

SCIEX 6500+ series mass spectrometers

Revolutionary sensitivity, speed and performance

Enhance your capabilities



Enhance your capabilities with SCIEX 6500+ series mass spectrometers

Your most challenging analytes can't hide. The 6500+ series offers revolutionary sensitivity, speed and performance delivered through technology enhancements designed to see it all.

A solution without compromise

Low mass or high mass, positive or negative polarity—detect and identify analytes across a wide scope of chemistries at once. The SCIEX 6500+ series with IonDrive technology enhances performance across key applications:

- Small and large molecules in bioanalysis
- Priority environmental contaminants
- Comprehensive food residue monitoring
- Biomarker verification
- Forensic drugs in complex matrices

All backed by the integrity and quality of the SCIEX brand.

SCIEX 6500+ series IonDrive technology combined with novel detection system

Visionary sensitivity

The SCIEX 6500+ series with IonDrive technology, improved detection system, and elevated SelexION+ differential mobility spectrometry, merges outstanding sensitivity with renowned performance to give you the lowest limits of quantification (LLOQ) for compounds of many classes, even in complex matrices, for robust and reliable results.

Intelligent by design

IonDrive technology is built into the system, from the ionization source, through the ion-focusing region, all the way to the high energy detector, increasing the number of ions produced, the efficiency of ion transmission and the way ions are detected. The addition of SelexION+ with jet injector technology adds an additional boost in performance when added selectivity is required.

Analysis without compromise

The enhanced robustness and up to 6 orders of dynamic range significantly increases the breadth of applications possible with the 6500+. From small molecules to large molecules, and across polarities, the 6500+ series delivers sensitive quantitative results without compromise.

SelexION+ is proven to deliver the added selectivity you need without compromising LLOQs.

QTRAP for your most challenging questions

Driven by proven Linear Accelerator trap technology, the QTRAP 6500+ system enables enhanced MS/MS workflows even with UHPLC approaches. And, for complex samples, the selectivity of the MRM³ workflow significantly enhances data quality while reducing the need for added sample preparation.



IonDrive technology—pushing the sensitivity barrier

SCIEX has been designing MS instruments for the past 50 years. Each platform introduced is the culmination of years of research and development in improving sensitivity, accelerating throughput and enhancing data quality. IonDrive technology with the enhanced high energy detector and SelexION+ technology built into the 6500+ series LC-MS/MS systems pushes the boundary even further.

IonDrive technology simultaneously targets 3 critical areas of enhancements in the 6500+ series, ruggedly driving best-in-class performance improvements and unrivaled sensitivity in 3 key components of the system:

- The production of more ions with the optimally designed IonDrive Turbo V ion source
- The capture and transmission of more ions with the unique IonDrive QJet ion guide
- The detection of more ions with the enhanced IonDrive high energy detector+

IonDrive technology—driving performance



IonDrive Turbo V ion source



IonDrive QJet ion guide



IonDrive high energy detector+



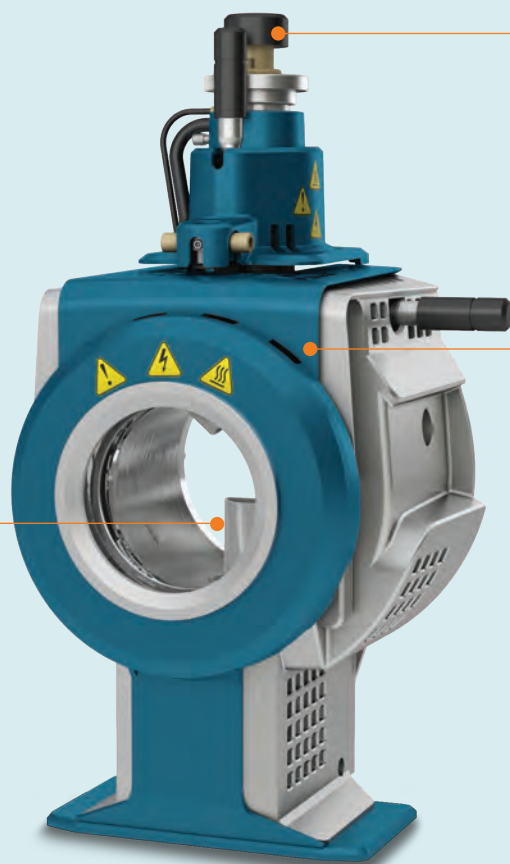
Produce more ions, capture more ions, detect more ions

Sensitivity and ruggedness

IonDrive Turbo V ion source

Get more sensitivity without sacrificing robustness and ruggedness through enhanced gas flow and optimized heater configuration compounded with the legacy Turbo V design.

The enhanced gas flow dynamics and optimized heater configurations deliver improved reliability, reproducibility and robustness.



The IonDrive Turbo V ion source maintains the quick-change APCI and TurbolonSpray probe as well as adaptability to the low dispersion electrodes for use with microflow UHPLC methods.

From 5 $\mu\text{L}/\text{min}$ to 3 mL/min , the IonDrive Turbo V ion source is the perfect match for narrow bore standard bore and UHPLC flow rates.

The tool to take on your most challenging assays

The 6500+ system is designed to produce more ions, transmit more ions and detect more ions. The optional QTRAP technology offers the added value of both simultaneous qualitative screening and reliable quantification in a single injection.

Increase confidence

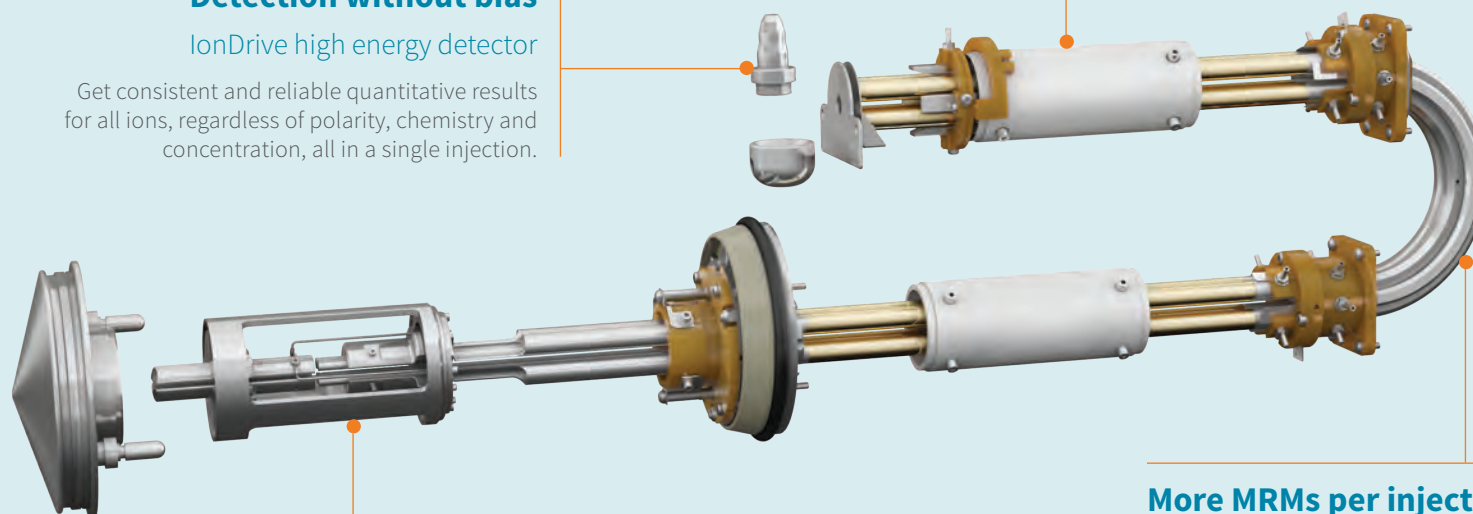
QTRAP technology

Boost selectivity for added confidence in your most challenging assays with enhanced mass spectrometry scanning modes that deliver MRM and so much more. Take advantage of 20,000 Da/s scan speed and full scan linear ion trap sensitivity improved by 100x over the SCIEX Triple Quad system for greater confidence in quantitative workflows.

Detection without bias

IonDrive high energy detector

Get consistent and reliable quantitative results for all ions, regardless of polarity, chemistry and concentration, all in a single injection.



Enhanced sensitivity

IonDrive QJet ion guide

Better collisional focusing means more ions transmitted, enhancing analyte sensitivity. The optimized design better contains ions, operates at high pressure and lets the turbopump run cooler and in its ideal operating range for peak performance.

More MRMs per injection

Curved LINAC collision cell

Achieve shorter MRM cycles and higher scan speeds to analyze for hundreds of compounds in a single injection for improved throughput. With true collision-induced fragmentation, this collision cell will generate reliable, information-rich, library-searchable MS/MS spectra time after time.

The SCIEX Triple Quad 6500+ system

Ultra-sensitive and robust for definitive quant

The Triple Quad 6500+ system delivers ultra-low limits of quantification with significant enhancements in everything from ion production, to ion focusing and transmission, and through to detection. The results speak for themselves.

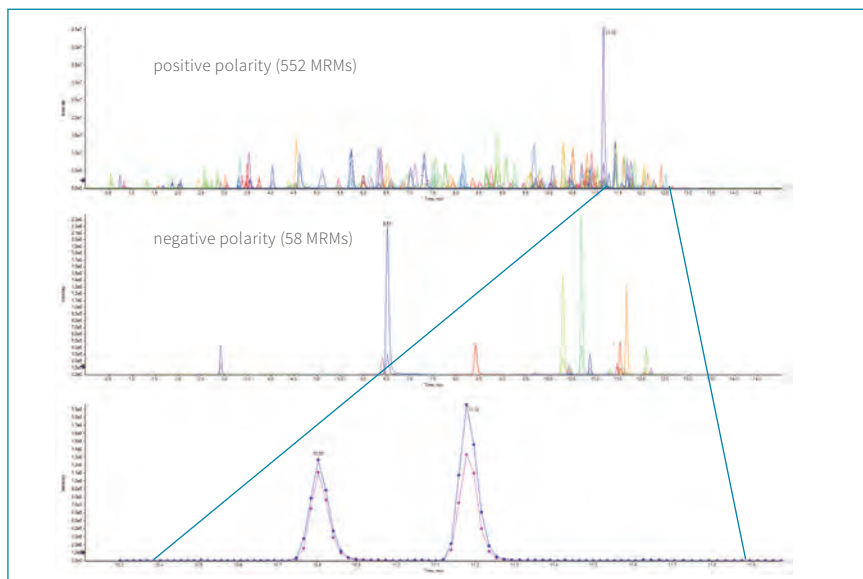
- Best-in-class MRM sensitivity
- Up to 6 orders of linear dynamic range for excellent quantification
- 2000 m/z upper mass limit
- Verified inter- and intra- instrument robustness with the IonDrive Turbo V ion source
- Optimized UHPLC strategies with scan speeds of up to 12,000 Da/sec, to acquire more data points per peak
- Increased throughput with polarity switching speeds of 5 ms
- Improved selectivity with SelexION+ differential mobility spectrometry



Continuous improvement in ultra-trace level quantification

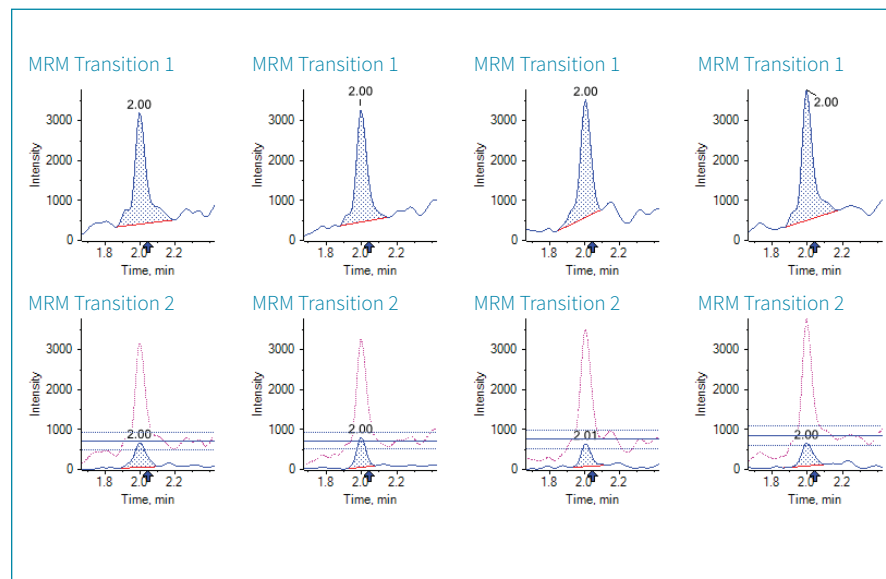
Enhancing LOQs for the most challenging analytes

The IonDrive high energy detector+, delivers significant performance improvements, enabling even lower limits of quantification for challenging analytes that ionize in both positive and negative modes, as well as improving switching between modes to quantify more compounds in each injection.



Extended compound detection in a single run

Ultra-fast polarity switching at rates as low as 5 ms combined with Scheduled MRM Pro algorithm provides exceptional detection of 100s of compounds, regardless of ionization polarity, in a single injection. Acquisition speeds are fast enough to deliver sufficient data points across chromatographic peaks for accurate quantification even in areas with many co-eluting peaks.



Ultra-trace detection of ions in both positive and negative ESI

Analytes of all shapes, sizes, and polarities are no match for the 6500+ system. Low level detection of perfluoroalkyl acids including perfluorooctanoic acid (PFOA) (shown here) in drinking water at levels of 1 ng/L, with CVs less than 8% and excellent quantitative linear dynamic range is easily achievable.

Enhance your methods with QTRAP systems

Evolved functionality for accelerated performance

See the full MS/MS picture for every MRM

When combined with the QTRAP technology, the 6500+ series delivers the MRM sensitivity you need for quantification, with added 100X increase in full-scan sensitivity over basic triple quads. The combined triple quadrupole and linear ion trap scan functions provide unrivaled confidence by complementing sensitive MRM detection with enhanced product ion and complete MS/MS profiles for unequivocal identification.

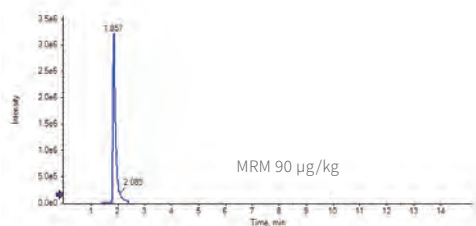
MRM³—a generation of quantification without interferences

When high background or challenging co-eluting interferences make standard MRM quantification difficult, enhanced quantitative selectivity is a mouse click away with MRM³. The QTRAP 6500+ system enables MRM³ scans that are twice as fast as previous generations of QTRAP technology, enabling faster chromatography.

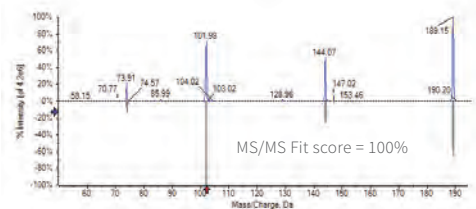
Automated MRM³ method method-building scripts makes parameter definition effortless while also making the MRM³ workflow a fast, reproducible, and easy way to increase throughput.

Enhanced selectivity in compound identification with MS/MS

Propamocarb from Cucumber Using MRM



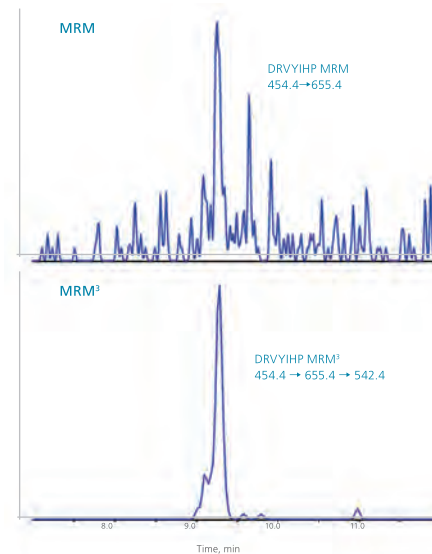
Propamocarb from Cucumber Using MS/MS



QTRAP technology enables collection of high-quality MS/MS spectra in addition to MRMs to enable library comparisons for better confidence in compound identification.

The MRM³ workflow can often provide higher specificity and therefore better LLOQs in complex matrices over MRM workflow alone, as shown here for the heavy labeled peptide DRVYIHP in digested human plasma.

MRM³ for enhanced peptide quantification



Front-end solutions for your most challenging assays

Regardless of the challenges encountered in the development of your assays, you can have confidence that the 6500+ series has the tools you need when you need them.



Double your productivity

The optional DuoSpray Turbo V ion source contains the TurbolonSpray and APCI probes in one housing with computer-controlled switching, allowing you to optimize ionization techniques and conditions for each compound during an LC run. It's ideal for fast method development as well as increasing throughput and data quality.



OptiFlow Turbo V ion source

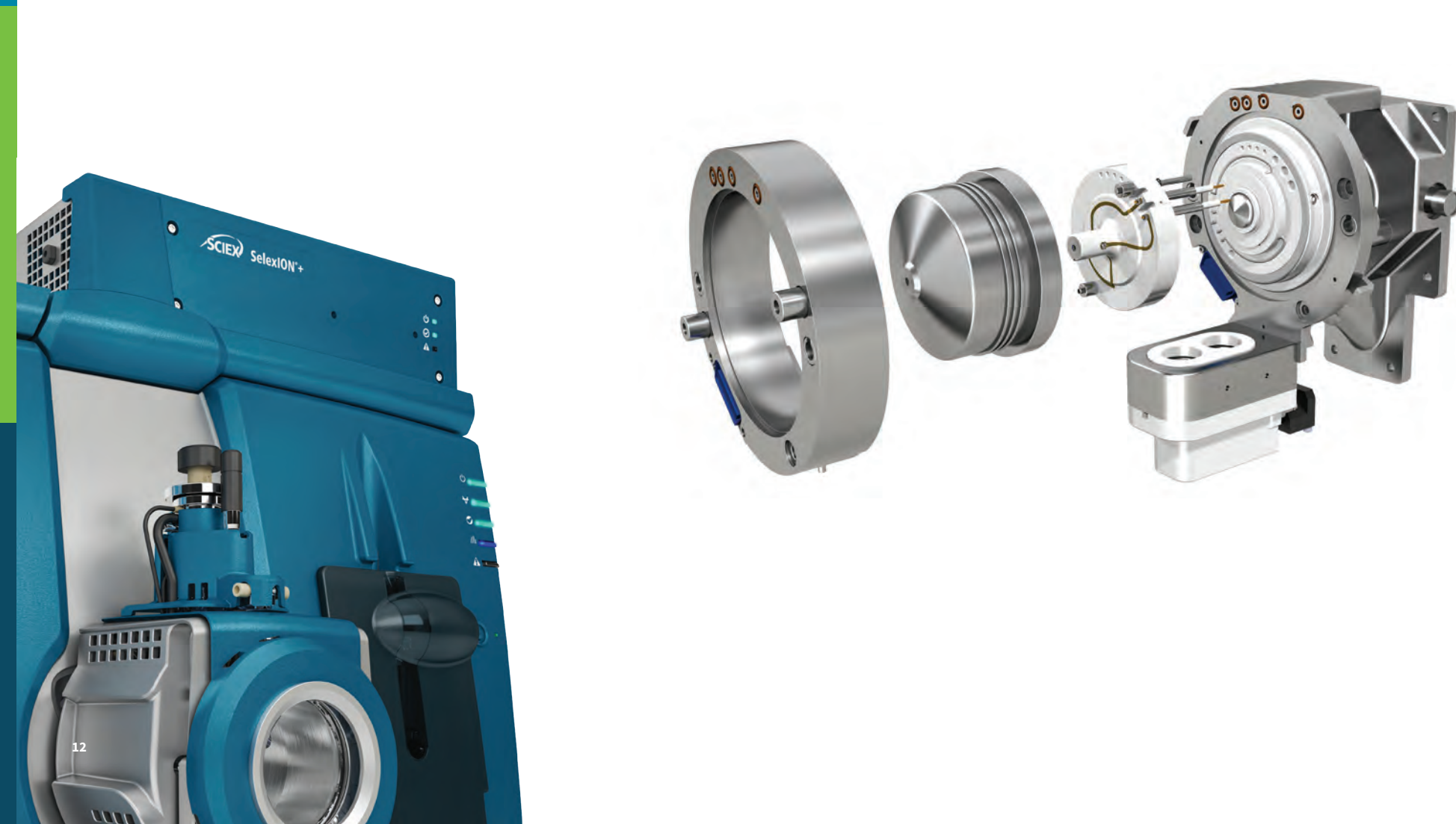
A revolution in microflow separations, the OptiFlow Turbo V ion source supports flow ranges from 1 to 200 $\mu\text{L}/\text{min}$, with a simple tool-free set-up and no manual adjustments needed to achieve optimal spray conditions.

A world of options—a new dimension in selectivity

Differential ion mobility separation

The enhanced SelexION+ differential mobility spectrometry with jet injector technology has been redesigned for improved transmission in ion mobility detection. More ions + less noise = sensitivity delivered.

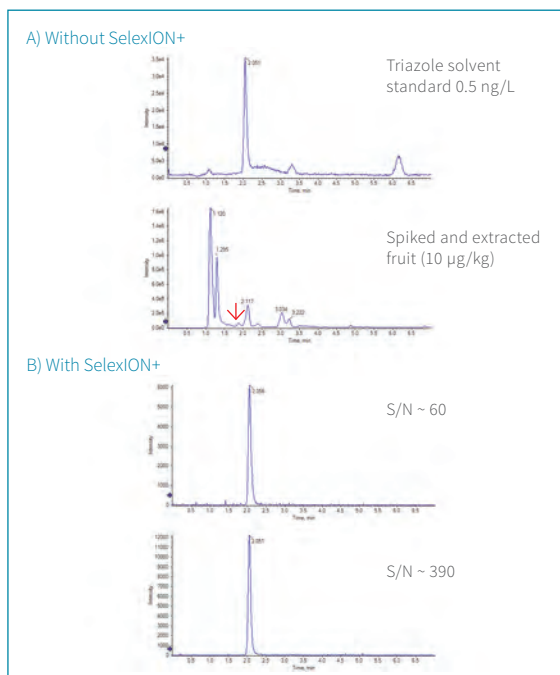
Improve data quality and enhance selectivity for challenging samples that require advanced analytical separations. The 6500+ series with SelexION+ is the ideal development suite for any application requiring the separation of isobaric species, isolation of challenging co-eluting contaminants and reduction of high background noise.



Added selectivity without compromise

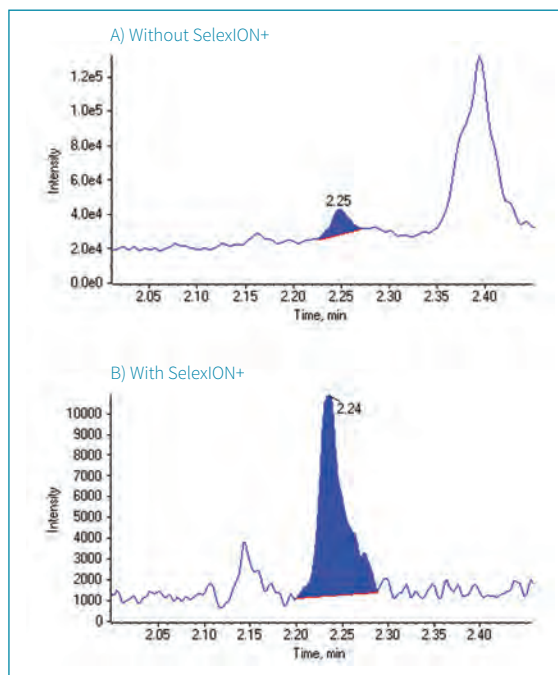
Improved SelexION+ with jet injector technology

Add selectivity with ion mobility without sacrificing limits of quantification or dynamic range. The re-designed SelexION+ with jet injector technology improves ion transmission efficiency for large and small ions alike.



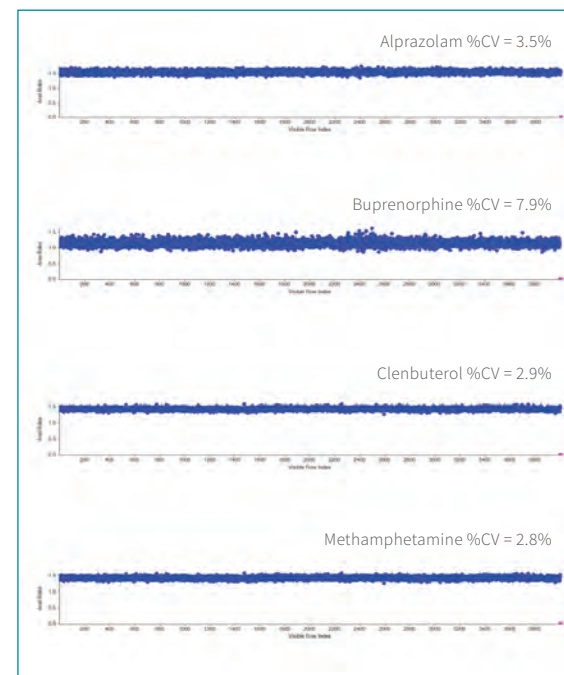
Enhanced selectivity for small molecule quantification

The power of SelexION+ DMS is palpable when faced with the analysis of low level compounds in challenging matrices. Clear reduction of matrix interferences for Triazole analyzed in fruit samples were observed, with delivery of a highly sensitive peak clear of matrix interferences for more reliable quantification.



Improving peptide and large molecule analysis

Ion mobility is no longer just for the small. Somatostatin, a cyclic peptide with poor MS/MS fragmentation, was analyzed in rat plasma. The utilization of SelexION+ for the analysis improved the S/N for the peptide by a factor of 4, enabling significantly improved quantitative results at 100 pg/mL.



Robust quantification across 1000s of injections

The 6500+ system with SelexION+ delivers reliable performance, around the clock. For the analysis of compounds in crashed plasma, peak intensities remained stable, with less than 5% CV for many compounds, across 4000 injections.

Analyst software

The validated environment designed for quantification. Proven and accepted throughout the world.

Acquire the best data

Industry-standard Analyst software for data acquisition utilizes the intelligent Scheduled MRM Pro algorithm to make method set-up 1000s of MRMs in a single analysis simple, with optimized parameters to ensure you get exceptional data quality in every analysis.

The pedigree that defines regulated bioanalysis

Analyst software is designed to be used as part of a 21 CFR Part 11 compliant system with years of use in the field, innovation and acceptance by regulated laboratories worldwide. Today, Analyst software continues to deliver confidence and data integrity with every report and has become the most widely

deployed LC-MS/MS software for drug discovery and development.

What makes Analyst software different?

- Analyst service is built into the Analyst software platform, so it stays running even when you log off Windows
- The unique Analyst Administrator Console provides multi-instrument, project-wide security from a single computer
- Configurable audit map prevents redundant or unnecessary event capture
- Network acquisition for efficient data storage and backup

- A defined Analyst software project structure keeps all relevant data interlinked

Comprehensive compliance services

The SCIEX professional services team provides integrated analytical instrument qualification and software validation packages to cover your complete LC-MS/MS solution. You receive a holistic approach to compliance that includes qualification, re-qualification and software validation for your complete SCIEX system workflow including your mass spectrometer, HPLC, software, reagents and test kits.

The gold standard—our customers

“Analyst software security settings are highly customizable ensuring we can meet regulatory and customer expectations for our daily data processing routines.”

Dr.C. Briscoe, Senior Director,
US Bioanalysis, PRA International



One-touch productivity

Powerful, workflow-driven software ties everything together to deliver a new benchmark in efficiency, throughput and productivity.



SCIEX OS-MQ software

Increased quant productivity

The solution for quantifying large sample sets features superior data processing and visualization, powerful data integration, enhanced audit trail and helps users of different skill levels to perform their own automated analyses.



SCIEX OS-Q software

Well-suited for qual and quant data analysis

The software simplifies compound identification, quantitation and data review, so your lab can master the speed, power and accuracy offered by LC-MS/MS technology. From performing high-throughput screening MRM data processing to non-targeted investigations, all the tools you need are at your fingertips, without sacrificing time, valuable samples or results.



ProteinPilot software

Streamlined protein ID and quant

Identify hundreds of peptide modifications and non-tryptic cleavages, distinguish isoforms, suppress false positive results and quantify proteins and peptides across many samples simultaneously.



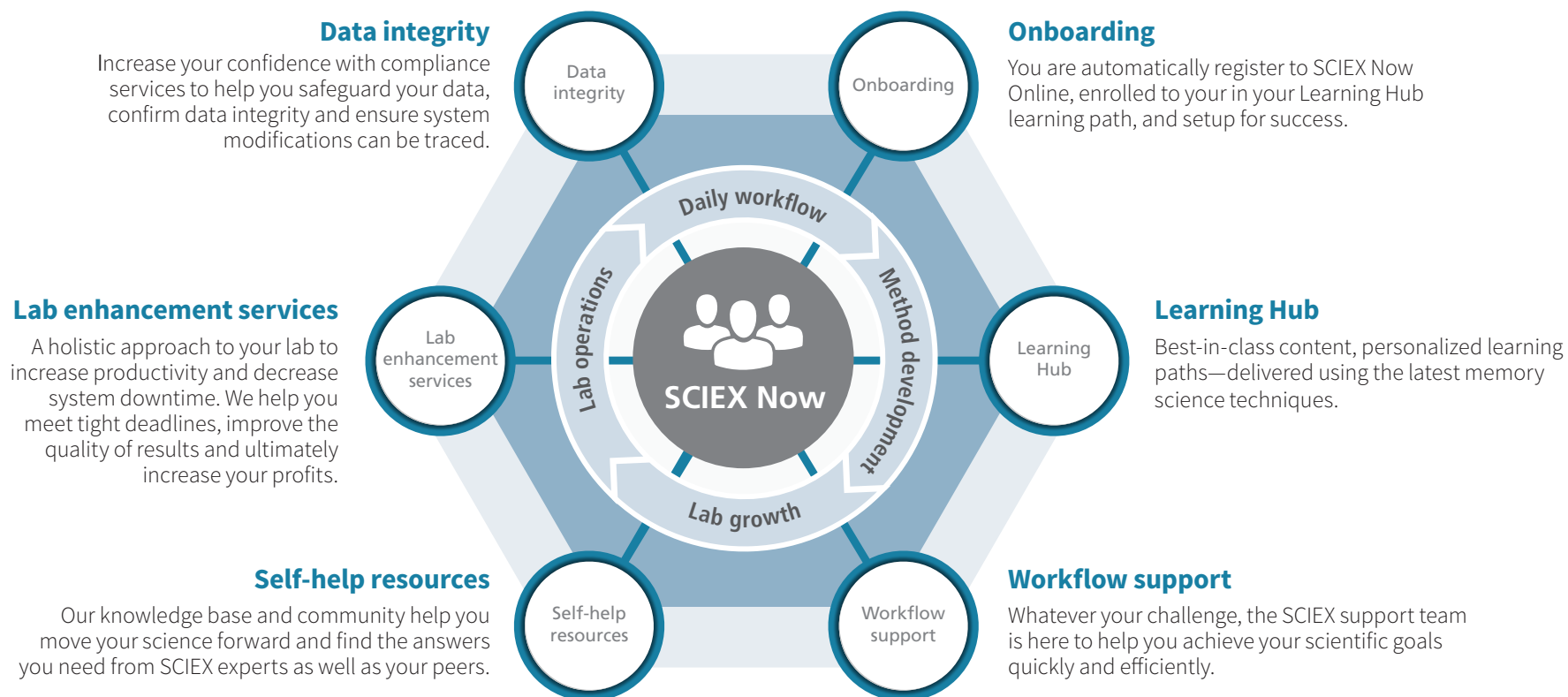
DiscoveryQuant software

Automated quant for drug-like molecules

Reduce tedious method development time with automated, efficient and rapid LC-MS/MS drug candidate screening workflows.

SCIEX Now support network

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