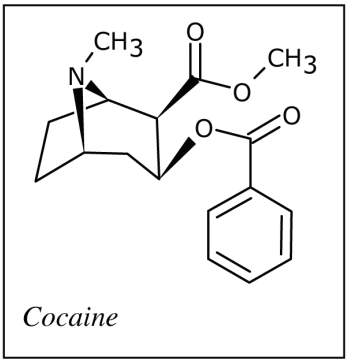
TELOS

Sample Preparation Products Application Note: H-CX702

Extraction of of Cocaine from Hair

Introduction

This Application Note describes a sample preparation method for the extraction of Cocaine from Hair. This method uses TELOS™ H-CX 130mg/3ml SPE Columns.



Cocaine

Sample Considerations

Analytes

Cocaine, Ecgonine methyl ester, Cocaethylene, Benzoylecgonine.

Matrix

Hair.

Sample Preparation

Columns

TELOS H-CX 130mg/3ml SPE Columns, part number 500-130M-003T. For larger sample volumes, other sorbent mass/reservoir volume options are available.

Sample Pre-Treatment

Take 100mg of hair and treat with the following washing steps:
a) 3 x 4ml of distilled water
b) 3 x 4ml of acetone
c) 3 x 4ml of ethanol
d) 3 x 4ml of dichloromethane

N.B. If an initial positive identification test is required, it is possible to test the hair washings using a high sensitivity immunoassay. For this, combine the ethanol and dichloromethane washes, evaporate carefully to dryness (<40°C) under nitrogen and reconstitute as directed by the chosen test.

Dry the washed sample, cut into segments of 1mm and pulverise in a ball mill or similar. Place 50mg of pulverised sample in a 100 x 16mm tube, add 0.1M HCl (1ml) and heat at 37°C overnight. Add 0.1M phosphate buffer pH 6 (500>l) and homogenise in an agitator. If necessary, adjust the pH to 6.0 ± 0.5 with 100mM phosphate buffer pH 6.0.

Column Conditioning

Condition the column with methanol (3ml) at a flow rate of 4ml/min.

Column Equilibration

Equilibrate the column with water (3ml) at a flow rate of 4ml/min, followed by 0.1M phosphate buffer pH 6.0 (3ml) at the same flow rate.

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Sample Application
Apply the sample at a suitable flow rate (1-5ml/min).

Interference Elution
Rinse the column with water (2ml), hexane (2ml) and methanol (2ml) at a flow rate of 1-2ml/min. Dry the column prior to elution for 5 minutes.

Analyte Elution
Elute analytes with 78:20:2 v/v/v dichlormethane/isopropanol/ammonium hydroxide (2 x 1.5ml) at a flow rate of 1-2ml/min, including a 1 minute soak step after each aliquot.

Evaporation and Reconstitution
Evaporate under nitrogen.

Final Analysis
GC-MS with derivatisation.

Reagents
1. Water
2. Acetone
3. Ethanol
4. Methanol
5. 1.0M HCl
6. 0.1M phosphate buffer pH 6.0
7. Dichloromethane
8. Isopropanol
9. Ammonium hydroxide

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