

## LIQUID CHROMATOGRAPHY QUADRUPOLE TIME-OF-FLIGHT MASS SPECTROMETRY (LC-QTOF-MS)

---

**Testing Performed At:** The Center for Forensic Science Research and Education at the Fredric Rieders Family Foundation (Willow Grove, PA, USA)

**Sample Preparation:** Toxicology Samples: Liquid-liquid extraction  
Drug Materials: Dilution of sample in mobile phase

---

**Instrument:** Sciex TripleTOF® 5600+, Shimadzu Nexera XR UHPLC  
Sciex X500R, Sciex ExionLC

**Column:** Phenomenex® Kinetex C18 (50 mm x 3.0 mm, 2.6 µm)

**Mobile Phase:** A: Ammonium formate (10 mM, pH 3.0)  
B: Methanol/acetonitrile (50:50)  
Flow rate: 0.4 mL/min

**Gradient:** Initial: 95A:5B; 5A:95B over 13 min; 95A:5B at 15.5 min

**Temperatures:** Autosampler: 15 °C  
Column Oven: 30 °C  
Source Heater: 600 °C

**Injection Parameters:** Injection Volume: 10 µL

**QTOF Parameters:** TOF MS Scan Range: 100-510 Da  
Precursor Isolation: SWATH® acquisition (27 windows)  
Fragmentation: Collision Energy Spread (35±15 eV)  
MS/MS Scan Range: 50-510 Da

---