

Thermo Fisher Scientific Debuts High-Performance Benchtop Quadrupole-Orbitrap Mass Spectrometer

Thermo Scientific Q Exactive is a Compelling Alternative to Q-TOF

Dateline:

ORLANDO

Monday, March 12, 2012 9:31 am EDT

ORLANDO--([BUSINESS WIRE](#))--Thermo Fisher Scientific Inc., the world leader in serving science, today announced the Pittcon debut of the [Thermo Scientific Q Exactive](#) high-performance benchtop quadrupole-Orbitrap™ LC-MS/MS. Q Exactive™, a compelling alternative to quadrupole time-of-flight (Q-TOF), can conduct three experiments at once – identification, quantitation and confirmation – in a system that is fully compatible with UHPLC separations. The company will showcase the Q Exactive in Thermo Scientific booth 2665 during Pittcon 2012, being held from March 11-15, in Orlando.

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The innovative HR/AM Quanfirmation™ capability featured in Q Exactive makes it possible to identify, quantify and confirm more trace-level metabolites, contaminants, peptides and proteins in complex mixtures in one analytical run. Laboratories can obtain high-confidence results without sacrificing MS/MS sensitivity, mass resolution or quantitative reproducibility.

The Q Exactive supports time-saving workflows for emerging applications, such as food safety and forensic toxicology, which use general extraction methodologies that result in complex sample matrices for subsequent analysis by LC-MS. With the Q Exactive, laboratories can identify more proteins, more metabolites and more contaminants with greater confidence.

“Traditionally, laboratories have purchased Q-TOFs for small-molecule work, such as drug metabolism studies, as well as for peptide and proteomics work, and the Q Exactive is ideal for those applications,” said Dr. Ian Jardine, chief technology officer of Thermo Fisher’s Analytical Technologies business. “Once customers understand that they can get UHPLC-equivalent performance, with narrower chromatography peaks, at an affordable price, the Q Exactive becomes an even more exciting proposition for labs worldwide.”

Because it is powered by Orbitrap technology, the Q Exactive offers ultra-high resolution and exceptional mass accuracy for high-confidence identifications and retrospective data analysis. Fast scanning and spectral multiplexing ensure that the system is fully compatible with UHPLC separations. Fast positive-negative scan-to-scan polarity switching enables detection of a wide range of compound types in a single analysis.

Other new innovations featured in the Q Exactive include:

- New ion source optics for increased sensitivity up to five-fold.
- Integrated quadrupole mass filter that enables precursor ion selection. True MS/MS fragmentation occurs in the higher energy collisional induced dissociation (HCD) cell prior to Orbitrap HR/AM detection.
- Advanced signal processing that increases system resolving power to 140,000 FWHM in full-scan

mode and maximum scan speed.

- New C-Trap ion optics and HCD collision cell that offer fast HCD MS/MS scanning and improve low-mass ion transmission, which enhances sensitivity and quantitative performance, particularly for experiments that use isobaric labeling.
- Multiplexed detection that increases overall system duty cycle for compatibility with UHPLC. Up to 10 precursor ions can be collected and stored prior to simultaneous detection in the Orbitrap.

For more information about the Thermo Scientific Q Exactive, please visit Thermo Scientific booth 2665 at Pittcon 2012. Alternatively, please call (800) 532-4752, e-mail analyze@thermo.com or visit www.thermoscientific.com/qexactive.

For access to all Thermo Fisher news and product photos related to Pittcon 2012, please visit the online media room at www.thermofisher.com/news.

About Thermo Fisher Scientific

Thermo Fisher Scientific Inc. is the world leader in serving science. Our mission is to enable our customers to make the world healthier, cleaner and safer. With revenues of \$12 billion, we have approximately 39,000 employees and serve customers within pharmaceutical and biotech companies, hospitals and clinical diagnostic labs, universities, research institutions and government agencies, as well as in environmental and process control industries. We create value for our key stakeholders through three premier brands, Thermo Scientific, Fisher Scientific and Unity™ Lab Services, which offer a unique combination of innovative technologies, convenient purchasing options and a single solution for laboratory operations management. Our products and services help our customers solve complex analytical challenges, improve patient diagnostics and increase laboratory productivity. Visit <http://www.thermofisher.com>.

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