

Basic Analytes In Urine by LC-MS/MS Using Styre Screen® BCX



UCT Part Numbers

ASBETA-GLUC-10

Selectrazyme®
Beta-glucuronidase

SLDA50ID21-3UM

Selectra® DA HPLC Column,
50 x 2.1 mm, 3 µm

SSBCX056

Styre Screen® BCX SPE Cartridge,
50 mg / 6 mL

Procedure:

1. Prepare Sample

- Hydrolysis:** To 1 mL of urine sample, add 1 mL of acetate buffer (pH= 5) and 50 µL of concentrated β-glucuronidase.
- Vortex and heat for 1-2 hours at 65 °C.
- Do not adjust pH~ sample is ready to be added to the extraction plate.

2. Apply Sample

- Load sample directly to column without any preconditioning.
- Pull sample through at a rate of 1-2 mL/ minute.

3. Wash

- 1 x 1 mL 100mM Acetic Acid.
- 1 x 1 mL MeOH.
- Dry column (5 mins at > 10 inches Hg).

4. Elution

- 2 x 0.5 mL MeOH/NH₄OH (98/2), collect eluate at 1 to 2 mL/min.

Note: Prepare elution solvent daily.

5. Dry Elute

- Evaporate fraction to complete dryness under stream of dry air or N₂ at ~ 35 °C.

6. Reconstitute

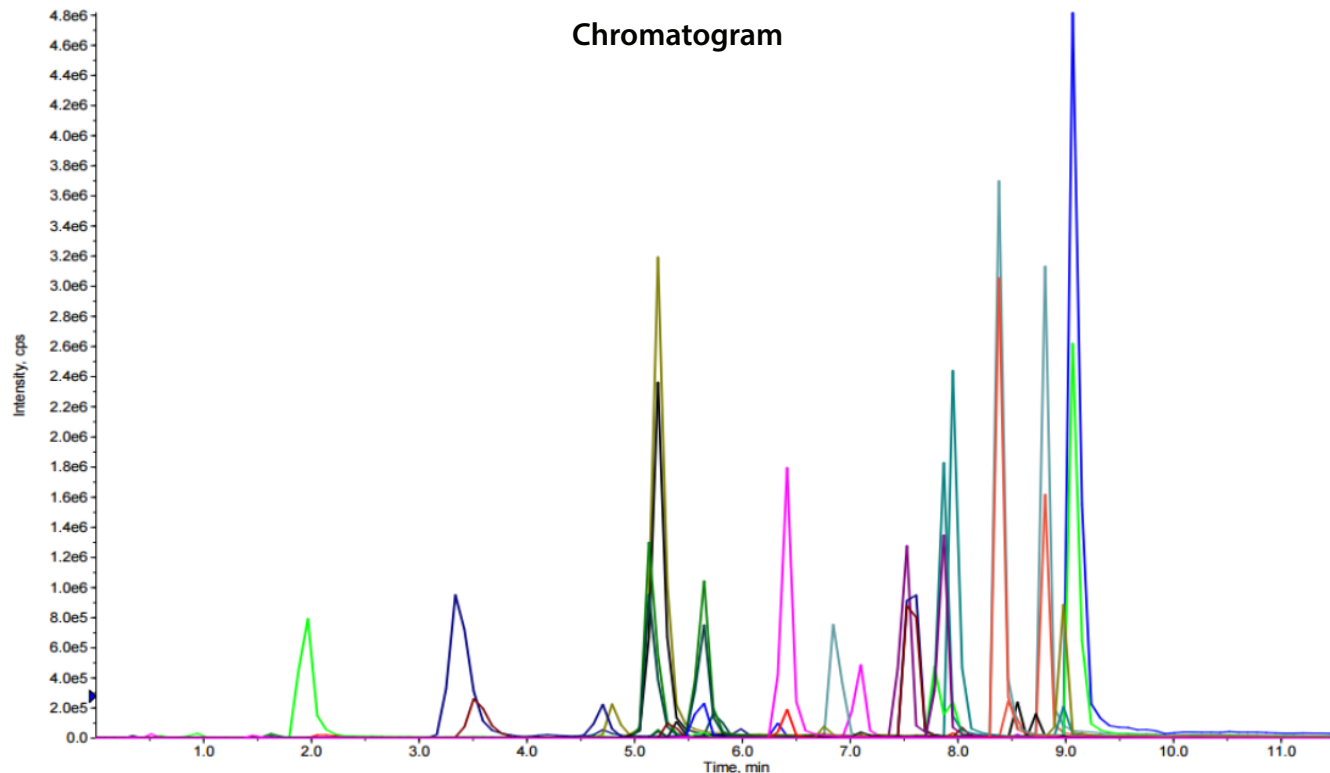
- Reconstitute sample in 100 µL of mobile phase



Analyte	Extraction Recovery	Analyte	Extraction Recovery
Morphine	58%	EDDP	58%
Hydromorphone	66%	Methadone	99%
Codeine	63%	Pyrovalerone	108%
Hydrocodone	86%	3,4 MDPV	110%
6-MAM	65%	Mephedrone	85%
Bezoyllecgonine*	16%	Ethylone	80%
Cocaethylene	83%	Butylone	125%
Cocaine	113%	Fentanyl	85%
Ketamine	87%	Naltrexone	73%
PCP	110%	Naloxone	62%
Norketamine	76%	Tramadol	79%
Amp	85%	Norfentanyl	86%
Methamp	78%	Oxymorphone	36%
MDA	73%	Oxycodone	83%
MDMA	78%	Norbuprenorphine	113%
Buprenorphine	54%		

* Recovery for this compound can be improved by using 100mM HCL as an alternative wash solution

INSTRUMENT CONDITIONS (LC-MS/MS):



Parameters:

LC-MS/MS Parameters		
Instrument	Agilent 1200 Binary Pump SL	
Detector	API 4000 Qtrap MS/MS	
Polarity	Positive	
LC Column	Selectra® DA HPLC Column 50 x 2.1mm, 3µm	
Injection Volume	10 µL	
Flow Rate	0.4 mL/minute	
Mobile Phase A	0.1% Formic Acid in H ₂ O	
Mobile Phase B	0.1% Formic Acid in MeOH	
Gradient Program		
Time (min)	A% (0.1% formic acid in H ₂ O)	B% (0.1% formic acid in MeOH)
0	90	10
0.5	90	100
4	60	40
7.5	15	85
8.5	0	100
12	0	100
12.2	90	10
15	STOP	STOP



5106-04-01

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

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

©UCT, LLC 2015 • All rights reserved

