Detecting novel psychoactive substances the workflow
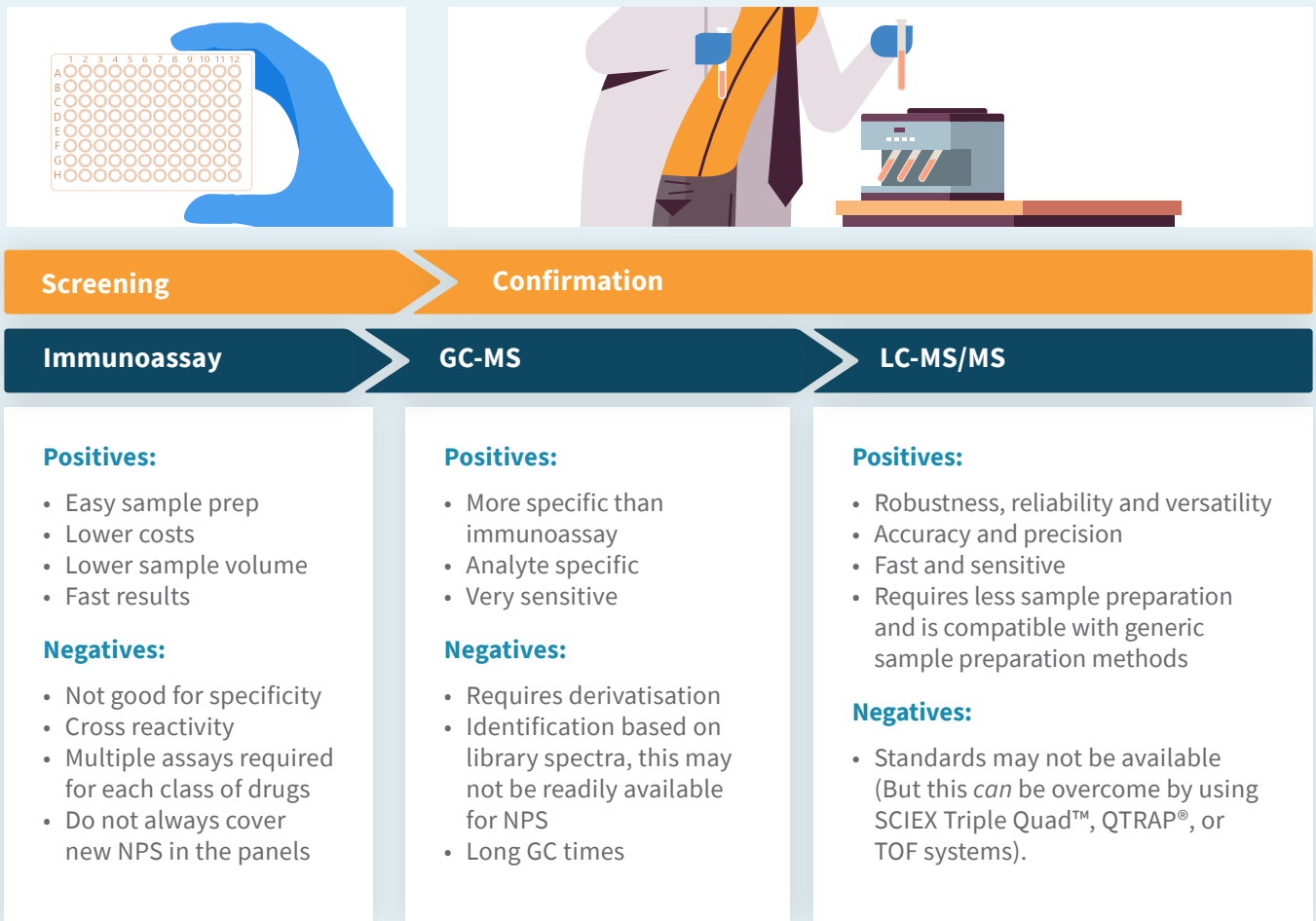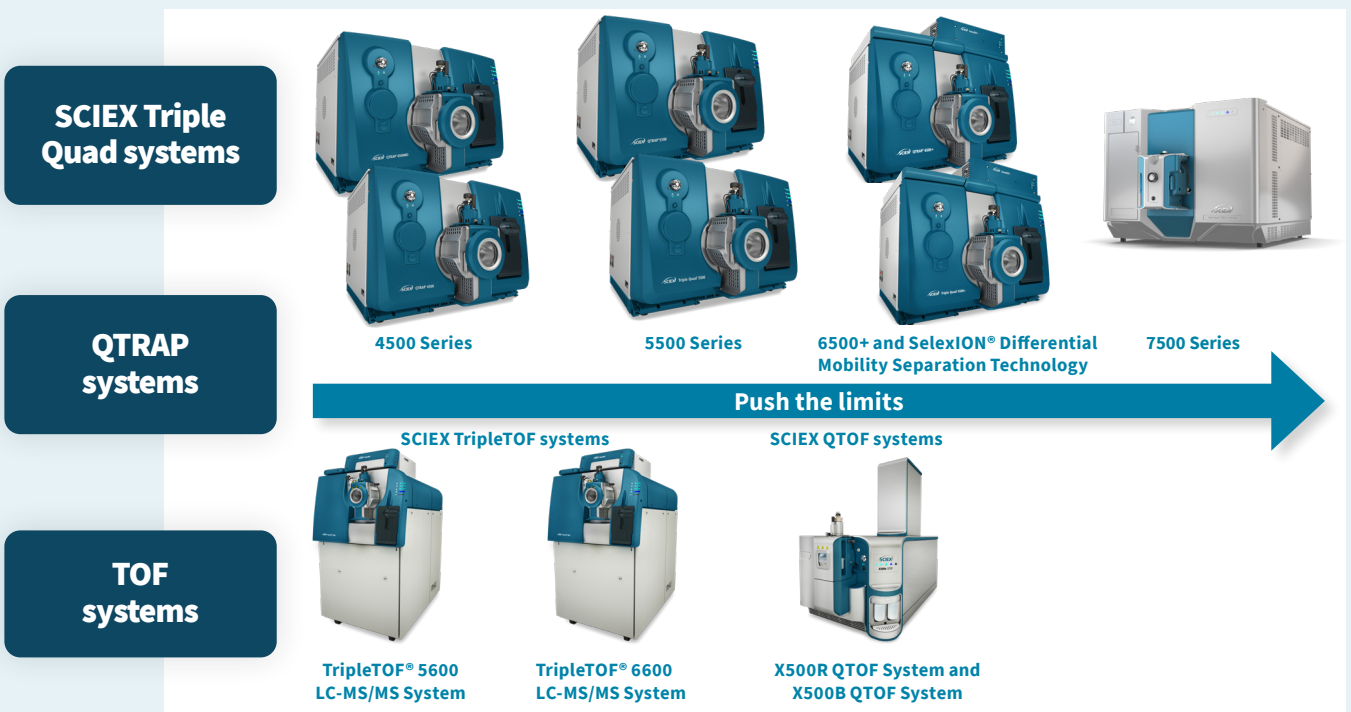
There are different ways to detect known and unknown NPS.

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

QTRAP systems

TOF systems

4500 Series

5500 Series

6500+ and SelexION® Differential Mobility Separation Technology

7500 Series

Push the limits

SCIEX TripleTOF systems

SCIEX QTOF systems

TripleTOF® 5600 LC-MS/MS System

TripleTOF® 6600 LC-MS/MS System

X500R QTOF System and X500B QTOF System

SCIEX

The Power of Precision