



Exceedingly
sensitive. Sharply
focused.

AB SCIEX 6500 SERIES MASS SPECTROMETERS

Introducing the AB SCIEX 6500 Series with IonDrive™ technology.

With revolutionary new multi-component IonDrive technology, the 6500 Series is now the world's most sensitive triple quadrupole. The 6500 Series offers up to 10X greater sensitivity and a 20X increase in detector dynamic range – with no compromise in mass range.

A no compromise solution

Whether your research is focused on regulated bioanalysis, biomarker verification, clinical research, contaminant analysis or toxicology research and analysis of drugs of abuse compounds, the AB SCIEX 6500 Series with IonDrive technology enhances performance across key attributes:

- Sensitivity
- Detector dynamic range
- Robustness
- Mass range

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

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

AB SCIEX 6500 Series with IonDrive™ Technology

Visonary sensitivity

The AB SCIEX 6500 Series with IonDrive technology merges highly evolved sensitivity with renowned performance. Adopting an intelligent approach to increasing limits of quantitation, the new patented IonDrive technology introduces a series of system-wide technological advances that not only increase the number of ions produced, but also enhances the way ions are transmitted and detected.

The solution that redefines the question

AB SCIEX evolved the 6500 LC/MS/MS Series to deliver the lowest limits of quantitation with enhanced robustness and up to 6 orders of dynamic range, significantly increasing the breadth of applications possible.

Intelligent by design

IonDrive technology is built into this system, from the ionization source, to the ion-focusing region, and through the detector. A holistic approach to intelligent mass spectrometry design that pushes the limits in LC/MS/MS sensitivity and allows scientists to achieve the lowest limits of quantitation in complex matrices.

QTRAP® for your most challenging questions

Driven by proven Linear Accelerator™ Trap technology, the QTRAP® 6500 system enables quantitative MRM³ workflows that are twice as fast as previous QTRAP platforms making it compatible with UHPLC approaches. And, for complex samples the selectivity of the MRM³ workflow significantly enhances data quality while reducing the need for sample preparation.



IonDrive™ Technology – pushing the limits of sensitivity

AB SCIEX has been designing MS instruments for the past 25 years. Each platform introduced is the culmination of years of research and development in improving sensitivity, accelerating throughput and enhancing data quality. Now, AB SCIEX has pushed the limits of performance again with IonDrive technology built into the new 6500 Series LC/MS/MS.

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

- The production of more ions with the newly designed IonDrive™ Turbo V source
- The capture and transmission of more ions with the unique IonDrive™ QJet® guide
- The detection of more ions with the new IonDrive™ High Energy Detector



IONDRIVE™ TECHNOLOGY – DRIVING PERFORMANCE



IonDrive™ Turbo V source



IonDrive™ QJet guide

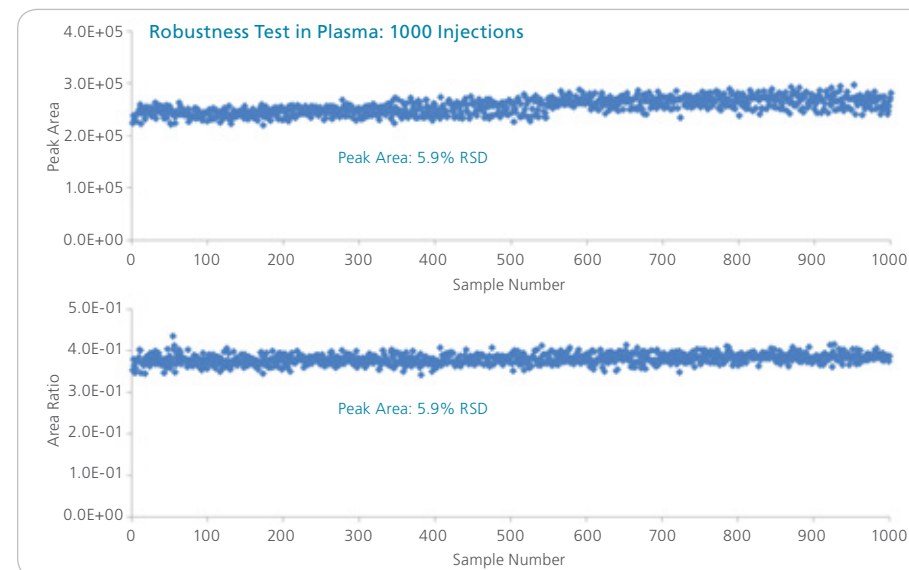


IonDrive™ High Energy Detector

Produce more ions: The next generation IonDrive™ Turbo V™ source increases ion production using enhanced gas flow dynamics and optimized heater configurations while improving reliability, reproducibility and robustness. The IonDrive Turbo V source maintains the quick-change APCI and TurbolonSpray® probes as well as the new low dispersion electrodes for use with microflow UHPLC methods. From 5 µL/min to 3 mL/min, the IonDrive Turbo V source is the perfect match for narrow bore, standard bore, and UHPLC flow rates.

Focus and transmit more ions: Patented and re-optimized IonDrive™ QJet® guide technology improves ion containment and collisional focusing through a dual-stage design that captures and focuses ions more efficiently than antiquated ion funnel approaches.

Detect more ions: The new IonDrive™ High Energy Detector maintains the benefit of pulse counting fundamentals to achieve the most accurate quantitation for low level signals while increasing linearity at higher count rates.



The excellent reproducibility and robustness of the IonDrive technology is demonstrated through 1000 injections of protein precipitation extracts of methamphetamine in human plasma. With 5.9% relative standard deviation (RSD) for the peak areas and 3.2% RSD for the peak area to internal standard ratio the 6500 Series with IonDrive technology delivers consistent quantification for routine ultra high performance results.

Nothing has changed – except everything

At the core of the AB SCIEX 6500 Series sit the proven curved LINAC® Collision Cell and eQ™ electronics, delivering scan rates of up to 20,000 Da/sec and industry leading dwell times of 1 ms. For quantitative and qualitative analysis, the QTRAP® technology offers productive, time-saving workflows that simply cannot be matched with other mass spectrometry systems.

IonDrive™ High Energy Detector

The high energy dynode maintains the benefit of pulse counting fundamentals to achieve ultra sensitivity at low concentrations while increasing the linearity at higher count rates. The result is a more sensitive detector that offers the broadest detector dynamic range of any triple quadrupole.

IonDrive™ QJet Guide

Optimized design yields better ion containment and operates at high pressure, providing better collisional focusing to enhance ion transmission for improved sensitivity. The new design also lets the turbopump run cooler and in its ideal operating range.

Optional QTRAP® Technology

Bringing LINAC® technology to the Q3 linear ion trap greatly improves the extraction efficiency to yield greater resolution and sensitivity in ion trap scan modes. Take full advantage of the 20,000 Da/s scan speeds with full scan linear ion trap sensitivity 100X more sensitive than triple quad full scan experiments for greater confidence in qualitative workflows. Improved excitation efficiencies and reduced ion cooling and fragmentation times produce superior MS³ qualitative results and provide unprecedented selectivity for the most challenging analytical assays.

Patented Curved LINAC® Collision Cell

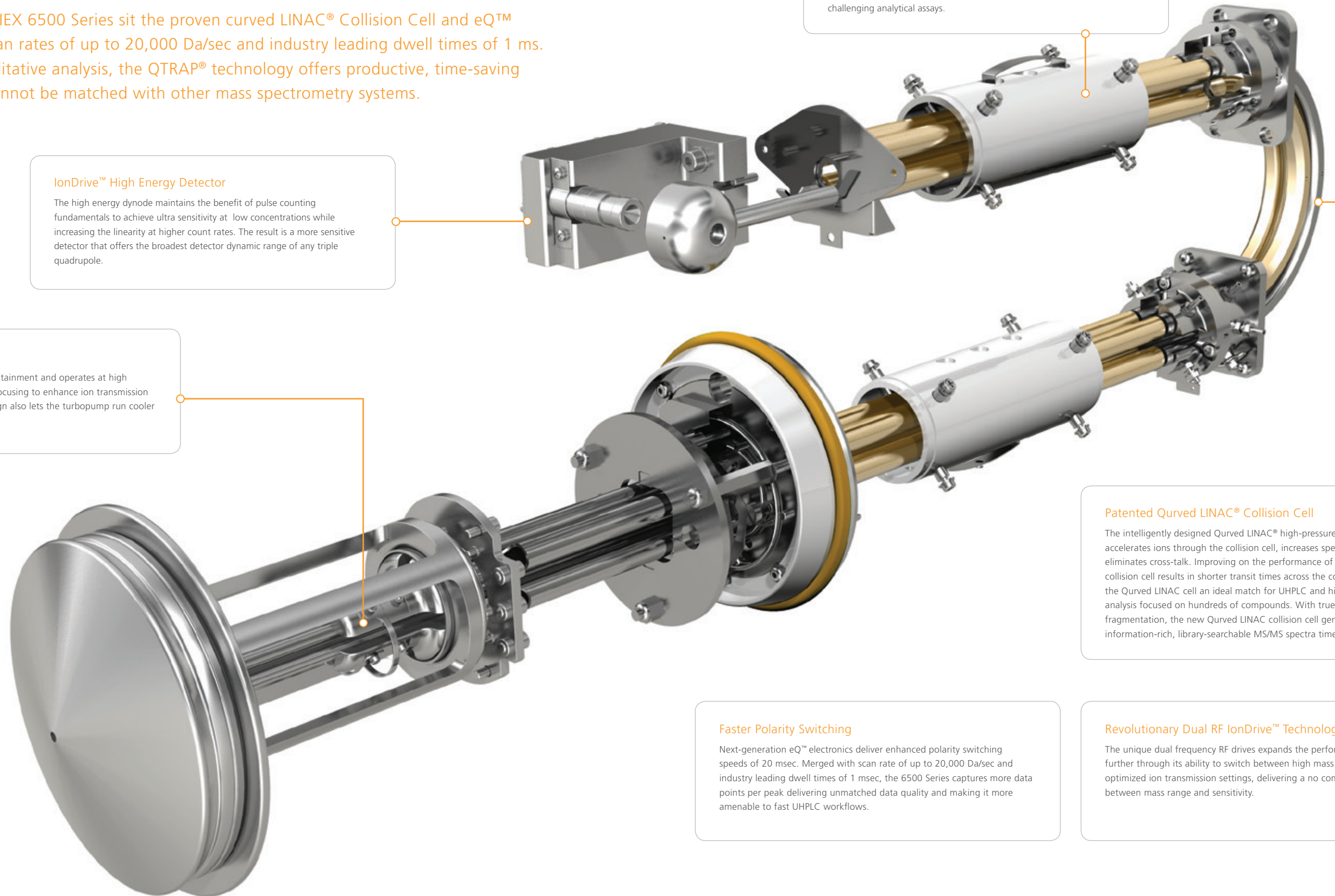
The intelligently designed Curved LINAC® high-pressure collision cell accelerates ions through the collision cell, increases speed of analysis and eliminates cross-talk. Improving on the performance of the legendary LINAC collision cell results in shorter transit times across the collision cell, making the Curved LINAC cell an ideal match for UHPLC and high throughput analysis focused on hundreds of compounds. With true collision-induced fragmentation, the new Curved LINAC collision cell generates reliable, information-rich, library-searchable MS/MS spectra time after time.

Faster Polarity Switching

Next-generation eQ™ electronics deliver enhanced polarity switching speeds of 20 msec. Merged with scan rate of up to 20,000 Da/sec and industry leading dwell times of 1 msec, the 6500 Series captures more data points per peak delivering unmatched data quality and making it more amenable to fast UHPLC workflows.

Revolutionary Dual RF IonDrive™ Technology

The unique dual frequency RF drives expands the performance of the 6500 further through its ability to switch between high mass and low mass optimized ion transmission settings, delivering a no compromises solution between mass range and sensitivity.



The AB SCIEX Triple Quad™ 6500 System

Ultra-sensitive and robust for definitive quant

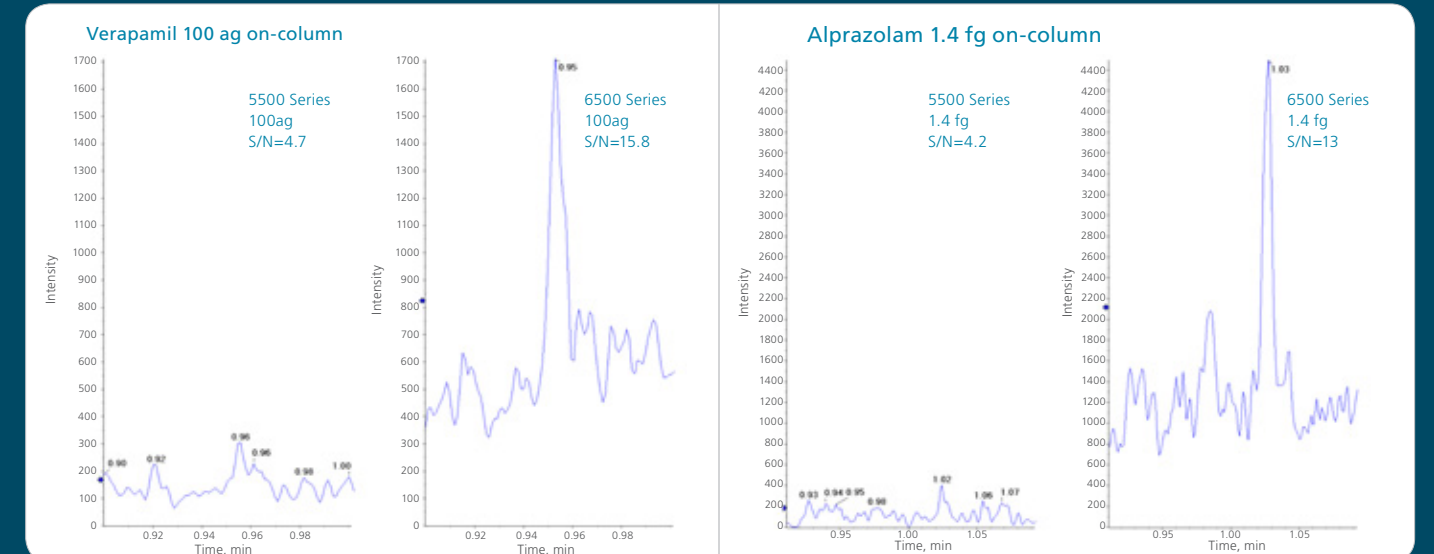
To achieve the lowest limits in LC/MS/MS quantitation, you have to push the limits of technological advancement. The Triple Quad 6500 system does just that with significant enhancements in everything from ion production, to ion focusing and transmission, and through to detection. The results speak for themselves.

- Improve MRM sensitivity by up to 10X vs. competitive high-end triple quads
- Increase detector dynamic range by 20X achieving 6 orders of dynamic range
- 2000m/z upper mass limit
- Improve inter- and intra- instrument robustness with the new IonDrive™ Turbo V source
- Optimize UHPLC strategies with scan speeds of up to 12,000 Da/sec, and acquire more data points for a given UHPLC peak
- Increase throughput with polarity switching speeds of 20 msec
- Compatible with SelexION™ differential ion mobility technology



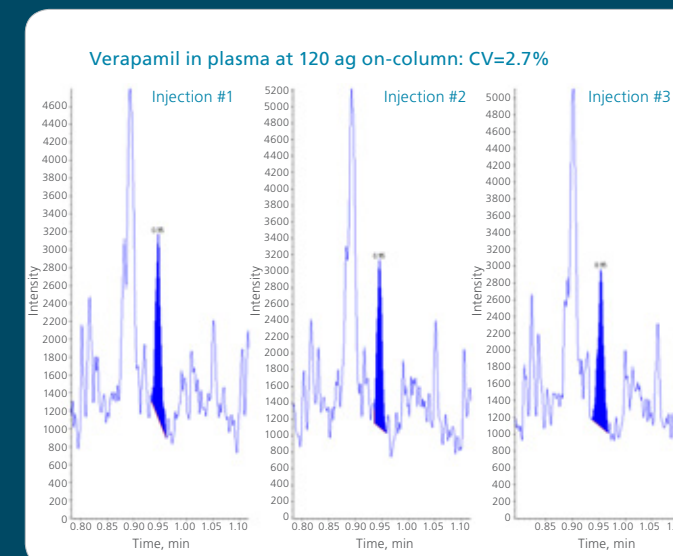
IONDRIVE™ TECHNOLOGY – DRIVING PERFORMANCE

Driving sensitivity



New IonDrive™ technology results in major sensitivity gains compared to previous generation instruments

Driving reproducibility



Unprecedented sensitivity and reproducibility. Verapamil in plasma can be quantified at 120 ag on-column with an excellent precision of 2.7% CV for triplicate injections

Driving dynamic range

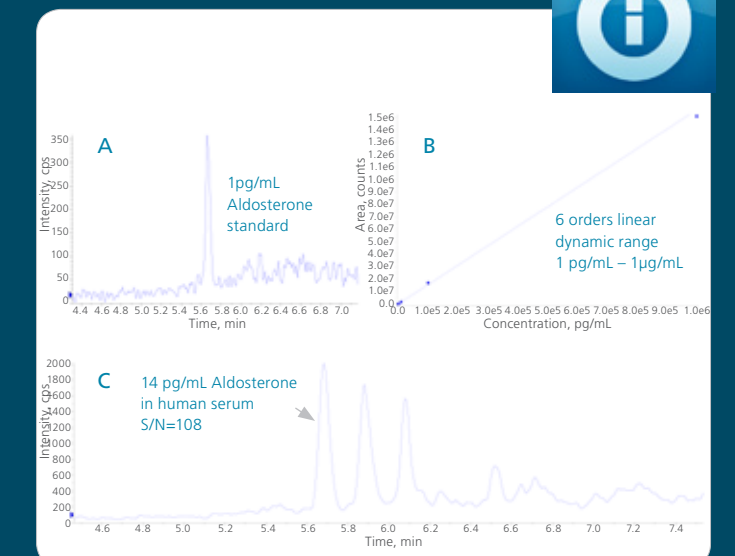


Figure 1: The Triple Quad™ 6500 LC/MS/MS system delivers unparalleled sensitivity and linear dynamic range for the analysis of steroid hormones. (A) 50µL injection of 1 pg/mL aldosterone (C21H28O5) standard. (B) Calibration curve for aldosterone covering 6 orders of magnitude, from 1 pg/mL to 1mg/mL. (C) Analysis of 14 pg/mL aldosterone in a human serum sample.

The AB SCIEX QTRAP® 6500 Series

Ultra-sensitive performance – sharply focused

TripleTrap™ scanning with QTRAP technology

When combined with the QTRAP Technology, the 6500 Series not only allows researchers to push the limits in MRM sensitivity, but also delivers a 100X increase in full-scan sensitivity over basic triple quads. The combined Triple Quad and Linear Ion Trap scan functions provide unrivaled levels of confidence in peptide quantitation and library screening workflows.

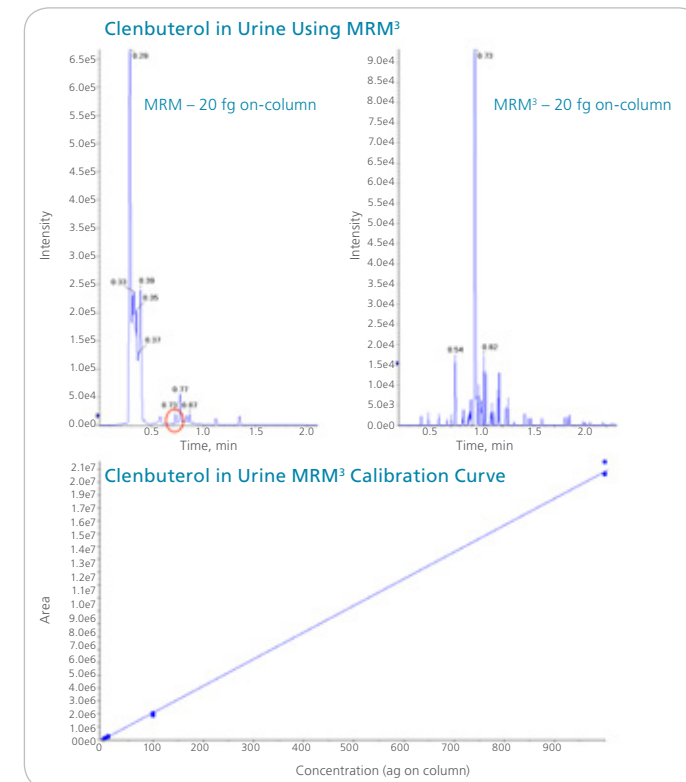
- Boost selectivity with quantitative MRM³ workflows – and reduce the need for extensive sample cleanup or labor-intensive chromatography methods
- Obtain comprehensive peptide sequence confirmation and simplify MRM assay development for peptide quantitation
- Simultaneously quantitate MRMs and perform full library scans to search for contaminants

- Achieve a 100X increase in full-scan sensitivity over triple quads and achieve greater confidence for forensic toxicology applications

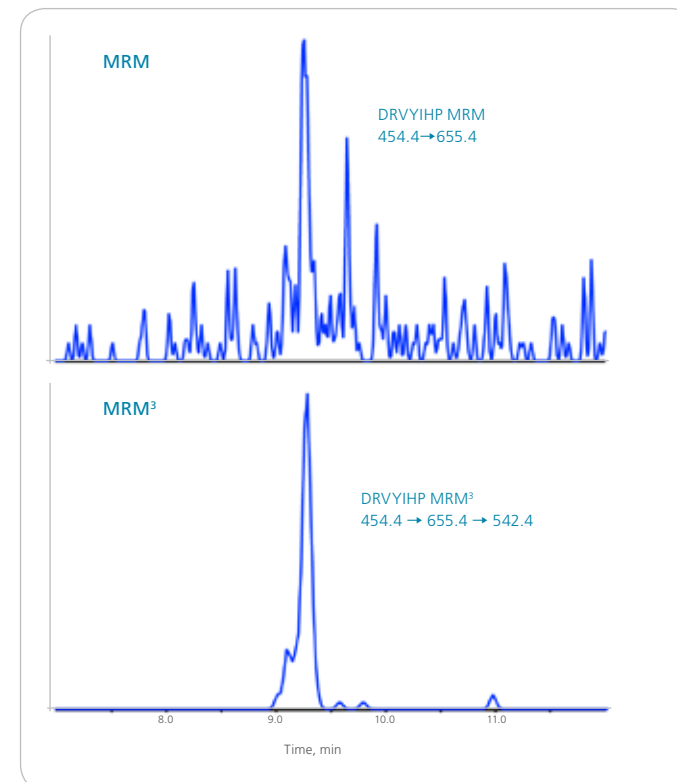
MRM³ with QTRAP technology – quantitation without interferences

When high background or challenging co-eluting interferences make standard MRM quantitation 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 scripts building makes parameter definition effortless while also making the MRM³ workflow a fast, reproducible and easy-to-use way to increase throughput.

Enhanced selectivity and quantitation with MRM³



MRM³ for enhanced peptide quantitation



QTRAP® technology enables highly selective MRM³ quantitation to overcome difficult selectivity challenges while maintaining sensitivity.

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.



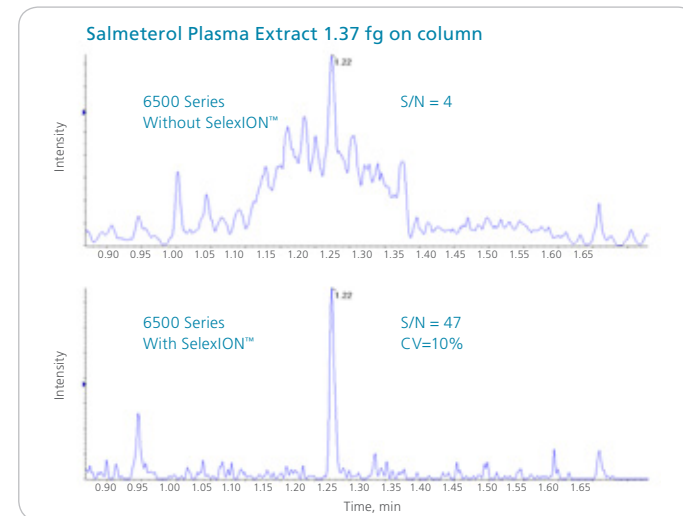
A world of options – a new dimension in selectivity

Differential ion mobility separation

AB SCIEX SelexION™ Technology takes the world's most sensitive triple quadrupole mass spectrometer and adds a new dimension of selectivity for enhanced quantitative and qualitative performance.



Improve data quality and enhance selectivity for challenging samples that require advanced analytical separations. The 6500 Series with SelexION technology 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.



Achieving real improvements in LOQ's for bioanalysis requires both sensitivity and selectivity. With SelexION Technology combined with the 6500 series, gains in instrument sensitivity result in true gains for challenging bioanalytical problems such as Salmeterol in plasma.



Front-end solutions for your most challenging assays

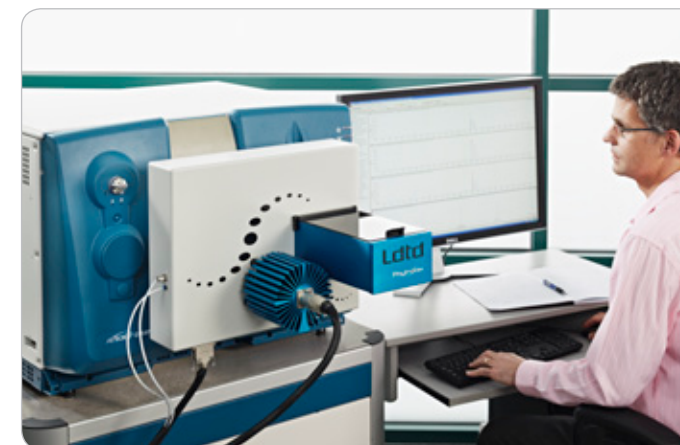
Regardless of the challenges encountered in the development of your assays, you can have confidence that the 6500 Series has the tools you need when you need them.



Nanoflow made easy: The NanoSpray® III source makes working with nanoflow chromatography easy while providing the highest sensitivity and stability. The NanoSpray III Source supports regular and column-packed emitter tips for ultimate chromatographic flexibility. The new camera design allows clear spray visualization for simplified optimization. Finger-tight fittings enable you to change tips quickly, so you are up and running in no time.

See what you have been missing: The PhotoSpray® ionization source is a completely self-contained ionization source that expands the range of compounds you can analyze to include low-polarity polycyclic aromatic hydrocarbons.

Double your productivity: The optional DuoSpray™ 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.



Accelerate your throughput: With the Phytronix Laser Diode Thermal Desorption (LDTD) source, the 6500 Series becomes the ultimate vehicle for sensitivity and throughput, increasing efficiencies in early in-vitro ADME, in-vivo bioanalysis, toxicology research and analysis of drugs of abuse compounds, and clinical research. The LDTD source combines automated sample introduction and mass spec analysis with sample-to-sample analysis times as low as 4 seconds. You can install and remove it within minutes, and it's fully controlled by the Analyst® AAO driver.

Analyst® Software

The validated environment designed for quantitation

Proven and accepted throughout the world

The pedigree that defines regulated bioanalysis

The Analyst software is designed to be used as part of a 21 CFR Part 11 compliant system and has over 12 years of experience, innovation, and acceptance by regulated laboratories world-wide behind it. 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.

The Gold Standard – Our Customers

“Analyst’s 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

“The Audit Trail in Analyst affords our organization peace of mind that all events are being captured and helps us maintain the integrity of our data”

DR. F. GAROFOLO, VICE PRESIDENT,
BIOANALYTICAL SERVICES, ALGORITHM PHARMA.



What makes Analyst 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 project structure keeps all relevant data interlinked

And finally, Analyst service has a modular architecture, so that you can upgrade and validate what you need, when you need to. This avoids massive and expensive revalidation projects inherent to unified information management systems.

Professional validation services

The AB SCIEX Professional Validation Services team offers comprehensive validation services that cover the range of HPLC IQ-OQ, MS IQ-OQ, Software Validation, and a complete LC/MS PQ that integrates hardware qualifications and software validation. As an AB SCIEX customer, this provides you with a single, end-to-end system validation package – from the manufacturer of the equipment – that encompasses data management, disaster recovery/backup, and data system security.

One touch productivity

Take full advantage of all the speed and power of the 6500 Series. Powerful, workflow-driven software ties everything together to deliver a new benchmark in efficiency, throughput, and productivity. Industry-standard Analyst® Software utilizes the intelligent *Scheduled MRM™* algorithm to make the method setup of over 1000 analytes in a single LC analysis straightforward and simple while still generating exceptional quantitative and brilliant qualitative results.

Save time, without compromising

MRM data processing

MultiQuant™ Software is a powerful, easy-to-use package that processes MRM data for quantitative information. The software easily handles large data sets consisting of both large numbers of MRM transitions and study samples, with an emphasis on the requirements for processing protein/peptide quantitative workflows. Results can easily be exported to other software packages, or use the software’s flexible reporting features to generate custom reports.



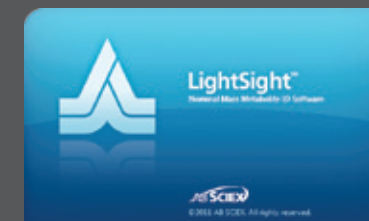
Simplified, preconfigured testing

Cliquid® Software pre-configured iMethod™ Applications and simplified user interface make it easier to perform routine food, environmental, forensics, and clinical research testing. With a simple four-step workflow, pre-configured methods, built-in system suitability tests, and automatic reports generated according to regulatory requirements, Cliquid Software both simplifies the use and accelerates the adoption of LC/MS/MS for routine testing.



Complete metabolite coverage

LightSight® Software simplifies analysis of complete metabolite coverage. Create expert-level acquisition methods in just a few simple steps using the automated method development tool. Or take advantage of customized glutathione screening to quickly identify potential reactive metabolites and significantly increase metabolite detection with targeted methods.



ProteinPilot™ Software

ProteinPilot Software streamlines protein identification and quantitation: Identify hundreds of peptide modifications and non-tryptic cleavages simultaneously. Easily distinguish protein isoforms, protein subsets. Suppress false positives. Quantify proteins and peptides across many samples using supported stable isotope labeling workflows.



Your success is our success.

We take it personally.

As an AB SCIEX customer you have access to a world-class customer support organization. Wherever you are, we're there with you as a trusted partner to answer questions, provide solutions, and maximize lab productivity.

The expertise of our service engineers covers the entire LC/MS system. Whether you need help with an ion source, an autosampler, or running an application, they can put your mind at ease. They understand that you can't afford downtime and need problems fixing fast. In fact, they do what it takes to make sure everything is working to your satisfaction and that your results look like they should.

Our application chemists specialize in making workflows flow. They can streamline your sample preparation and eliminate manual steps. They can help you develop methods for fast implementation and scale up for higher throughput. They can help you find ready-to-use iMethod™ Applications that get you up and running fast. They're also only a phone call away if you need help quickly.

When it comes to training, different labs have different needs. Our training specialists can design programs specific to your lab that make the experience as effective and efficient as possible. Choose from hands-on system training for LC/MS techniques or application-specific courses given by leading experts. You can also learn at your own pace with our e-learning modules.

Our customer support organization has access to the latest product updates, software revisions, methods and repair procedures to make sure that you stay on top of your game.

When you have questions, we have answers.

Learn more at www.absciex.com/customersupport

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