Detecting novel psychoactive substances the workflow

There are different ways to detect known and unknown NPS.





Screening

Confirmation

Immunoassay

GC-MS

LC-MS/MS

Positives:

- Easy sample prep
- Lower costs
- Lower sample volume
- Fast results

Negatives:

- Not good for specificity
- Cross reactivity
- Multiple assays required for each class of drugs
- Do not always cover new NPS in the panels

Positives:

- More specific than immunoassay
- Analyte specific
- Very sensitive

Negatives:

- Requires derivatisation
- Identification based on library spectra, this may not be readily available for NPS
- Long GC times

Positives:

- Robustness, reliability and versatility
- Accuracy and precision
- Fast and sensitive
- Requires less sample preparation and is compatible with generic sample preparation methods

Negatives:

• Standards may not be available (But this can be overcome by using SCIEX Triple Quad™, QTRAP®, or TOF systems).

Different types of LC-MS/MS for forensic screening

SCIEX Triple Quad systems



4500 Series



5500 Series



6500+ and SelexION® Differential **Mobility Separation Technology**



7500 Series

QTRAP systems

TOF systems SCIEX TripleTOF system



TripleTOF® 5600 LC-MS/MS System



TripleTOF® 6600 LC-MS/MS System



Push the limits

X500R OTOF System and

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