API 3200 LC/MS/MS system

Reliability, Reproducibility, and Confidence in Your Data
With an unmatched heritage of technological innovation and dependability, the triple quadrupole API 3200™ system offers an attractive blend of performance, throughput, and value.

High Uptime, Superior Reproducibility, Maximal Productivity
Designed for high-throughput labs doing small molecule quantitation, the compact, affordable API 3200™ system delivers best-in-class reliability and reproducibility over virtually all samples encountered in environmental, food, clinical research, and pharmaceutical applications.

Like all of our industry-leading triple quadrupole and QTRAP® systems, the API 3200™ system platform features the Turbo V™ ion source with plug-and-play probes that let you analyze an extended range of compounds over a wide range of flow rates. Patented Curtain Gas™ interface and LINAC® collision cell technologies provide superior ruggedness and selectivity for your most exacting quantitative analyses.

Powerful software, advanced automation features, and robust engineering increase your productivity, giving you the ability to routinely analyze hundreds of samples—day after day, year after year.

- **Absolute ionization**. Innovative Turbo V™ ion source efficiently ionizes compounds and virtually eliminates cross-contamination, even with large sample loads, for high-sensitivity quantitation over a wide range of flow rates.

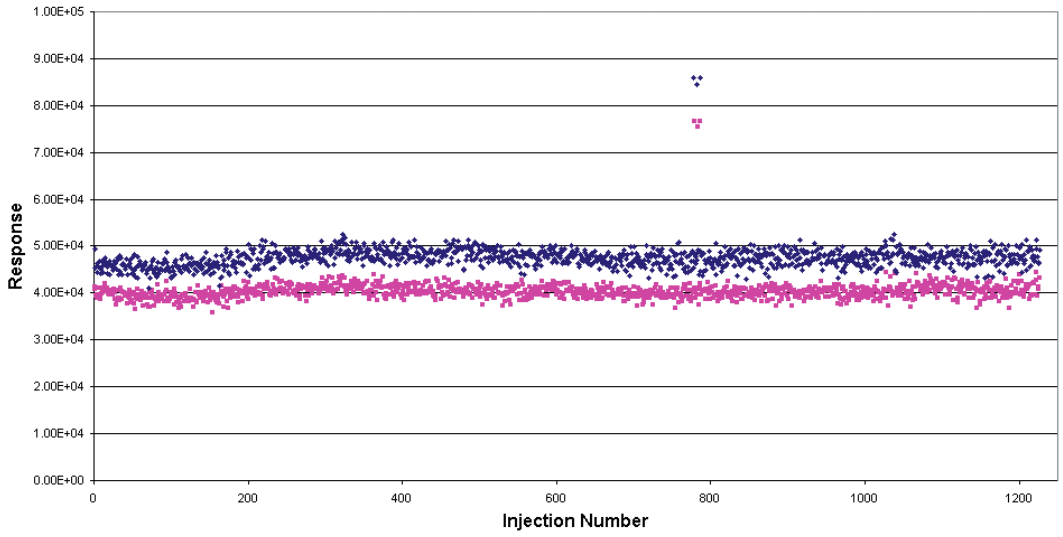
- **Superior MS/MS performance.** Patented, proven LINAC® collision cell technology provides faster scan times, allowing more compounds to be analyzed in a given run, with no compromise in sensitivity or mass spectral quality.

- **Maximal uptime**. Proprietary Curtain Gas™ interface reduces the need for routine maintenance and ensures maximal productivity by protecting the interface region and quadrupole analyzer from contamination.

- **Greater throughput.** High-productivity software applications, including automated methods development, enable unattended operation and routine analysis of hundreds of samples per day—every day.

• **Ease of use.** You don't have to be a mass spec expert to achieve expert results; advanced acquisition and processing software completely automates setup and analysis.

• **Results, systems, and support you can count on.** The API 3200™ system is backed by one of the world's most extensive service and support organizations—as well as our promise to help keep your lab up and running at maximal productivity.



Ruggedness and reproducibility of the API 3200™ system. Running more than 1,200 injections of carbamate insecticides extracted from soil samples over the 3.5 days, the API 3200™ system exhibits exceptional stability with relative standard deviations of 3.6% for the response of the two carbamates.

An Affordable Benchtop Platform Built on Premier Technology

The API 3200™ LC/MS/MS system takes advantage of a number of proprietary mass spectrometry innovations to deliver the performance required by demanding applications in regulated environments—all at an excellent value.

Convenient "Plug and Play" Ion Sources

Rugged, reliable, and easily interchangeable ion sources are available for a wide range of applications and flow rates to suit your analysis needs. Rapid source changeover minimizes downtime and simplifies routine maintenance. All connections are fully integrated into the source housing—no extra lines to attach, and no lost time.

The innovative Turbo V™ ion source efficiently ionizes compounds and virtually eliminates cross-contamination, even with large sample loads. Embedded ceramic heater technology and improved gas dynamics contribute to the system's low detection limits, and enable high-sensitivity quantitation over a wide flow range up to 3 mL/min. The quick-change ESI and APCI probes let you switch between ionization modes in seconds.

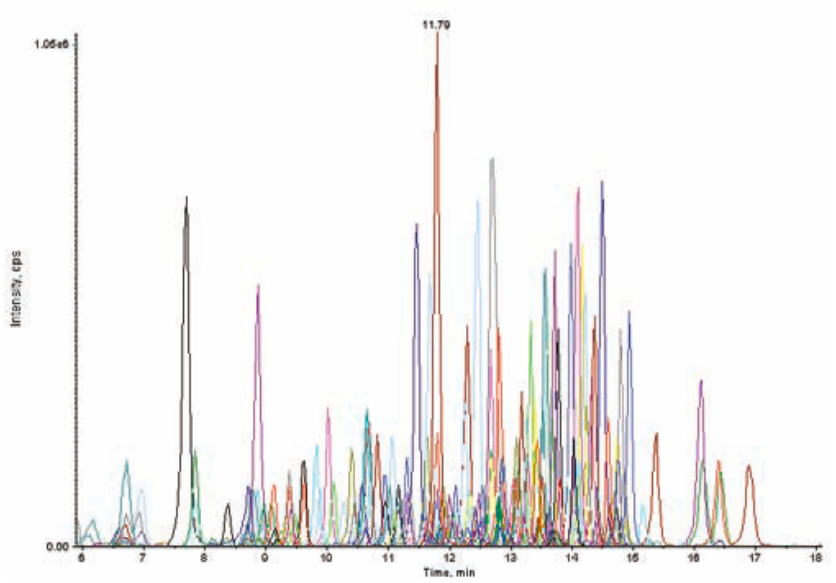
The DuoSpray™ source contains two separate inlets for ESI and APCI probes, allowing the optimal ionization technique and conditions for each compound during an LC run, making it an ideal tool for fast method development as well as increasing throughput and data quality.

The PhotoSpray® source for atmospheric pressure photo-ionization expands the range of compounds that can be analyzed, often at higher sensitivities than ESI or APCI. The PhotoSpray® source can ionize many compounds that are not easily ionized by ESI or APCI, such as polyaromatic hydrocarbons (PAHs).

The NanoSpray® II source gives you the versatility of discrete nanospray, nanoflow, or MicroIonSpray® II source capabilities 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.

LINAC® Collision Cell

Patented LINAC® collision cell ensures maximal ion transfer—free of crosstalk—from the interface to the detector in MS/MS mode, allowing simultaneous multicomponent analyses and enabling you to monitor more compounds and multiple reaction monitoring (MRM) transitions without any appreciable loss in signal. LINAC® collision cell technology also enables fast scanning without compromising performance in all modes of operation, including product ion, precursor ion, and neutral loss scans.



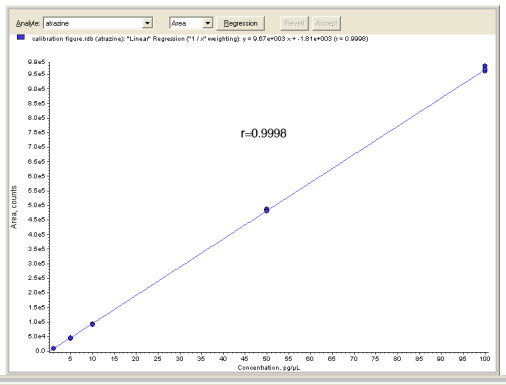
In a single MRM experiment, 300 commonly encountered pesticides are monitored to determine their presence and if their levels are above the maximum residue limit (MRL). The entire pesticide screen, along with confirmation, is complete in less than 20 min, improving lab productivity.

Curtain Gas™ Interface
The proprietary Curtain Gas™ interface reduces the need for routine maintenance and ensures maximal uptime and productivity by protecting the interface region and quadrupole analyzer from contamination.

A new generation of industry-trusted Analyst® software lets you configure, tune, acquire data, explore, and quantitate with high confidence—even when working with complex matrices. You can automatically create fully optimized methods for multiple compounds, quickly generate new quantitation methods, and analyze and compare analytical results.

Analyst® software also provides a comprehensive feature set for GLP labs, including full support for 21 CFR Part 11 compliance. It offers an easily administered, integrated security model that adapts to the needs of your lab, and gives you added confidence in your data. Powerful, automated add-on applications, such as Information Dependent Acquisition (IDA) further extend the system's data acquisition and processing capabilities.

Impressive linearity over a wide dynamic range is demonstrated in this calibration curve of five replicate injections at each concentration level of cyanazine, a triazine herbicide. The excellent accuracy and percent coefficient of variation (%CV) illustrate the consistent high-quality quantitative results achievable day after day with the API 3200™ system.



Expected Concentration	Sample Name	Number Of Values Used	Mean	Standard Deviation	%CV	Accuracy
1.000000	std mix 1 pg/µL	3 of 3	1.075109	0.027653	2.572128	107.510862
5.000000	std mix 5 pg/µL	3 of 3	4.789421	0.033919	0.708208	95.788410
10.000000	std mix 10 pg/µL	3 of 3	9.597778	0.218153	2.272950	95.977778
50.000000	std mix 50 pg/µL	3 of 3	50.185258	0.415236	0.827406	100.370515
100.000000	std mix 100 pg/µL	3 of 3	100.352436	0.944622	0.941304	100.352436

Parameters

Statistics Metric: Concentration

Analyte Name: atrazine

Sample Type: QC

Layout

Conc. As Rows: Group By Batch

Conc. As Columns: Show by Batch

Display the Data Set(s) Display Low/High values

Expected Concentration	Sample Name	Number Of Values Used	Mean	Standard Deviation	%CV	Accuracy
1.000000	std mix 1 pg/µL	9 of 9	1.113597	0.032089	2.881547	111.359679
5.000000	std mix 5 pg/µL	9 of 9	5.020617	0.283294	5.642610	100.412331
10.000000	std mix 10 pg/µL	9 of 9	9.788532	0.338281	3.455893	97.885322
50.000000	std mix 50 pg/µL	9 of 9	51.927371	2.628351	5.061591	103.854741
100.000000	std mix 100 pg/µL	9 of 9	100.167182	6.129880	6.119649	100.167182

To confirm the stability and reproducibility of the calibration and quantitative performance of the API 3200™ system, three replicate injections of atrazine were run at each concentration level to create the calibration curve above.

During the course of the four-day study, nine replicate injections were run at each concentration level. The %CV and accuracy surpass the typical quantitative analysis performance requirements and demonstrate the exceptional stability and reproducibility of the API 3200™ system. Outstanding inter- and intra-day quantitative performance makes rapid validation of your methods a certainty.