Oasis® WCX SPE Products for Strongly Basic Compounds

The new Oasis® WCX (Weak Cation eXchange) SPE sorbent was developed to provide superior sample preparation for strong bases and quaternary amines. The retention mechanism is mixed-mode, i.e., both ion-exchange and reversed-phase. This improves retention for, as well as the ability to elute all types of basic analytes, especially strong bases and quaternary amines.

Generic Oasis® WCX Method for Plasma Samples

Format: Oasis® WCX 30 µm 96-well µElution Plate (P/N 186002499)

Condition: 200 µL MeOH

Equilibrate: 200 µL water.

Load: 150 µL of spiked rat plasma*

Wash 1: 200 µL of 25 mM phosphate buffer, pH 7.0

Wash 2: 200 µL of MeOH

Elute: 50 µL (25 µL x 2) of MeOH containing 2% formic acid

Dilute and neutralize: 100 µL of water containing 5% NH₄OH

*Sample Pre-Treatment

Spike rat plasma separately with valethamate, protriptyline, and atenolol (each 10 ng/mL). Acidify with H₃PO₄ (2% of total sample volume) for protriptyline only.
**Recovery Data for Three Types of Basic Compounds* from Oasis® WCX vs. Silica-Based WCX Products**

- **Oasis® WCX 96-well µElution Plate**
  - Propranolol [H^+]
  - Valethamate [Q]
  - Atenolol [P]

- **Silica-Based WCX (CBA) 10 mg, 96-well Plate**
  - Propranolol [H^+]
  - Valethamate [Q]
  - Atenolol [P]

SPE recoveries for three types of bases versus volume of spiked saline solution loaded onto (a) the Oasis® WCX sorbent and (b) a commercially available silica-based WCX sorbent.

- H = hydrophobic base, Q = quaternary amine, and P = polar base.

**Excellent Recovery for Quaternary Amines as well as for Polar and Hydrophobic Bases**

- **Column:** XTerra® MS C18 5’ x 10 mm, 3.5 µm
- **Mobile Phase:** A: 10 mM NH4HCO3, pH 10; B: MeOH with 10 mM NH4HCO3, pH 10
- **Gradient:** 5 to 95% B in 3 min
- **Flow Rate:** 0.4 mL/min
- **Injection Volume:** 10 µL

**IC/MS/MS chromatograms of the analytes**

(a) **Atenolol 101% Recovery**

(b) **Valethamate 106% Recovery**

(c) **Propranolol 102% Recovery**

**Ordering Information**

**NEW Oasis® WCX Sample Extraction Products for (Weak Cation-Exchange)**

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<th>Particle Size</th>
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*H = hydrophobic base, Q = quaternary amine, and P = polar base.

**Waters® Quality Management System**

Waters’ quality management system is periodically audited by the registering body to ensure compliance.

www.waters.com