Waters

NEWS RELEASE

Waters Takes Targeted, Quantitative Imaging to the Next Level with New DESI Source for the Xevo TQ Absolute System

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News Summary:

- Waters combines the enhanced desorption electrospray ionization (DESI) source with the Xevo TQ Absolute tandem quadrupole mass spectrometer to enable faster and more sensitive targeted pre-clinical MS imaging experiments.
- 5X more sensitive and 5X faster than discovery-grade quadrupole time-of-flight MS imaging assays.i
- Enables pharmaceutical development scientists to decide which drug candidates to investigate further and develop into marketable drugs as quickly as possible.

HOUSTON, June 5, 2023 /PRNewswire/ -- American Society for Mass Spectrometry (ASMS) -- Waters Corporation (NYSE:WAT) today launched the industry's **first targeted imaging mass spectrometer** based on its Xevo™ TQ Absolute tandem quadrupole mass spectrometer, the most sensitive and compact mass spectrometer in its class. The new instrument combines the Waters™ **DESI XS source** with the Xevo TQ Absolute system and is five times more sensitive and five times faster than discovery-based imaging systems at precisely determining whether a particular small molecule drug product – and how much of it - reaches its intended target, such as a brain, liver, or lung, in a test subject.

Waters adds DESI XS source to its Xevo TQ Absolute mass spectrometer for fast and sensitive targeted MS imaging.

"Customers have successfully applied the Xevo TQ Absolute system to solve a host of problems including PFAS testing at parts-per-quadrillion levels," said Jon Pratt, Senior Vice President, Waters Division. "Now, combining it with the DESI XS source gives drug development scientists a powerful new tool for efficiently evaluating the effects of drugs at the site of action with the statistical power of full studies."

Dr. Jephte Akakpo, Post-Doctoral Research Fellow, University of Kansas Medical Center, is part of a team researching an antidote (fomepizole) to drug–induced acute liver and kidney damage caused by an acetaminophen overdose.

"The DESI XS source features a high-performance sprayer and that makes the DESI source robust so we can work much more efficiently," said Dr. Akakpo. "Pairing it with the Xevo TQ Absolute system will greatly improve the signal-to-noise ratio and lets us test hypotheses in a way that we couldn't before. The system is taking quantitative MS imaging to the next level."

Applications for direct-from-sample DESI/tandem quadrupole mass spectrometry include:

- Elucidating drug distribution in tissue sectionsii
- Monitoring relevant biochemical pathways in toxicological studies
- Classifying tissue and determining tumor margins

At this year's ASMS conference, Waters is also showcasing its **PFAS analytical workflow** based on the ultra-sensitive Xevo TQ Absolute mass spectrometer, chemistries, and software. The end-to-end UPLC-MS workflow allows laboratories worldwide to upgrade their capability and keep current with the latest regulatory requirements for measuring parts-per-quadrillion levels of PFAS in air, water, soil, and food.

Additional Resources

- Learn more about **Targeted MS Imaging with the DESI XS and the Xevo TQ Absolute system**.
- Download the **DESI XS and Xevo TQ Absolute system brochure**.
- Read the application note **Improved Sensitivity for the Detection of PFAS in Environmental Water Samples Using a Direct Injection Approach on the Xevo TQ Absolute**.
- Follow and connect with Waters via **LinkedIn**, **Twitter**, and **Facebook**

About Waters Corporation (**www.waters.com**)

Waters Corporation (NYSE:WAT), a global leader in analytical instruments and software, has pioneered chromatography, mass spectrometry, and thermal analysis innovations serving the life, materials, and food sciences for over 60 years. With more than 8,200 employees worldwide, Waters operates directly in 35 countries, including 14 manufacturing facilities, and with products available in more than 100 countries.

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i Comparison to Waters high resolution MALDI or DESI-enabled discovery quadrupole time-of-flight MS imaging systems.

ii**Targeted Desorption Electrospray Ionization Mass Spectrometry Imaging for Drug Distribution, Toxicity, and Tissue Classification Studies** doi: **10.3390/metabo13030377**

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