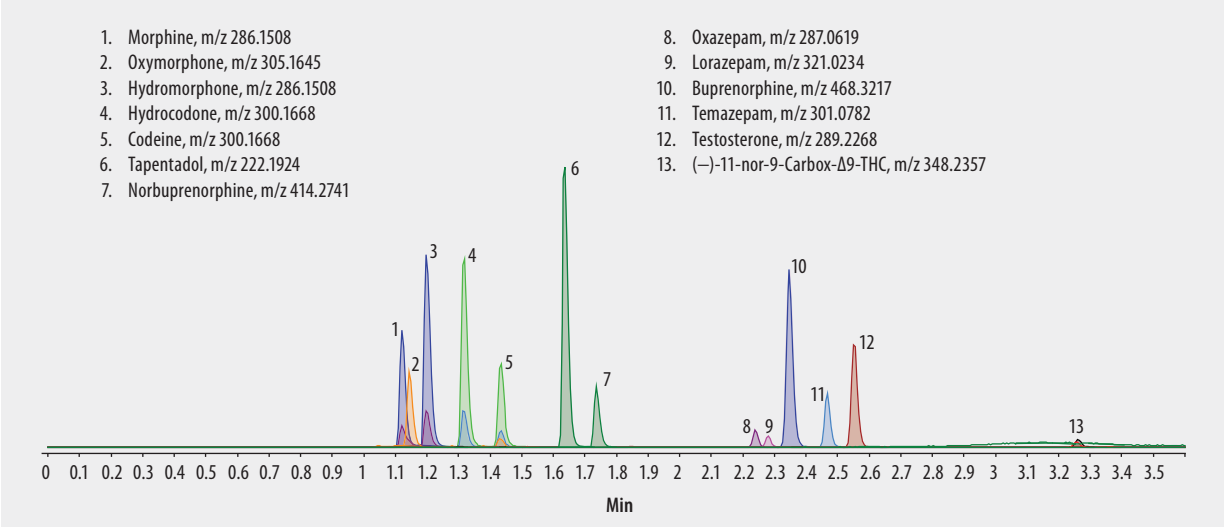
LC/MS (TOF) Analysis of Drugs and Their Glucuronide Metabolites on Titan™ C18 after Solid Phase Extraction (SPE) using Supel™-Select SCX, ß-Glucuronidase Enzyme Digestion

A set of compounds representing five drug classes that are routinely tested in urine were extracted from urine and analyzed using LC/MS (TOF). The entire workflow, from enzymatic digestion to hydrolyze the glucuronide metabolites to analysis using a Titan UHPLC column is presented here. Cerilliant CRMS provided reliable quantification. Sample pretreatment: urine samples were spiked at 200 ng/mL each analyte and digested with 10kU of beta-glucuronidase enzyme at 60 °C for 120 min

market focus	Clinical Research; Forensics and Toxicology
sample preparation	Solid Phase Extraction (SPE)
sample/matrix	human urine
SPE tube/cartridge	Supel-Select SCX, 60 mg/3 mL (54241-U)
condition	1 mL of 1% formic acid in acetonitrile followed by 1 mL water
sample addition	1.4 mL urine
washing	2 mL water followed by 1 mL of water:methanol (75:25)
elution	1 mL of 10% ammonium hydroxide in methanol
eluate post-treatment	evaporate to dryness and reconstitute in 1 mL water
column	Titan C18, 5 cm x 2.1 mm I.D., 1.9 µm particles (577122-u)
mobile phase	[A] 5 mM ammonium formate; [B] 5 mM ammonium formate in acetonitrile:water (95:5)
gradient	5 to 90% B in 2.5 min, held for 0.5 min, to 5% B in 0.1 min, held for 0.5 min
flow rate	0.3 mL/min
column temp.	35 °C
detector	ESI(+) TOF, m/z 100-1000
injection	2.0 µL
Application No.	G006372



Related Products

analytical column
Titan™ C18 UHPLC Column, 1.9 micron (Supelco 577122-U)
eluent
Acetonitrile (Fluka 14261)
Ammonium formate (Fluka 14266)
Water (Fluka 14263)
enzyme
β-Glucuronidase from limpets (*Patella vulgata*) (Sigma G2174)
SPE tube or plate
Supel™-Select SCX SPE Tube (Supelco 54241-U)

Related Products

standard
Buprenorphine solution (Cerilliant B-044)
(–)-11-nor-9-Carboxy-Δ^9-THC solution (Cerilliant T-019)
Codeine solution (Cerilliant C-006)
Hydrocodone solution (Cerilliant H-003)
Hydromorphone solution (Cerilliant H-004)
Lorazepam solution (Cerilliant L-901)
Morphine solution (Cerilliant M-005)
Norbuprenorphine solution (Cerilliant N-059)
Oxazepam solution (Cerilliant O-902)
Oxymorphone solution (Cerilliant O-004)
Tapentadol hydrochloride solution (Cerilliant T-058)
Temazepam solution (Cerilliant T-907)
Testosterone solution (Cerilliant T-037)