

Opiates In Urine For GC/MS Confirmations Using: 30 mg Styre Screen® DBX Extraction Column



UCT Part Numbers

SSDBX033 STYRE SCREEN® DBX - Benzenesulfonic Acid + C18 30 mg 3 mL Without Tips	Or	SCDBX033 STYRE SCREEN® DBX - Benzenesulfonic Acid + C18 30 mg 3 mL With CLEAN-THRU® Tips
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Procedure:

1. Sample Preparation (Enzymatic Hydrolysis)

- To 1 mL of urine add internal standard(s) and 1.0 mL β -Glucuronidase solution. (β -Glucuronidase solution contains 5000 Funits/mL *Patella Vulgata* in 100mM acetate buffer, pH 5.0).
- Hydrolyze for 3 hours at 60 °C.
- Cool, then centrifuge for 10 minutes at high speed and discard pellet.
- Adjust pH to 6.0 ± 0.5 with 1.0N NaOH.

Note: For unconjugated (free) opiates; to 1 mL urine, add internal standard(s) and 1 mL 100mM phosphate buffer (pH 6.0). Proceed to Step #2.

2. Apply Sample to DBX Column

- Load at a rate of 1 to 2 mL/min.

3. Wash Column

- 1 x 1 mL DI H₂O.
- 1 x 1 mL 100mM acetate buffer (pH 4.5).
- 1 x 1 mL MeOH.
- Dry column (3 mins at > 10 inches Hg).

4. Elute Opiates

- 2 x 0.5 mL CH₂Cl₂/IPA/NH₄OH (78/20/2), collect eluate at 1 to 2 mL/min.
- Evaporate eluate to dryness at < 40 °C.

5. Derivatization

- Add 50 μ L ethyl acetate and 50 μ L BSTFA (1% TMCS), then cap, mix/vortex.
 - React for 20 mins at 70 °C, allow to cool.
- Note:** Do not evaporate BSTFA solution.

6. Analyze

- Inject 1 to 2 μ L onto gas chromatograph:
For MSD monitor the following ions:



Analyte (TMS)	Target (Quantitation) Ion	Qualifier Ions	Cerilliant #
Codeine-TMS	371	234, 343	C-006
*Codeine-D ₆ -TMS	377	237, 349	C-040
Morphine-TMS	429	401, 414	M-005
*Morphine-D ₆ -TMS	435	404, 420	M-085
6-Acetylmorphine-TMS	399	400, 340	A-009
6-Acetylmorphine-D ₆ -TMS	405	406, 343	A-026

*Suggested internal standards

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