

# Barbiturates Analyzed with LCMS - AppNote

## Standard Solutions in Human Urine Spiked with Barbiturates

After minimal sample preparation *(dilute-and-shoot approach)*, spiked urine samples were analyzed using a C18 Column. The analysis was based on a Separation of Standards [1]. The obtained Peaks were Symmetrical (As<1.05) and Efficient (> 106 pl/m). No shift in retention Times was observed after the samples were diluted ten-fold (*data not shown*). Matrix effects that would diminish the signal intensity were less than 5%.

This Method shows a possible Application for Analysis of these Compounds in Forensic Samples.



- 3. Butalbital-D5 m/z = 228.1402,
  - 4. Butalbital m/z = 223.1088,
- 5. Pentobarbital-D5 m/z = 230.1558,

6. Pentobarbital m/z = 225.1245,

7. Secobarbital m/z = 237.1245

### **Method Conditions**

Column: Cogent Bidentate C18™, 4µm, 100Å

Catalog No.: 40018-05P-2

Dimensions: 2.1 x 50mm

#### Mobile Phase:

A: DI Water with 10mM Ammonium Formate

B: 95:5 Acetonitrile / DI Water with 10mM Ammonium Formate (v/v)

#### Gradient:

Time (minutes)	%B
0	10
1	10
10	45

Post Time: 3 minutes

Injection vol.: 1µL

Flow rate: 0.4mL / minute

Detection: ESI - NEG - Agilent 6210 MSD TOF Mass Spectrometer

**Sample Preparation**: Stock solutions of Barbiturates were prepared at a concentration of 1mg / mL in Methanol. Then 2mL of a urine sample was spiked with the stock solutions diluted, (*dilution 1:100*) and filtered through a 0.45µm Nylon Syringe Filter (MicroSolv Tech Corp.) into Autosampler Vials. **to**: 0.3 minutes



[1] J.J.Pesek, M.T. Matyska, A.M. Kim, J. Sep. Sci. 2013, 36, 2760–2766.

#### Attachment

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