

# Forensic Method

## Forensic drug screening analysis

### Elevate your forensic testing with the X500R QTOF System

Method details and access to HR-MS/MS libraries to screen for forensic drugs in blood extracts using HPLC coupled with the X500R QTOF system, powered by SCIEX OS Software.



### Sample Prep

- Step 1** • Add 0.2ml of blood into centrifuge tube
- Step 2** • Add 0.8mL of cold acetonitrile dropwise while vortexing
- Step 3** • Centrifuge for 10 minutes at 5000rpm
- Step 4** • Transfer supernatant to clean glass vials and dry down.
- Step 5** • Reconstitute in 200µL of 20% methanol in water.
- Step 6** • Vortex for 1 minute and centrifuge for 10 minutes at 10,000xg
- Step 7** • Transfer supernatant to clean glass HPLC vials

### LC Method

<b>Column</b>	Phenomenex Kinetex Biphenyl, 100 x 3.0 mm, 2.6 um column	
<b>Mobile Phase A</b>	0.1% formic acid in water	
<b>Mobile Phase B</b>	0.1% formic acid in methanol	
<b>Flow rate</b>	0.6 mL/min	
<b>Column temperature</b>	30°C	
<b>Injection volume</b>	10 µL	
<b>Gradient profile</b>	<b>Time (min)</b>	<b>% B</b>
	0	2
	1	2
	7	65
	7.1	100
	9	100
	9.1	2
	12	2



SCIEX OS can deliver faster method set-up

# MS Method

**Forensic Screen IDA**

Method duration: 6.5 min | Total scan time: 0.41118 sec  
 Estimated cycles: 948

**Source and Gas Parameters**

Ion source gas 1: 50 psi | Curtain gas: 30 | Temperature: 600 °C  
 Ion source gas 2: 50 psi | CAD gas: 7

**Experiment IDA**

Polarity: Positive V | Spray voltage: 5500 V

**TOF MS**

TOF start mass: 100 Da | Declustering potential: 80 V | Collision energy: 10 V  
 TOF stop mass: 1000 Da | DP spread: 0 V | CE spread: 0 V  
 Accumulation time: 0.1 sec

**IDA Criteria** (Small molecule)

Maximum candidate ions: 10 |  Dynamic background subtraction  
 Intensity threshold exceeds: 10 cps |  Exclude former candidate ions  
 For: 6 sec | After: 1 occurrences

**TOF MSMS**

Presursor ion: 6.10 Da | Declustering potential: 80 V | Collision energy: 35 V  
 TOF start mass: 40 Da | DP spread: 0 V | CE spread: 15 V  
 TOF stop mass: 1000 Da | Accumulation time: 0.025 sec

Suggested IDA (Information Dependent Acquisition) conditions for routine forensic drug screening as displayed in SCIEX OS

## Data Processing

**Analytics**

Chromatogram showing a single sharp peak at approximately 4.5 minutes. The mass spectrum plot shows relative intensity versus m/z, with a base peak at m/z 200.079.

Review your results with utmost efficiency using SCIEX OS for simultaneous quantitation and MS/MS library confirmation.

## X500R High Resolution Libraries

**Download the XIC List**

**Download a FREE Trial of the MS/MS Library**

Download a free XIC compound list detailing a full list of forensic drug compounds including molecular formula and accurate mass.

Download a free trial of the forensic high resolution MS/MS library, containing 1703 compounds.

[Learn more at sciex.com/X-Forensics.](http://sciex.com/X-Forensics)

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