Analysis of underivatized anabolic steroids with a 100 µm column

Application Note

Forensics & Drug Testing

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Introduction
Gas chromatography using an Agilent CP-Sil 8 CB column separates five anabolic steroids in urine in 20 minutes.
**Anabolic steroids**

100 μm internal diameter fused silica columns show high column inertness as well as high resolution power and high speed of analysis. This high column inertness is a result of a perfect deactivation in combination with the reduced column wall surface area. As an illustration, the analysis of underivatized anabolic steroids is performed on a 0.10 mm x 10 m fused silica column coated with 0.12 μm CP-Sil 8 CB.

The chromatograms 1-3 show the underivatized steroids, male urine and urine spiked with steroids. As is clear from the chromatograms, derivatization is not necessary.

**Conditions**

- **Technique**: GC-capillary
- **Column**: 10 m x 0.10 mm fused silica WCOT CP-Sil 8 CB (0.12 μm) (Cat. no. 7781)
- **Temperature**: 60 °C (1.5 min) → 280 °C, 15 °C/min
- **Carrier Gas**: He
- **Injector**: Splitless
- **Detector**: FID, 16 x 10^-12

**Peak identification**

1. n-tetracosane (int. std.)
2. methandriol
3. nandrolon
4. dianabol
5. metenolon
6. n-dotriacontane (int. std.)

Approximately 30 ng/Component
Male urine, spiked with anabolic steroids

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