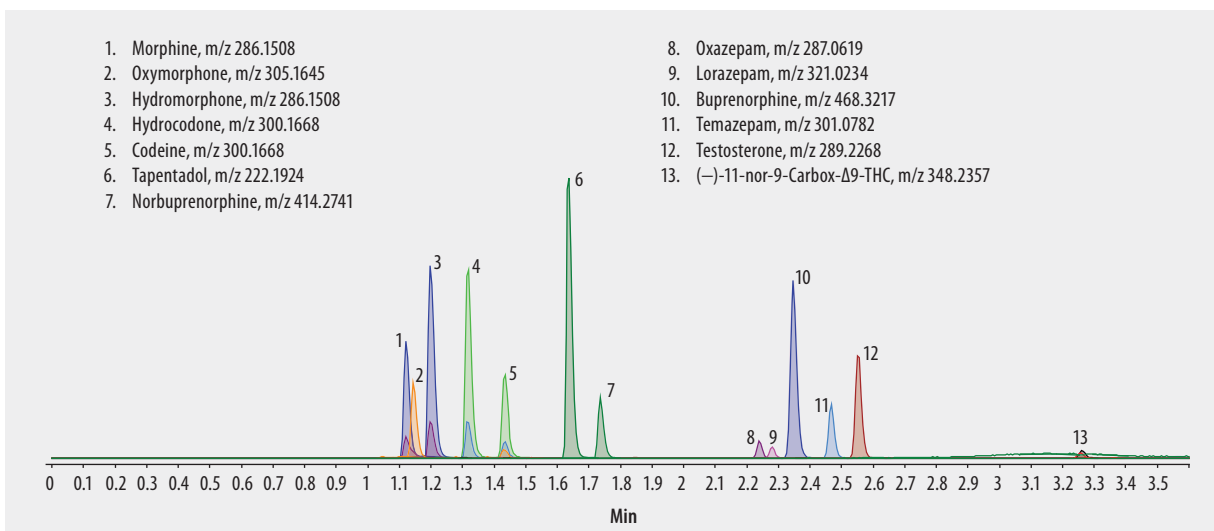


LC/MS (TOF) Analysis of Drugs and Their Glucuronide Metabolites on Titan™ C18 after Solid Phase Extraction (SPE) using Supel™-Select SCX, β -Glucuronidase Enzyme Digestion

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 μ m 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 μ L |
| 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](#))