

# APPLICATION

## A Rapid Sample Preparation Method of Comprehensive Drug Panel Analytes from Oral Fluid Collection Devices using Strata<sup>®</sup>-X-CW Solid Phase Extraction (SPE)

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### Overview

Use of oral fluid as a drug testing matrix has steadily gained popularity due to its easy and non-intrusive sample collection procedure. The oral fluid collection device provide a buffer solution that contains a number of antibacterial agents and surfactants which acts to prevent bacterial growth and increase the analytes stability during the sample transit to testing laboratories. Presented is a fast sample preparation procedure to reduce detrimental effect of excipients present in buffer solution of the device. The prescribed solution, using a single Strata-X-CW extraction method, shows good recovery of analytes from a wide range of a comprehensive drug research panel. For a more selective SPE solution, review our dual cartridge method ([TN-0100](#)).

### Sample Pretreatment

Transfer 1 mL of oral fluid collected on an applicator tip in its preservative buffer (Intercept i2<sup>®</sup>). Leave it for 2 hours followed by centrifugation for 15 minutes at 600 g. Remove 0.5 mL of supernatant and combine with 1 mL of 1% formic acid. Vortex for 5-10 seconds.

### SPE Protocol

**96-Well Plate:** Strata-X-CW, 30 mg/well  
**Part No.:** 8E-S035-TGB  
**Condition:** 1 mL Methanol  
**Equilibrate:** 1 mL DI Water  
**Load:** Pretreated Sample  
**Wash 1:** 1 mL 1% Formic acid in DI Water  
**Wash 2:** 1 mL DI Water  
**Dry:** 5-6 minutes at maximum vacuum (20" Hg or higher)  
**Elute:** 2x 500 µL (2 aliquots of 500µL) Methylene chloride/ Isopropanol/ 30% Ammonium hydroxide in Water (80:18:2)  
**Dry Down:** Evaporate to dryness under nitrogen at 45-50°C  
**Reconstitute:** 200 µL of 0.1% Formic acid in Water/0.1% Formic acid in Methanol (90:10)

Analyte	% Recovery
6-MAM	79
α-Hydroxyalprazolam	88
Alprazolam	79
Amphetamine	94
Benzoylcegonine	89
Carisoprodol	95
Citalopram	81
Cocaine	84
Codeine	89
Diazepam	74
EDDP	72
Fentanyl	74
Hydrocodone	102
Hydromorphone	98
Meperidine	84
Mephedrone	84
Meprobamate	92
Methamphetamines	81
Naloxone	83
Norbuprenorphine	87
Nordiazepam	75
Norfentanyl	85
Norhydrocodone	89
Noroxycodone	85
Oxycodone	84
PCP	84
Phenobarbital	83
Secobarbital	82
Tapentadol	83
Temazepam	86
Tramadol	87





For a complete comprehensive drug analyte list, read our alternative Strata-X Method

[www.phenomenex.com/search](http://www.phenomenex.com/search) [TN-0100](#)



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## Strata®-X-CW Ordering Information

Format	Sorbent Mass	Part Number	Unit
<b>Tube</b>			
	30 mg	8B-S035-TAK**	1 mL (100/box)
	30 mg	8B-S035-TBJ	3 mL (50/box)
	60 mg	8B-S035-UBJ**	3 mL (50/box)
	100 mg	8B-S035-ECH	6 mL (30/box)
	200 mg	8B-S035-FBJ	3 mL (50/box)
	200 mg	8B-S035-FCH	6 mL (30/box)
	500 mg	8B-S035-HBJ	3 mL (50/box)
	500 mg	8B-S035-HCH	6 mL (30/box)
<b>Giga™ Tube</b>			
	1 g	8B-S035-JDG	12 mL (20/box)
	1 g	8B-S035-JEG	20 mL (20/box)
	2 g	8B-S035-KEG	20 mL (20/box)
	5 g	8B-S035-LFF	60 mL (16/box)
<b>96-Well Plate</b>			
	10 mg	8E-S035-AGB	2 Plates/Box
	30 mg	8E-S035-TGB	2 Plates/Box
	60 mg	8E-S035-UGB	2 Plates/Box
<b>96-Well Microelution Plate</b>			
	2 mg	8M-S035-4GA	ea

\*\*Tab-less tubes available. Contact Phenomenex for details.



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