

PAIN PANEL

Research and Solutions



PATHOLOGY DEPARTMENT

Doctor Name: _____
Date Collected: _____
Date Received: _____
Print out Date: _____
Report Date: _____

RESULTS	Sample ID	REFERENCE RANGE	STANDARD COMMENTS
YELLOW			
CLEAR			
1.025		1.016 - 1.022 (4.2 - 7.4)	
NEG		< 0.1 g/L	
NORM		< 1.7 mmol/L	
NEG		< 0.5 mmol/L	
NEG		< 3.4 mmol/L	
NEG		0 - 5 Ery/ul	
NEG		< 10 Leuko/ul	
NEG		< 17 umol/L	

MICROBIOLOGY URINE FEME ANALYSIS

Colour
Appearance
Specific Gravity



Pain management drug use and abuse has increased significantly in recent years. The 2010 National Survey on Drug Use & Health (NSDUH) reports that 17.3% of first-time drug users used pain relievers to initiate drug use, second only to marijuana. NSDUH also reported the number with pain reliever dependence or abuse increased (from 1.5 million to 1.9 million) while abuse or dependence on marijuana and cocaine stayed the same or went down during the period of 2002-2010.

This increase in pain management drug use and abuse has led to an increased demand for more accurate and sensitive testing methods. Advanced analytical techniques such as LC/MS/MS have been an essential part in improving laboratory testing. Phenomenex is committed to providing solutions for clinical laboratories that are:

- 1. High-throughput**
- 2. Accurate**
- 3. Reproducible**



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TABLE OF CONTENTS

SAMPLE PREPARATION

SPE using Strata™-X-Drug B..... 4

CORE-SHELL SOLUTIONS FOR HPLC AND UHPLC USERS

Kinetex® Phenyl-Hexyl..... 5

Kinetex C18..... 6

FULLY POROUS SOLUTIONS FOR HPLC AND UHPLC USERS

Luna® PFP(2) 7

Gemini® NX-C18..... 8

Ordering Information.....9-11



SPE Procedures for Pain Panel

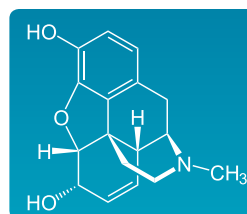
Summary: Strata™-X-Drug B 33 µm Polymeric Strong Cation, 60 mg / 6 mL, Tube, 30/box

Part No.: 8B-S128-UCH

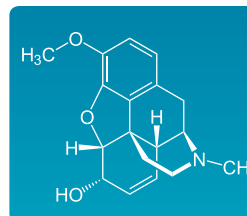


Also available in 96-well format

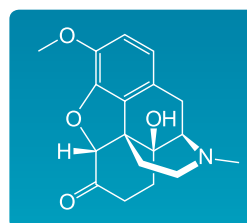
The solvent volumes shown below are for a 60 mg bed mass. The solvent volumes will need to be adjusted for a smaller or larger bed mass.



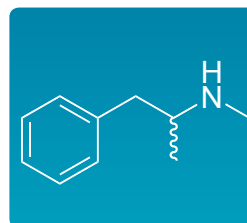
Morphine



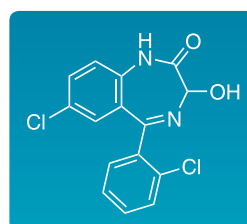
Codeine



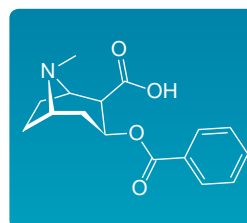
Oxycodone



Methamphetamine



Lorazepam



Benzoyllecgonine

FOR URINE SAMPLES

- Condition: No conditioning required.
- Load: To 2 mL urine sample, add 500 µL of conc. Hydrochloric acid.
 - Heat at 90 °C for 2 hours.
 - Add 2 mL of 200mM Sodium acetate buffer (pH 4.0).
 - Add 1 mL of 6N KOH. Vortex.
 - Centrifuge for 5 mins at 5000 rpm.
 - Verify pH of sample is between 4.0-6.0.
 - Load pre-treated sample directly onto Strata-X-Drug B sorbent.
- Wash: 2 mL of 100mM Sodium acetate buffer (pH 5.0).
 - 2 mL of Methanol.
 - 2 mL of Ethyl acetate/Isopropanol/Ammonium hydroxide (7:2:1).
- Evaporate: to dryness under a stream of nitrogen at 50 °C.
- Reconstitute: 1 mL of 15 % Methanol.
- Inject: 5 µL on HPLC / Mass Spectrometer (MS).



FOR SERUM/PLASMA SAMPLES

- Dilute Plasma sample 3:1 with 1 % Acetic acid.
- Vortex
- Centrifuge 5 minutes at 3000 g.
- Load Directly onto Strata-X-Drug B sorbent. No conditioning required.
- 5-8. Follow the Wash, Evaporate, Reconstitute, and Inject steps above.



FOR SALIVA SAMPLES

- Dilute Saliva sample 3:1 with 1 % Acetic acid.
- Vortex
- Centrifuge 5 minutes at 3000 g.
- Load Directly onto Strata-X-Drug B sorbent. No conditioning required.
- 5-8. Follow the Wash, Evaporate, Reconstitute and Inject steps above.



Want help optimizing your procedure?
Contact us at clinicalresearch@phenomenex.com

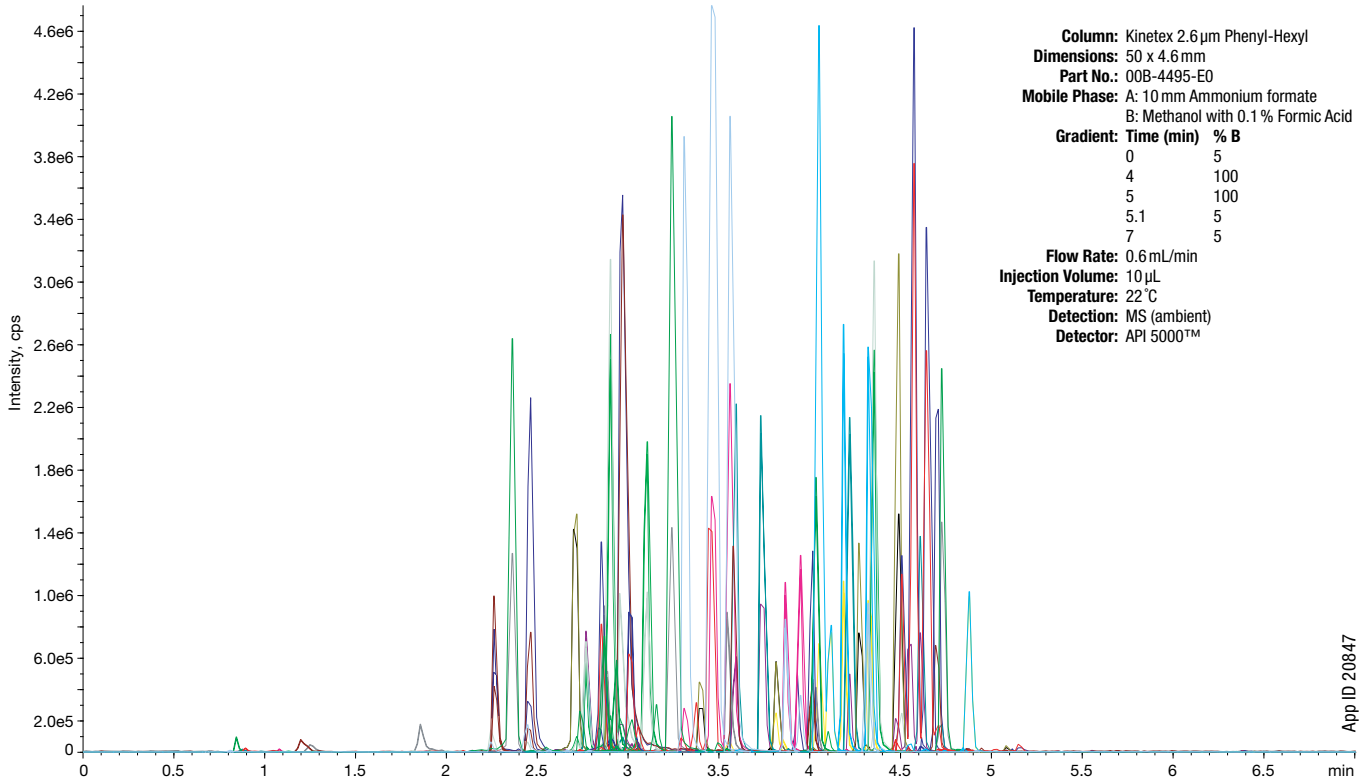
Instant Method Development

Create your Own SPE Method in under 1 minute!
www.phenomenex.com/info/mdtool



Pain Control and Illicit Drug Panel

Kinetex® 2.6µm Phenyl-Hexyl, 50 x 4.6 mm



App ID 20847

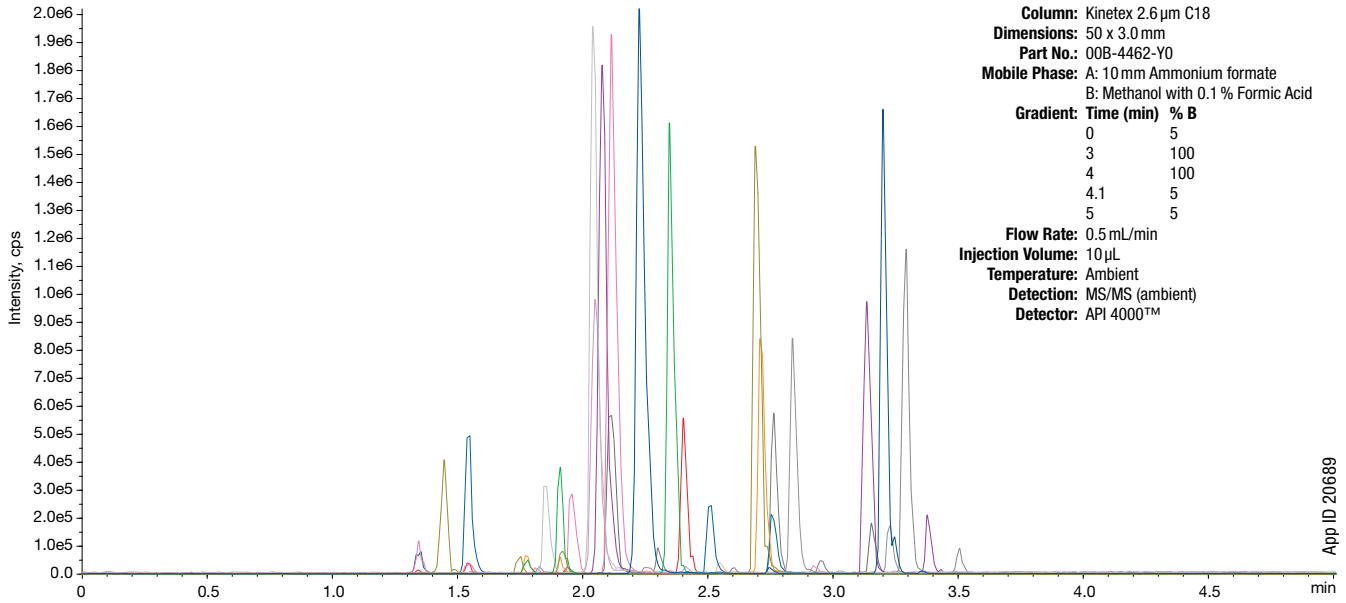
Analyte	Q1	Q3	Retention Time (min)
6-MAM 1 (quantifier)	328.1	165.2	3.0
6-MAM 2 (confirmation)	328.1	211.2	3.0
Alprazolam 1	309.1	281	4.9
Alprazolam 2	309.1	205.1	4.9
Amphetamine 1	136.1	91.0	2.9
Amphetamine 2	136.1	119.0	2.9
Benzoyllecgonine 1	290.2	168.1	3.6
Benzoyllecgonine 2	290.2	105.0	3.6
Buprenorphine 1	468.3	396.1	4.3
Buprenorphine 2	468.3	414.2	4.3
Carisoprodol 1	261.2	176.2	4.6
Carisoprodol 2	261.2	97.2	4.6
Clonazepam 1	316.0	270.1	4.8
Clonazepam 2	316.0	214.2	4.8
Codeine 1	300.1	152.1	2.8
Codeine 2	300.1	115.1	2.8
Diazepam 1	285.1	193.1	5.2
Diazepam 2	285.1	154.0	5.2
EDDP 1	278.3	234.2	4.3
EDDP 2	278.3	186.2	4.3
Fentanyl 1	337.2	105.1	4.3
Fentanyl 2	337.2	188.1	4.3
Flunitrazepam 1	314.1	268.2	4.9
Flunitrazepam 2	314.1	239.2	4.9
Flurazepam 1	388.2	315.1	4.4
Flurazepam 2	388.2	134.1	4.4
Hydrocodone 1	300.1	199.1	3.0
Hydrocodone 2	300.1	128.1	3.0
Hydromorphone 1	286.2	185.0	2.3
Hydromorphone 2	286.2	128.0	2.3
Hydroxylalprazolam 1	325.1	297.0	4.8
Hydroxylalprazolam 2	325.1	216.1	4.8
Lorazepam 1	321.0	275.1	4.8

Analyte	Q1	Q3	Retention Time (min)
Lorazepam 2	321.0	229.1	4.8
MDA 1	180.1	105.0	3.1
MDA 2	180.1	133.0	3.1
MDEA 1	208.2	163.2	3.4
MDEA 2	208.2	105.2	3.4
MDMA 1	194.1	163.2	3.2
MDMA 2	194.1	105.2	3.2
Meperidine 1	248.2	220.0	3.8
Meperidine 2	248.2	174.1	3.8
Meprobamate 1	219.2	158.2	4.0
Meprobamate 2	219.2	97.1	4.0
Methadone 1	310.2	265.2	4.7
Methadone 2	310.2	105.0	4.7
Methamphetamine 1	150.1	91.2	3.0
Methamphetamine 2	150.1	119.2	3.0
Midazolam 1	326.1	291.1	4.6
Midazolam 2	326.1	249.1	4.6
Morphine 1	286.2	152.0	2.1
Morphine 2	286.2	165.0	2.1
Naloxone 1	328.1	212.0	2.7
Naloxone 2	328.1	253.1	2.7
Naltrexone 1	342.2	267.1	2.9
Naltrexone 2	342.2	212.1	2.9
Norbuprenorphine 1	414.3	101.1	4.1
Norbuprenorphine 2	414.3	165.1	4.1
Nordiazepam 1	271.1	140.0	5.0
Nordiazepam 2	271.1	165.1	5.0
Norfentanyl 1	233.2	84.1	3.5
Norfentanyl 2	233.2	150.0	3.5
Normeperidine 1	231.1	160.2	3.9
Normeperidine 2	234.1	188.1	3.9
Norpropoxyphene 1	308.2	100.1	4.4
Norpropoxyphene 2	308.2	143.2	4.4

Analyte	Q1	Q3	Retention Time (min)
Oxazepam 1	287.1	241.0	4.8
Oxazepam 2	287.1	269.1	4.8
Oxycodone 1	316.2	241.0	3.0
Oxycodone 2	316.2	256.0	3.0
Oxymorphone 1	302.1	227.0	2.2
Oxymorphone 2	302.1	198.1	2.2
PCP 1	244.3	91.0	4.2
PCP 2	244.3	159.3	4.2
Propoxyphene 1	340.2	266.3	4.5
Propoxyphene 2	340.2	91.1	4.5
Sufentanil 1	387.2	238.2	4.5
Sufentanil 2	387.2	111.0	4.5
Temazepam 1	301.1	255.1	5.0
Temazepam 2	301.1	177.1	5.0
Tramadol 1	264.2	58.1	3.7
Tramadol 2	264.2	42.1	3.7
6-MAM-d3	331.1	165.0	3.0
Amphetamine-d5	141.1	93.0	2.9
Benzoyllecgonine-d3	293.2	171.2	3.6
Codeine-d6	306.2	152.1	2.8
Fentanyl-d5	342.2	105.1	4.3
Hydrocodone-d6	306.2	202.1	3.0
Hydromorphone-d6	292.2	185.1	2.3
Meperidine-d4	252.2	224.2	3.8
Methadone-d3	313.2	105.0	4.7
Methamphetamine-d5	155.2	92.0	3.0
Morphine-d6	292.2	152.1	2.1
Nordiazepam-d5	276.1	140.0	5.0
Normeperidine-d4	238.2	164.2	3.9
Norpropoxyphene-d5	313.2	100.1	4.5
PCP-d5	249.3	96.0	4.2

Pain Control and Illicit Drug Panel

Kinetex® 2.6 µm C18, 50 x 3.0 mm

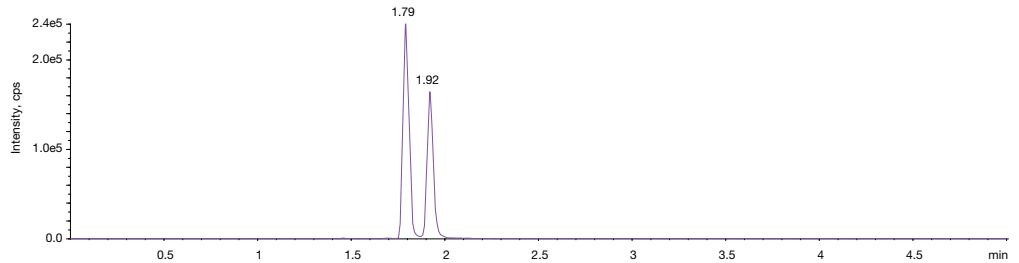


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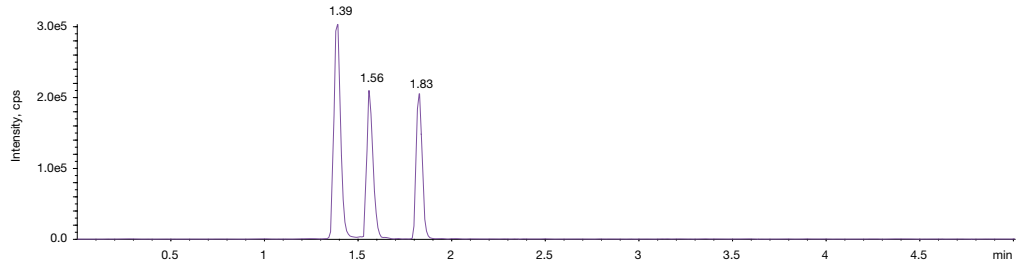
Analyte	Q1	Q3
Oxymorphone	302.1	227
Morphine	286.2	152
Hydromorphone	286.2	185
Amphetamine	136.1	91
Methamphetamine	150.1	91.2
Oxycodone	316.2	241
MDA	180.1	133
MDMA	194.1	163.2
Codeine	300.1	152.1
Naltrexone	342.2	267.1
MDEA	208.2	163.2
6-MAM	328.1	165.2
Hydrocodone	300.1	199.1
Benzoylcegonine	290.2	168.1
Norfentanyl	233.2	84.1
Tramadol	264.2	58.1
Naloxone	328.1	212
Normeperidine	234.1	160.2
Meperidine	248.2	220
Meprobamate	219.2	158.2
PCP	244.3	91
Norbuprenorphine	414.3	101.1
EDDP	278.3	234.2
Norpropoxyphene	308.2	100.1
Clonazepam	316	270.1
Flunitrazepam	314.1	268.2
α-hydroxyalprazolam	325.1	297
Carisoprodol	261.2	176.2
Oxazepam	287.1	241
Methadone	310.2	265.2
Lorazepam	321	275.1
Fentanyl	337.2	105.1
Flurazepam	388.2	315.1
Alprazolam	309.1	281
Temazepam	301.1	255.1
Propoxyphene	340.2	266.3
Nordiazepam	271.1	140
Diazepam	285.1	193.1
Midazolam	326.1	291.1
Sufentanil	387.2	238.2
Buprenorphine	468.3	396.1

Resolution of Critical Isobars

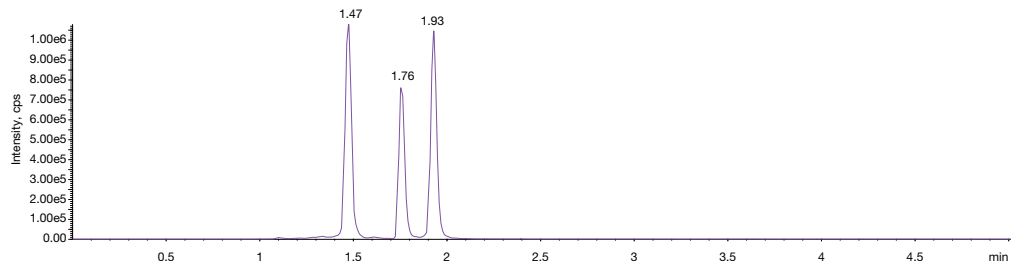
Codeine/Hydrocodone



Morphine/Hydromorphone/Norhydrocodone

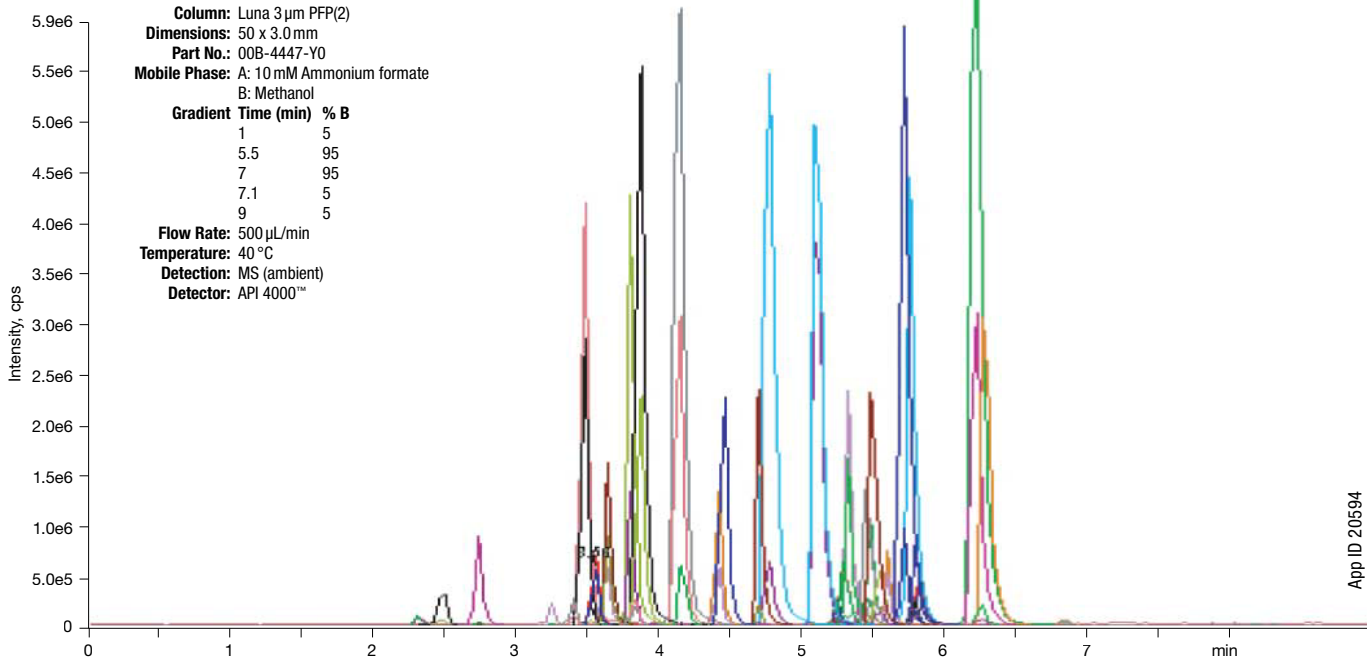


Oxymorphone/Dihydrocodeine/Noroxycodone



Pain Panel Mix in Human Urine

Fully Porous Solution on Luna® 3 µm PFP(2)



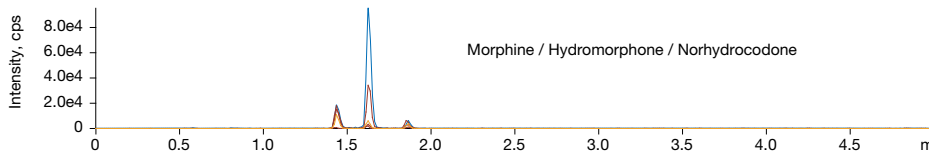
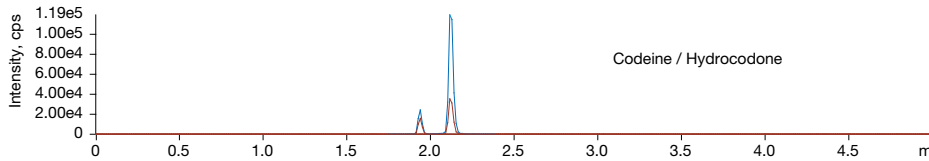
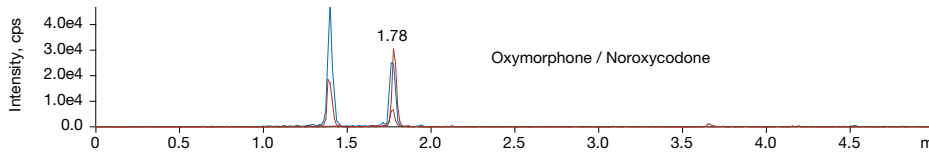
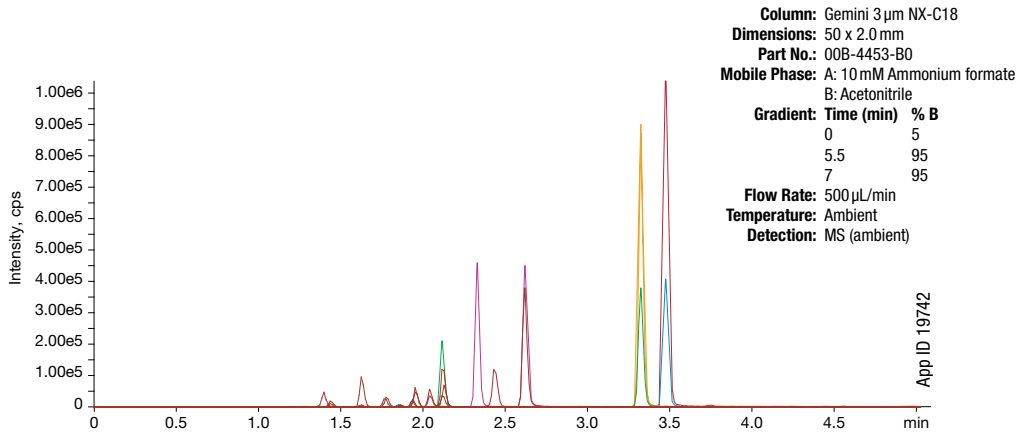
App ID 20594

Analyte	Q1	Q3
Morphine	286.2/152	286.2/165
Oxymorphone	302.1/227	302.1/198.1
Hydromorphone	286.2/185	286.2/128
Oxycodone	316.2/24	316.2/256
Codeine	300.1/152.1	300.1/115.1
Amphetamine	136.1/91	136.1/119
Naltrexone	342.2/267.1	342.2/152.1
Methamphetamine	150.1/91.2	150.1/119.2
MDA	180.1/133	300.1/128.1
Hydrocodone	300.1/199.1	328.1/211.2
6-MAM	328.1/165.2	194.1/105.2
MDMA	194.1/163.2	328.1/253.1
Naloxone	328.1/212	328.1/253.1
MDEA	208.2/163.2	208.2/105.2
Benzoylcegonine	290.2/168.1	290.2/105
Norfentanyl	233.2/84.1	233.2/150
Tramadol	264.2/58.1	264.2/42.1
Meperidine	248.2/220	248.2/174.1
Normeperidine	234.1/160.2	234.1/188.1
Meprobamate	219.2/158.2	219.2/97.1
PCP	244.3/91	244.3/159.3

Analyte	Q1	Q3
Norbuprenorphine	414.3/101.1	414.3/165.1
EDDP	278.3/234.2	278.3/186.2
Fentanyl	337.2/105.1	337.2/188.1
Flurazepam	388.2/315.1	388.2/134.1
Norpropoxyphene	308.2/100.1	308.2/143.2
Clonazepam	316/270.1	316/214.2
Flunitrazepam	314.1/268.2	314.1/239.2
α-Hydroxyalprazolam	325.1/297	325.1/216.1
Propoxyphene	340.2/266.3	340.2/91.1
Methadone	310.2/265.2	310.2/105
Sufentanil	387.2/238.2	387.2/111
Carisoprodol	261.2/176.2	261.2/97.2
Oxazepam	287.1/241	287.1/269.1
Lorazepam	321/275.1	321/229.1
Midazolam	309.1/281	309.1/205.1
Temazepam	301.1/255.1	301.1/177.1
Nordiazepam	271.1/140	271.1/165.1
Midazolam	326.1/291.1	326.1/249.1
Buprenorphine	468.3/396.1	468.3/414.2
Diazepam	285.1/193.1	285.1/154

Pain Panel Opiates

Fully Porous Solution on Gemini® 3µm NX-C18



Analyte	Q1	Q3
Noroxycodone	302.1	187.2
Buprenorphine 1	468.3	55.2
Buprenorphine 2	468.3	396.3
Codeine 1	300.156	215
Codeine 2	300.156	165.1
Fentanyl 1	337.2	105.1
Fentanyl 2	337.2	188.2
Hydrocodone 1	300.2	199
Hydrocodone 2	300.2	171
Hydromorphone 1	286.1	185
Hydromorphone 2	286.1	157.1
Meperidine 1	248.2	220.1
Meperidine 2	248.2	174.1
Methadone 1	310.2	265.2
Methadone 2	310.2	105.1
Morphine 1	286.2	165.1
Morphine 2	286.2	152.1

Analyte	Q1	Q3
Naloxone	328.2	310.2
Naltrexone	342.2	324.2
Norbuprenorphine 1	414.3	101.2
Norbuprenorphine 2	414.3	83.1
Norfentanyl 1	233.2	84.1
Norfentanyl 2	233.2	56
Oxycodone 1	316.1	241.1
Oxycodone 2	316.1	256.1
Oxymorphone 1	302.1	227.2
Oxymorphone 2	302.1	242.1
Tramadol	264.2	58.2
6-MAM 1	328.1	165
6-MAM 2	328.1	193.1
Norhydrocodone	286	199

Ordering Information

2.6 µm Analytical Columns (mm)						SecurityGuard™ ULTRA Cartridges*
Phases	30 x 4.6	50 x 4.6	75 x 4.6	100 x 4.6	150 x 4.6	3/pk
XB-C18	—	00B-4496-E0	00C-4496-E0	00D-4496-E0	00F-4496-E0	AJO-8768
C18	00A-4462-E0	00B-4462-E0	00C-4462-E0	00D-4462-E0	00F-4462-E0	AJO-8768
C8	—	00B-4497-E0	00C-4497-E0	00D-4497-E0	00F-4497-E0	AJO-8770
PPF	00A-4477-E0	00B-4477-E0	00C-4477-E0	00D-4477-E0	00F-4477-E0	AJO-8773
HILIC	00A-4461-E0	00B-4461-E0	00C-4461-E0	00D-4461-E0	00F-4461-E0	AJO-8772
Phenyl-Hexyl	—	00B-4495-E0	—	00D-4495-E0	00F-4495-E0	AJO-8774

for 4.6 mm ID

2.6 µm MidBore™ Columns (mm)						SecurityGuard ULTRA Cartridges*
Phases	30 x 3.0	50 x 3.0	75 x 3.0	100 x 3.0	150 x 3.0	3/pk
XB-C18	00A-4496-Y0	00B-4496-Y0	00C-4496-Y0	00D-4496-Y0	00F-4496-Y0	AJO-8775
C18	00A-4462-Y0	00B-4462-Y0	00C-4462-Y0	00D-4462-Y0	00F-4462-Y0	AJO-8775
C8	00A-4497-Y0	00B-4497-Y0	00C-4497-Y0	00D-4497-Y0	00F-4497-Y0	AJO-8777
PPF	00A-4477-Y0	00B-4477-Y0	00C-4477-Y0	00D-4477-Y0	00F-4477-Y0	AJO-8780
HILIC	00A-4461-Y0	—	—	—	00F-4461-Y0	AJO-8779
Phenyl-Hexyl	—	—	—	—	—	AJO-8781

for 3.0 mm ID

2.6 µm Minibore Columns (mm)					SecurityGuard ULTRA Cartridges*
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
XB-C18	00A-4496-AN	00B-4496-AN	00D-4496-AN	00F-4496-AN	AJO-8782
C18	00A-4462-AN	00B-4462-AN	00D-4462-AN	00F-4462-AN	AJO-8782
C8	00A-4497-AN	00B-4497-AN	00D-4497-AN	00F-4497-AN	AJO-8784
PPF	00A-4477-AN	00B-4477-AN	00D-4477-AN	00F-4477-AN	AJO-8787
HILIC	00A-4461-AN	00B-4461-AN	00D-4461-AN	00F-4461-AN	AJO-8786
Phenyl-Hexyl	—	00B-4495-AN	00D-4495-AN	—	AJO-8788

for 2.1 mm ID

1.7 µm MidBore Columns (mm)				SecurityGuard ULTRA Cartridges*
Phases	30 x 3.0	50 x 3.0	100 x 3.0	3/pk
XB-C18	00A-4498-Y0	00B-4498-Y0	00D-4498-Y0	AJO-8775
C18	—	00B-4475-Y0	00D-4475-Y0	AJO-8775
C8	00A-4499-Y0	00B-4499-Y0	00D-4499-Y0	AJO-8777
PPF	—	—	00D-4476-Y0	AJO-8780
HILIC	—	00B-4474-Y0	—	AJO-8779

for 3.0 mm ID

1.7 µm Minibore Columns (mm)					SecurityGuard ULTRA Cartridges*
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
XB-C18	00A-4498-AN	00B-4498-AN	00D-4498-AN	00F-4498-AN	AJO-8782
C18	00A-4475-AN	00B-4475-AN	00D-4475-AN	00F-4475-AN	AJO-8782
C8	00A-4499-AN	00B-4499-AN	00D-4499-AN	00F-4499-AN	AJO-8784
PPF	00A-4476-AN	00B-4476-AN	00D-4476-AN	00F-4476-AN	AJO-8787
HILIC	00A-4474-AN	00B-4474-AN	00D-4474-AN	—	AJO-8786
Phenyl-Hexyl	—	00B-4500-AN	00D-4500-AN	00F-4500-AN	AJO-8788

for 2.1 mm ID



If you are not completely satisfied with Kinetex core-shell columns, send in your comparative data to a similar product within 45 days for a FULL REFUND.

NEW!	SecurityGuard ULTRA Cartridges*						SecurityGuard ULTRA Cartridges*
	5 µm Columns (mm)		5 µm Columns (mm)				
	50 x 2.1	3/pk	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	3/pk
XB-C18	00B-4605-AN	AJO-8782	00B-4605-E0	00D-4605-E0	00F-4605-E0	00G-4605-E0	AJO-8768
C18	00B-4601-AN	AJO-8782	00B-46v1-E0	00D-4601-E0	00F-4601-E0	00G-4601-E0	AJO-8768
PPF	00B-4602-AN	AJO-8787	00B-4602-E0	00D-4602-E0	00F-4602-E0	00G-4602-E0	AJO-8773
Phenyl-Hexyl	00B-4603-AN	AJO-8788	00B-4603-E0	00D-4603-E0	00F-4603-E0	00G-4603-E0	AJO-8774

for 2.1 mm ID

for 4.6 mm ID

*SecurityGuard ULTRA cartridges require holder, Part No. AJO-9000.

NEW!	1.3 µm Columns (mm)
	50 x 2.1

C18	00B-4515-AN
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SecurityGuard ULTRA Cartridge Holder		
Part No.	Unit	Price
AJO-9000	ea	

Core-Shell Performance Enhancement Kit		
Part No.	Unit	Price
AQO-8892	ea	

Ordering Information

*SecurityGuard Analytical Cartridges require holder, Part No. KJ0-4282.

3 µm Microbore and Minibore Columns (mm)					SecurityGuard Cartridges (mm)
Phases	30 x 2.0	50 x 2.0	100 x 2.0	150 x 2.0	4 x 2.0*
PFP(2)	00A-4447-B0	00B-4447-B0	00D-4447-B0	00F-4447-B0	AJ0-8326 for ID: 2.0-3.0 mm

3 µm Narrow Bore and Analytical Columns (mm)					SecurityGuard™ Cartridges (mm)	
Phases	50 x 3.0	150 x 3.0	50 x 4.6	100 x 4.6	150 x 4.6	4 x 2.0* 4 x 3.0*
PFP(2)	00B-4447-Y0	00F-4447-Y0	00B-4447-E0	00D-4447-E0	00F-4447-E0	AJ0-8326 AJ0-8327 for ID: 2.0-3.0 mm 3.2-8.0 mm

5 µm Microbore and Minibore Columns (mm)			SecurityGuard™ Cartridges (mm)
Phases	30 x 2.0	50 x 2.0	150 x 2.0 4 x 2.0*
PFP(2)	00A-4448-B0	00B-4448-B0	00F-4448-B0 AJ0-8326 for ID: 2.0-3.0 mm

5 µm Narrow Bore and Analytical Columns (mm)			SecurityGuard™ Cartridges (mm)		
Phases	50 x 3.0	150 x 3.0	50 x 4.6	4 x 2.0*	4 x 3.0*
PFP(2)	00B-4448-Y0	00F-4448-Y0	00B-4448-E0	AJ0-8326	AJ0-8327 for ID: 2.0-3.0 mm 3.2-8.0 mm

5 µm Analytical and Semi-Prep Columns (mm)				SecurityGuard™ Cartridges (mm)	
Phases	100 x 4.6	150 x 4.6	250 x 4.6	250 x 10	4 x 3.0* 10 x 10 ²
PFP(2)	00D-4448-E0	00F-4448-E0	00G-4448-E0	00G-4448-N0	AJ0-8327 AJ0-8376 for ID: 3.2-8.0 mm 9-16 mm



If Luna analytical columns do not provide at least an equivalent separation as compared to a competing column of the same particle size, similar phase, and dimensions, return the column with comparative data within 45 days for a FULL REFUND.

Gemini®

U.S. Patent No. 7, 563, 367



If Gemini analytical columns do not provide at least an equivalent separation as compared to a competing column of similar particle size, similar phase and dimensions, return the column with comparative data within 45 days for a FULL REFUND.

Ordering Information

3 µm Microbore, Minibore and Narrow Bore Columns (mm)									SecurityGuard™ Cartridges (mm)
Phases	20 x 2.0	30 x 2.0	50 x 2.0	100 x 2.0	150 x 2.0	50 x 3.0	100 x 3.0	150 x 3.0	4 x 2.0*
NX-C18	00M-4453-B0	00A-4453-B0	00B-4453-B0	00D-4453-B0	00F-4453-B0	00B-4453-Y0	00D-4453-Y0	00F-4453-Y0	AJ0-8367 for ID: 2.0-3.0 mm

3 µm Analytical Columns (mm)				SecurityGuard Cartridges (mm)
Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6 4 x 3.0*
NX-C18	00B-4453-E0	00D-4453-E0	00F-4453-E0	00G-4453-E0 AJ0-8368 for ID: 3.2-8.0 mm

5 µm Minibore and Narrow Bore Columns (mm)							SecurityGuard Cartridges (mm)	
Phases	30 x 2.0	50 x 2.0	150 x 2.0	50 x 3.0	100 x 3.0	150 x 3.0	250 x 3.0	4 x 2.0*
NX-C18	00A-4454-B0	00B-4454-B0	00F-4454-B0	00B-4454-Y0	00D-4454-Y0	00F-4454-Y0	00G-4454-Y0	AJ0-8367 for ID: 2.0-3.0 mm

5 µm Analytical Columns (mm)				SecurityGuard Cartridges (mm)	
Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	4 x 3.0*
NX-C18	00B-4454-E0	00D-4454-E0	00F-4454-E0	00G-4454-E0	AJ0-8368 for ID: 3.2-8.0 mm



*SecurityGuard™ Analytical Cartridges require holder, Part No.: KJ0-4282

Strata-X-Drug B

U.S. Patent No. 7,119,145

Strata-X-Drug B is a polymeric strong cation-exchange SPE sorbent that is designed and quality controlled with Substance Abuse and Mental Health Services Administration (SAMHSA) regulations in mind.



3 EASY TO FOLLOW METHODS

Methods are written for 60 mg/6 mL Strata-X-Drug B; however they can be scaled to accommodate smaller or larger sample sizes and sorbent masses.

OPIATES, 6-MAM, PCP, AND AMPHETAMINES*

1. Condition: No conditioning required
2. Load: Pre-treated urine sample
3. Wash 1: 2 mL of 100 mM Sodium acetate buffer (pH 5.0)
4. Wash 2: 2 mL Methanol
5. Dry: 10 minutes under full vacuum
6. Elute: 2 mL of Ethyl acetate/Isopropanol/Ammonium hydroxide (70:20:10)

MARIJUANA METABOLITES

1. Condition: No conditioning required
2. Load: Pre-treated urine sample
3. Wash 1: 2 mL of 100 mM Sodium acetate buffer (pH 5.0)
4. Wash 2: 2 mL of Acetonitrile/100 mM Sodium acetate buffer (pH 5.0) (30:70)
5. Dry: 15 minutes under full vacuum
6. Elute: 2 mL of Ethyl acetate/Isopropanol (85:15)



COCAINE METABOLITES

1. Condition: No conditioning required
2. Load: Pre-treated urine sample
3. Wash 1: 2 mL of 0.1 N Hydrochloric acid
4. Wash 2: 2 mL Methanol
5. Dry: 10 minutes under full vacuum
6. Elute: 2 mL of Ethyl acetate/Isopropanol/Ammonium hydroxide (70:20:10)

* Opiates, 6-MAM, PCP, and Amphetamines can be extracted simultaneously or separately using the same SPE methodology.

STRATA-X-DRUG B

Ordering Information

Format	Sorbent Mass	Part Number	Unit	Price
Tube				
	10 mg	8B-S128-AAK	1 mL (100/box)	
	10 mg	8L-S128-AAK†	1 mL (100/box)	
	30 mg	8B-S128-TAK	1 mL (100/box)	
	30 mg	8L-S128-TAK†	1 mL (100/box)	
	30 mg	8B-S128-TBJ	3 mL (50/box)	
	60 mg	8B-S128-UBJ	3 mL (50/box)	
	60 mg	8B-S128-UCH	6 mL (30/box)	
	60 mg	8B-S128-UCL	6 mL (200/box)	
96-Well Plate				
	10 mg	8E-S128-AGB	2 Plates/box	
	30 mg	8E-S128-TGB	2 Plates/box	
	60 mg	8E-S128-UGB	2 Plates/box	

† Tab-less tube

Accessories for SPE Tubes

Manifolds				
Part No.	Description	Unit	Price	
AHO-6023	SPE 12-Position Vacuum Manifold Set, complete assembly	ea		
AHO-6024	SPE 24-Position Vacuum Manifold Set, complete assembly	ea		

Accessories for 96-Well Plates

Manifold				
Part No.	Description	Unit	Price	
AHO-8950	Strata® 96-Well Plate Manifold, Universal w/vacuum gauge	ea		
Collection Plates (deep well, polypropylene)				
Part No.	Description	Unit	Price	
AHO-7192	Strata 96-Well Collection Plate, 350 µL/Conical	50/pk		
AHO-7193	Strata 96-Well Collection Plate, 1 mL/Conical	50/pk		
AHO-7279	Strata 96-Well Collectin Plate, 1 mL Round, 7 mm	50/pk		
AHO-8635	Strata 96-Well Collection Plate, 2 mL Square/Round-Conical	50/pk		
AHO-8636	Strata 96-Well Collection Plate, 2 mL Round/Round, 8 mm	50/pk		
Sealing Mats				
Part No.	Description	Unit	Price	
AHO-8597	Sealing Mats, Pierceable, 96-Square Well, Silicone	50/pk		
AHO-8631	Sealing Mats, Pierceable, 96-Round Well 7 mm, Silicone	50/pk		
AHO-8633	Sealing Mats, Pierceable, 96-Round Well 8 mm, Silicone	50/pk		
AHO-7362	Sealing Tape Pad	10/pk		

guarantee

If Strata-X SPE products do not perform as well or better than your current SPE product of similar phase, mass and size, send in your comparative data within 45 days for a FULL REFUND.

Instant Method Development

Create your Own SPE Method in under 1 minute!

www.phenomenex.com/info/mdtool



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Comparative separations may not be representative of all applications.

Gemini is patented by Phenomenex. U.S. Patent No. 7,563,367
Strata-X is patented by Phenomenex. U.S. Patent No. 7,119,145

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