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QTRAP 5500

Powerful synergy results when the world's most sensitive triple quadrupole unites with innovative Linear Accelerator™ trap technology, the world's most sensitive and fastest scanning linear ion trap. The whole really is more than the sum of its parts. The unique hybrid architecture, unparalleled sensitivity, and impressive speed enable solution-based workflows that solve problems other mass spectrometry systems cannot. The QTRAP® 5500 system is truly above and beyond the extraordinary, with no sacrifice in qualitative or quantitative performance, whether targeting specific compounds or compound classes to generate accurate quantitation, or performing sensitive compound identification and confirmation in a single run. Get more performance, better results, better efficiency, and be more productive.

Sensitivity meets selectivity for enhanced quantitative and qualitative performance
The AB SCIEX QTRAP® 5500 System is next-generation technology from the leaders in mass spectrometry. Redesigned from the ground up, but bred from our industry standard triple quadrupole line of mass spectrometers, the QTRAP 5500 System brings in a new era of performance.

Fast, precise quantitative performance

Ultra-fast triple quadrupole scan speeds improve precursor ion and neutral loss scan performance, ideal for fast chromatography. Fast LC also demands incredibly short dwell times for MRM experiments. Let the innovative Scheduled MRMTM algorithm automatically optimize your dwell times and maximize your capacity to deliver gold-standard quantitation.

Now monitor even more MRM transitions than ever thought possible and still get the quantitative performance you have come to expect from AB SCIEX—day after day, year after year.

Driven by all-new Linear Accelerator™ trap technology
It doesn't stop there. The QTRAP® 5500 System also houses the most sensitive ion trap in the world—the all new, patented Linear Accelerator™ trap. With ultra-fast scan speeds, up to 100-fold increase in trap scan MS/MS sensitivity, and full MS3 capabilities,

there is no compromise in the qualitative data that are generated— or the confidence you will have in those data.

Many mass spectrometry systems offer either quantitative or qualitative structural analysis. But the unique hybrid architecture of the QTRAP® system means that you can get both exceptional qualitative and quantitative information from the same instrument and in the same analytical run.

The unparalleled scan speeds and sensitivity of the QTRAP 5500 System are made possible by advanced eQTM electronics. Next- generation eQ electronics in turn drive the unique TripleTrap™ scanning technology to move from triple quadrupole mode to Linear Accelerator™ trap mode in the blink of an eye, enabling workflow-driven data acquisition that cannot be done on any other mass spectrometer. Intelligent linking of the system's capabilities with TripleTrap™ scanning opens up powerful and unique workflows that accelerate your research and bring new levels of productivity and reproducibility.

For example, predictive MRM (pMRM) identifies and characterizes a comprehensive set of metabolites including extremely low level metabolites in one time-saving analysis; screening for Pesticides and Pharmaceutical and Personal Care Products (PPCP) is achieved with ultimate confidence; and MRM assay development of peptides and proteins using the MIDASTM workflow results in more robust MRM assays and saves money and time by removing the need for synthetic or purified peptide or protein standards.

Turbo V™ source provides high- sensitivity analysis over a wide range of flow rates with quick-change APCI and TurboIonSpray® probes. From 50 µL/min to 5 mL/min, the Turbo V source is the perfect match for narrow bore, standard bore and UHPLC flow rates, delivering unprecedented desolvation and stability for even the toughest high-flow applications utilized to drive productivity.

QJet® ion guide's patented design yields improved ion containment and operates at high pressure, providing better collisional focusing to enhance ion transmission for ultimate sensitivity. The new design also reduces the gas load, allowing the turbopump to run cooler in its ideal operating range. All this leads to our most reliable system yet and with tool-free maintenance, clean-up is simple and straightforward.

NanoSpray® III ion source is an easy to assemble and disassemble nanoflow source that 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, and the new camera design allows clear spray visualization that simplifies optimization. Fingertight fittings enable you to change tips quickly so you are up and running in no time.

The AB SCIEX QTRAP® 5500 System brings together the latest hardware from the world's best selling triple quadrupole family, and adds next-generation, ultra-fast and sensitive Linear Accelerator™ trap functionality. Delivering unmatched qualitative and quantitative analysis—the QTRAP 5500 System enables productive, time-saving workflows that simply cannot be done with other mass spectrometry systems.

AcQuRate™ Pulse Counting Detector

The AcQuRate™ pulse counting detector is the latest in detector technology combined with a pulse overlap correction algorithm, enabling more accurate and precise ion detection over a wide dynamic range. Operating at maximum gain all the time drives the detector into the digital domain, simplifying the elimination of electronic noise and guaranteeing maximum sensitivity with unparalleled accuracy and precision. The best gets even better.

Patented QJet® Ion Guide

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

Patented Q0 High-Pressure Cell

Q0 collisional focusing. Patented high pressure collisional focusing technology maximizes transmission of ions for superior sensitivity.

Q0 trapping. Ions can be accumulated in the Q0 region while the Linear Accelerator™ trap is performing MS/MS and MS3 scans. This yields superior sensitivity in ion trap mode, which can be extremely important for fast UHPLC applications where time and duty cycle are condensed.

Patented Linear Accelerator™ Trap

Bringing LINAC® technology to the Q3 linear ion trap greatly improves the extraction efficiency to yield up to a 100 x gain in sensitivity in ion trap scan modes. Now take full advantage of the 20,000 Da/s scan speeds without worrying if enough sensitivity is on board to generate incomparable results. 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 newly 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.

AB SCIEX SelexION™ Technology on the QTRAP® 5500 System represents an innovation in ion mobility separation for improving data quality and enhancing selectivity for challenging samples requiring advanced analytical separations. SelexION™ technology compliments and extends the levels of selectivity offered by the MRM3 workflow, by removing interferences at the structural level. 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.

Reproducible, robust and easy to use

SelexION™ technology supports highly selective quantitative and qualitative LC/MS/MS workflows with the AB SCIEX Triple Quad™ 5500 and QTRAP® 5500 Systems.

- Performs a gas phase differential ion mobility separation within the planar ion mobility cell based on the size and shape of the compound prior to entering the mass analyzer
- Reproducibility & robustness suitable to regulated bioanalysis standards
- Enhanced separation power with use of integrated chemical modifiers such as IPA
- On demand operation, can be turned off and on as needed without removing hardware
- Can be setup or removed by the user within 2 minutes
- Cycle times compatible with multi component analysis and UHPLC run times

Powerful, workflow-driven software ties everything together to deliver a new benchmark in efficiency, throughput, and productivity to let you take full advantage of all the speed and power that the QTRAP® 5500 System puts at your fingertips. And the latest version of industry-standard Analyst® software utilizes the intelligent Scheduled MRMTM algorithm to make the method setup of over 1000 analytes in a single LC analysis straightforward and simple while still generating exceptional quantitative results and brilliant qualitative results.

MultiQuant™ Software

MultiQuant™ Software is a powerful and easy-to-use quantitation 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.

MRMPilot™ Software

MRMPilot™ Software automates the iterative process of developing a robust MRM assay for peptides and proteins. By using the MIDAS™ workflow that takes full advantage of the QTRAP® system capabilities, developing MRM assays takes only days, not weeks, and no peptide or protein standards are needed.

Cliquid® Software

Cliquid® Software's pre-configured iMethod™ tests 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. The available MRM catalogues, containing the optimized instrument parameters for thousands of compounds, can also be used to save the time and cost associated with method development.

LightSight® Software

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 the customized Glutathione screening ability that quickly identifies potential reactive metabolites and significantly increases metabolite detection with pMRM methods.

Analyst® Software

As the world's most commonly used LC/MS/MS instrument control software platform, Analyst® Software provides state of the art functionality for instrument control, data analysis and reporting.

The latest version builds on this legacy by providing new features that enhance both performance and ease of use..



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