



BASIC ANALYTES IN URINE BY LC-MS/MS USING STYRE SCREEN® BCX

UCT Part #:

SSBCX056 – Styre Screen® BCX SPE Cartridge, 50 mg / 6 mL

BETA-GLUC-10 – Selectrazyme® Beta-glucuronidase

SLDA50ID21-3UM – Selectra® DA HPLC Column, 50 x 2.1mm, 3µm

June 2015

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

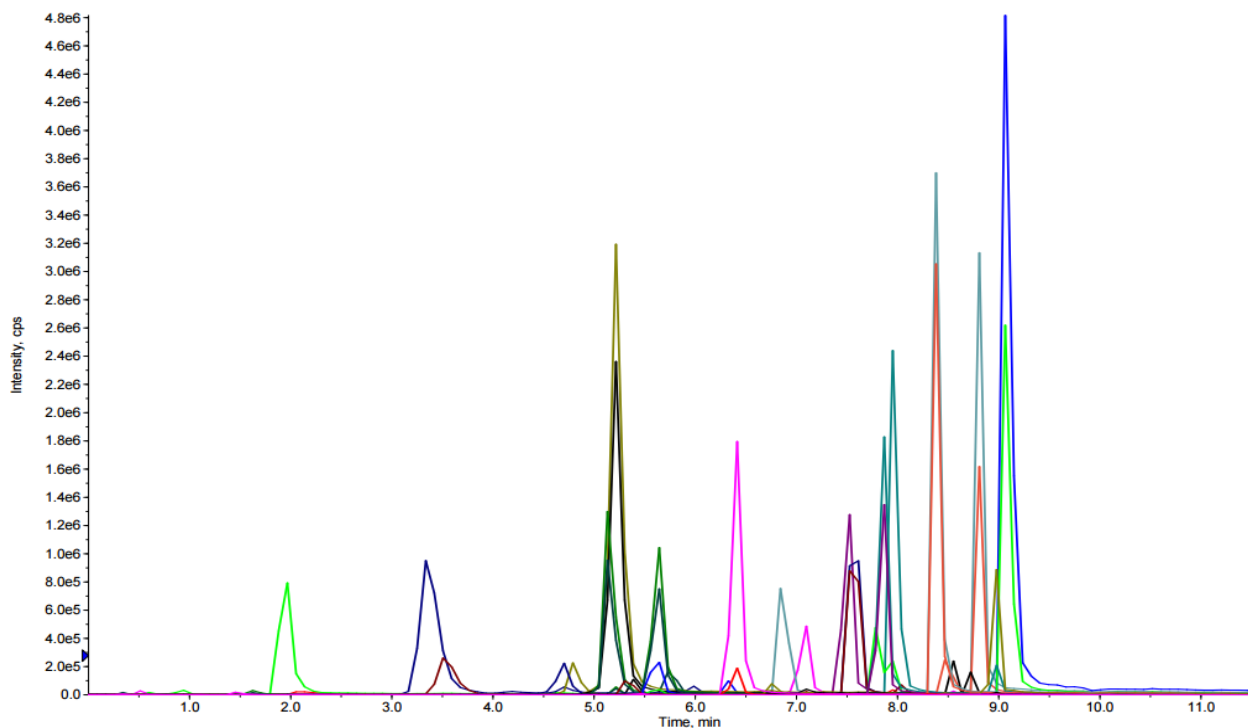
Reconstitute sample in 100 µL of mobile phase

Analyte	Extraction Recovery	Analyte	Extraction Recovery
Morphine	58%	EDDP	58%
Hydromorphone	66%	Methadone	99%
Codeine	63%	Pyrovalerone	108%
Hydrocodone	86%	3,4MDPV	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):

Chromatogram



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, 3 μ m
Injection Volume	10 μ l
Flow Rate	0.4mL/minute
Mobile Phase A	0.1% Formic Acid in H ₂ O
Mobile Phase B	0.1% Formic Acid in MeOH

Gradient:

Time	%A	%B
0.00	90	10
0.50	90	100
4.00	60	40
7.50	15	85
8.50	0	100
12.00	0	100
12.20	90	10
15.00	STOP	

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