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False positive drug tests from Contaminated Feed

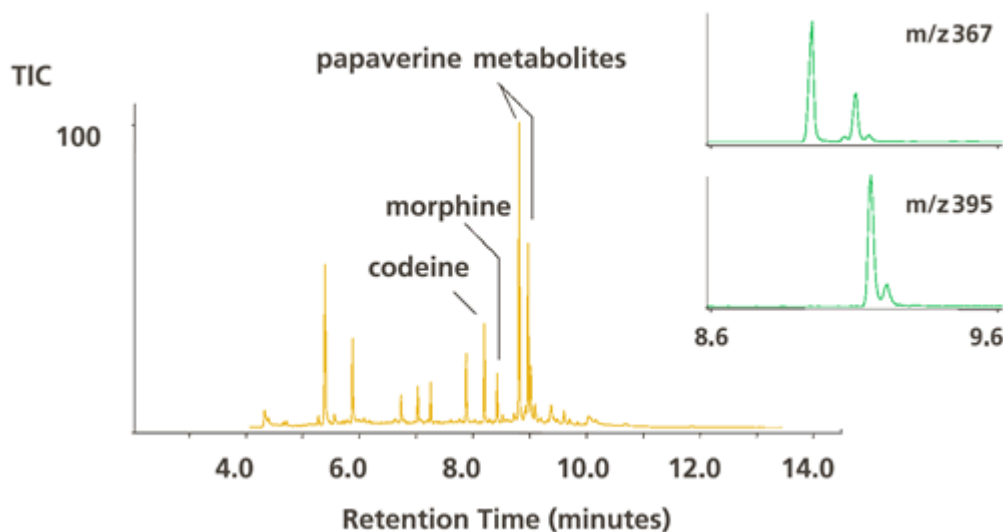
HT300APlus Application Note

Papaver somniferum (opium poppy) is a feed contaminant that can result in positive drug tests for racing horses. In a new development, we have used a **Micro-Extraction Packed Sorbent (MEPS)** technique to demonstrate the off-line capabilities of this novel sample preparation technology.

A 300µl sample of diluted equine urine from an animal receiving contaminated feed was hydrolyzed with b-glucuronidase or acid, filtered and extracted on a C8/SCX MEPS cartridge conditioned with methanol (30µl), potassium phosphate buffer (0.2M, pH6, 30µl) at a flow rate of 5µl/sec.

The exhausted fraction was ejected at the same rate and the sorbent washed with 100µl phosphate buffer, 50µl acetic acid (1%v/v) and 100µl methanol. The sorbent was dried with air (3x80µl at 50µl/sec) and the sorbent eluted with 20µl dichloromethane-isopropanol-ammonia (49:49:2).

The organic phase was evaporated under nitrogen and derivatized with 10µl of acetic anhydride-pyridine (1:2) at 80°C for 30 minutes before evaporation and reconstitution in 5µl of ethyl acetate. The extract was analyzed by GCMS on a BPX5 column:



This application of mixed mode C8/SCX MEPS for a complex biological fluids, allowed the microscale preparation of a small volume sample with comparable performance to conventional SPE techniques. Used off-line with derivatization and GCMS here, the sample was also suitable for on-line ESI-LCMSMS analysis by changing the elution solvent to methanol-ammonia (98:2) or methanol-trimethylamine (98:2).

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