

Carboxy - delta 9-THC (pKa = 4.5) In Urine For GC/MS Confirmations Using: 200 mg Clean Screen® Extraction Column



UCT Part Numbers

ZSTHC020 Clean Screen THC Extraction Column 200 mg 10 mL	Or	CSDAU206 Clean Screen DAU Extraction Column 200 mg 6 mL
---	----	--

Procedure:

1. Prepare Sample - Base Hydrolysis of Glucuronides

- To 2 mL of urine add internal standard* and 100 µL of 10 M NaOH.
- Mix/vortex.
- Hydrolyze for 20 minutes at 60°C. Cool before proceeding.
- Adjust sample pH to 3.0 with approx. 1.0 mL of glacial acetic acid. Check pH to insure that the pH value is ~ 3.0.

2. Condition Clean Screen® Extraction Column

- 1 x 3 mL CH₃OH.
 - 1 x 3 mL D.I. H₂O.
 - 1 x 1 mL Acetate buffer (ph = 3.0)
- Note:** Aspirate at < 3 inches Hg to prevent sorbent drying.

3. Apply Sample

- Load at 1 to 2 mL/minute.

4. Wash Column

- 1 x 2 mL D.I. H₂O.
- 1 x 2 mL 100 mM HCl/acetonitrile (95:5).
- Dry column (5-10 minutes at greater than 10 inches Hg/ Full Flow for Positive Pressure manifold).
- 1 x 200 µL hexane; Aspirate. (Additional step to remove any residual moisture.)

5. Elute Carboxy THC

- 1 x 3 mL hexane/ethyl acetate (50:50).
 - Collect eluate at 1 to 2 mL/minute.
- Note:** Before proceeding, insure there are no water droplets at the bottom of the collection tube.
This may increase drying time and decrease BSTFA derivatizing efficiency.

6. Dry Eluate

- Evaporate to dryness at < 40°C.

7. Derivatize

- Add 50 µL ethyl acetate and 50 µL BSTFA (with 1% TMCS)
 - Mix/vortex.
 - React 20 minutes at 70°C.
 - Remove from heat source to cool.
- Note:** Do not evaporate BSTFA.

8. Quantitate

- Inject 1 to 2 µL onto gas chromatograph.
- For MSD monitor the following ions:



Analyte (TMS)	Primary Ion**	Secondary	Tertiary	Cerilliant #
Carboxy-delta 9-THC-D3*	374	476	491	T-008
Carboxy-delta 9-THC-D9*	380	479	497	T-007
Carboxy-delta 9-THC	371	473	488	T-019

* Suggested internal standard for GC/MS: -Carboxy-delta 9-THC-D9

UCT, LLC • 2731 Bartram Road • Bristol, PA 19007 800.385.3153 • 215.781.9255

www.unitedchem.com Email: methods@unitedchem.com

©UCT, LLC 2008 • All rights reserved

