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## **ABI 3200 Q TRAP® LC/MS/MS System**

The advantages of an ion trap and the performance of a triple quad.

All in one system. ■



### **Hybrid Triple Quadrupole/Linear Ion Trap sensitivity and ease-of-use, plus triple quad selectivity.**

Patented hybrid triple quadrupole/Linear Ion Trap technology takes you far beyond the capabilities of any conventional ion trap, enabling you to screen, identify, and quantitate proteins or small molecules in a single analysis. By combining true triple quadrupole scanning functionality with sensitive linear ion trap scans, you can reduce analysis time and get more information from every experiment.

### **Versatile, integrated system meets multiple challenges.**

The compact benchtop system is a powerful, easy-to-use tool that's rugged enough for continuous high-throughput operation. With intuitive, application-specific software and a full complement of automation features, it fits seamlessly into the workflows of any drug discovery, proteomics, or forensics laboratory.

**Expert results—even for non-experts.**

From automated methods development to quick, simple ion source changes, the 3200 Q TRAP® system is designed to make it easy for you to get the answers you need, even if you are just getting into mass spectrometry.

### **Convenient “plug and play” ion sources.**

Rugged, reliable, easily interchangeable ion sources are available for a wide range of applications and flow rates to suit your analysis needs. Rapid source change-over extends system flexibility with minimum downtime. All temperature, gas, and electrical connections are fully integrated into the source housing—no extra lines to attach, and no lost time. Magnetic connections automatically detect the hardware change and alert the software

**The Innovative Turbo V™ ion source** efficiently ionizes compounds and virtually eliminates crosscontamination, even with large sample loads and LC flow rates up to 3 ml/min. Embedded ceramic heater technology and improved gas dynamics contribute to the system’s low detection limits, and enable high sensitivity quantitation over a wide range of flow rates. Quick-change TurboIonSpray® and APCI probes let you switch between ionization modes in seconds.

### **Q0 trapping.**

Ions can be accumulated in the Q0 region of the system while the Q3 linear ion trap is scanning ions during ion trap MS/MS and MS3 scans. This results in a greatly improved duty cycle, as well as improved sensitivity. Patented collisional focusing technology maximizes ion transmission for superior sensitivity.

### **Q2.**

Patented LINAC® high-pressure collision cell ensures maximum ion transfer—free of cross-talk— from the interface to the detector in MS/MS mode. You can reduce MRM dwell times without compromising sensitivity, allowing you to monitor more compounds without any appreciable loss in signal, and enabling simultaneous multi-compound analyses.

### **Q3.**

Patented Q3 Linear Ion Trap can accommodate up to 45X more ions than a 3D ion trap, providing greater sensitivity before the onset of space charge effects. The longer path gives ions more time to lose energy, further enhancing capture and sensitivity. Higher duty cycle, faster scan time provides more information in less time, and a more thorough investigation of complex samples.

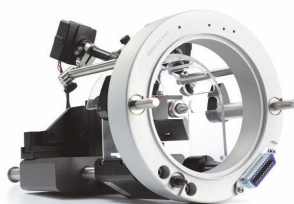
**The optional DuoSpray™ source** contains TurboIonSpray® and APCI probes in one housing with computer-controlled switching, allowing use of the optimal ionization technique and conditions for each compound during an LC run, making it an ideal tool for fast method development as well as increasing throughput and data quality.



**The optional PhotoSpray® source** for atmospheric pressure photo-ionization (APPI), expands the range of compounds that can be analyzed. The PhotoSpray source can ionize many compounds that are not easily ionized by ESI or APCI, such as low polarity polycyclic aromatic hydrocarbons (PAH's).



**New NanoSpray® II source** gives you the versatility of discrete nanospray and nanoflow HPLC capabilities using nebulizing gas-assisted MicroIonSpray® ion source for low flow work such as protein and peptide analysis. An improved interface permits more efficient transfer of ions from the NanoSpray source into the system, increasing robustness and sensitivity.



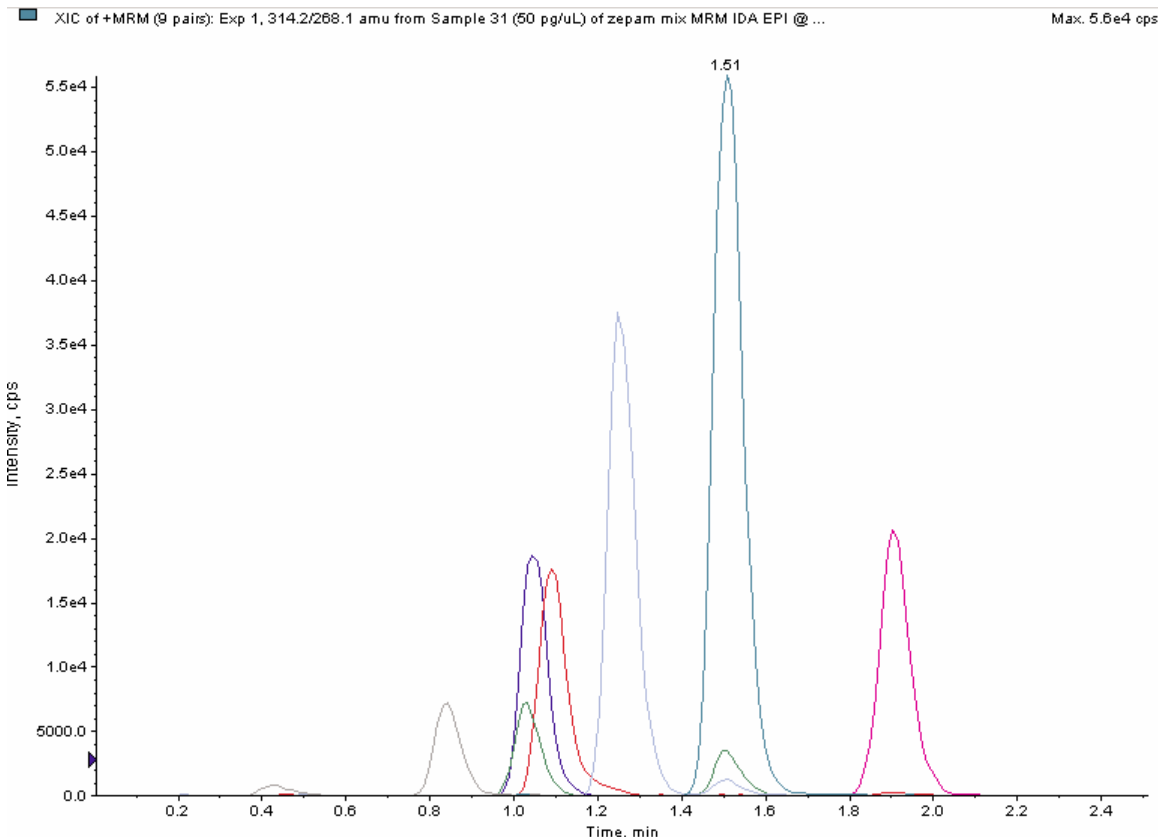
### **Simultaneous qualitative and quantitative analysis.**

Hybrid triple quadrupole/Linear Ion Trap technology provides the ability to identify and quantitate components from complex samples in a single run. Triple quadrupole specificity and quantitation combine with linear ion trap full scan MS/MS sensitivity for simultaneous qualitative and quantitative results.

### **Multi-compound analysis.**

The ability to quantitate multiple components in a single run provides more results in fewer experiments. LINAC® collision cell technology enables fast scanning without

compromising performance and Multiple Reaction Monitoring scans provide confident distinction between closely eluting and co-eluting components.



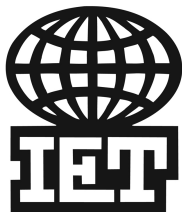
***Multi component capabilities enable screening and quantitation for broad classes of compounds, such as benzodiazepines.***

#### **Outstanding reliability for maximum productivity.**

Robust ion sources, advanced interfaces, and stable ion optics provide the ruggedness and reliability required for maximum instrument-up time and productivity from nano flow rates to 3 ml/min. Instrument and software stability provide consistent, confident results day after day.

#### **True triple quad quantitation.**

With a linear dynamic range of four orders of magnitude, the 3200 Q TRAP® system provides the quantitation performance that triple quadrupole LC/MS/MS systems are known for. The system performs Multiple Reaction Monitoring (MRM) scans for highest quantitative sensitivity.



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