

[XEVO TQ-XS]

EXPANDING ULTIMATE SENSITIVITY ANALYSIS.
MAXIMIZING YOUR COMPOUND COVERAGE.



TQ-XS

Waters
THE SCIENCE OF WHAT'S POSSIBLE.®

Xevo TQ-XS

ONE SYSTEM, **EVERY ANALYTE**, ALL THE TIME.

Demands on analytical laboratories are constantly changing and it is essential to keep pace with these demands. You need to be able to develop robust methods quickly, get the same result every time, and generate data you can trust for confident decision-making.

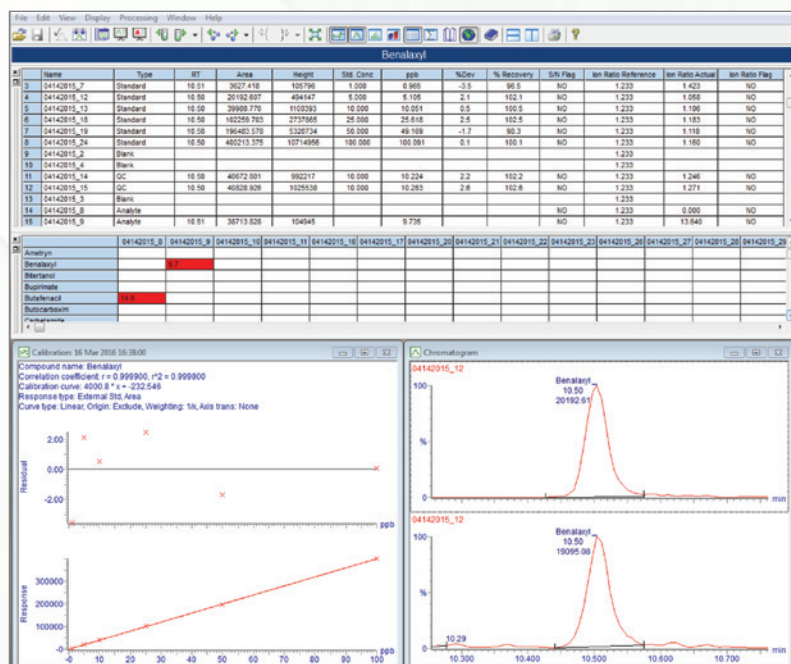
The Xevo® TQ-XS is the next revolutionary product in the long line of high-performance tandem quadrupole instruments from Waters®. With market-leading performance, this mass spectrometer introduces new levels of ultimate sensitivity for more compounds than ever before. Innovative new research has led to levels of reliability, reproducibility, and performance never previously seen in quantitative analysis.



ACQUITY UPLC® I-Class System with Xevo TQ-XS.

ACHIEVE THE SENSITIVITY YOU NEED IN YOUR LAB.

Designed to perform a wide variety of applications, the Xevo TQ-XS fits perfectly in fields such as bioanalysis, clinical medical research, forensic toxicology, food safety, agrochemical, and environmental testing where the highest levels of sensitivity are required. Whether you are analyzing small or large molecules, single analytes, or multiple panels of compounds, the Xevo TQ-XS will give you the results you need the first time and without complication.



Comprehensive and streamlined results review with TargetLynx XS™ software, which flags any results outside user-defined tolerances.



Oasis® PRiME HLB is the first-of-its-kind solid-phase extraction (SPE) sorbent that sets the new performance standard for routine analyses.

HIGH-PERFORMANCE TECHNOLOGY

STEP WAVE XS™

Redesigned ion guide that provides increased sensitivity for challenging compounds while further improving the levels of robustness for ultra trace level analysis.

XDR™ Detector

Enhanced detection system with six orders of linear dynamic range to ensure sensitivity is accessible.

ESI/APCI Probe

Tool-free probe design to reduce the time taken for any routine maintenance and provide improved reproducibility between users.

ScanWave™

Provides enhanced Product Ion Confirmation scanning (PICs) sensitivity, enabling confidence in analyte identification.

RADAR™

Simultaneous quantitative and qualitative data acquisition for better understanding of sample complexity and improved method development.

Universal Ion Source Architecture

The most extensive range of interface capabilities available to service the broadest range of applications.

PUSHING THE BOUNDARIES. LEADING TECHNOLOGY.

Waters market-leading separation technologies include the ACQUITY® UPLC family of LC systems, ACQUITY UPC²® and APGC. Application flexibility is further enhanced by the range of quickly interchangeable ion source options made possible by universal ion source architecture. The Xevo TQ-XS is compatible with all these options, including these highlighted innovative technologies:

■ UniSpray™

A novel ionization technique, exclusive to Waters, with wide compound coverage and potential sensitivity benefits. With applicability over a broad range of analytes and a simplified probe design, you can spend less time changing sources and performing maintenance, and more time analyzing your samples.



■ ionKey™

Enhanced MS with the turn of a key – ionKey/MS. This revolutionary micro-flow separation enables laboratories to do more with less. More sensitivity. More information from the same sample. More instrument uptime. More users capable of performing analyses.

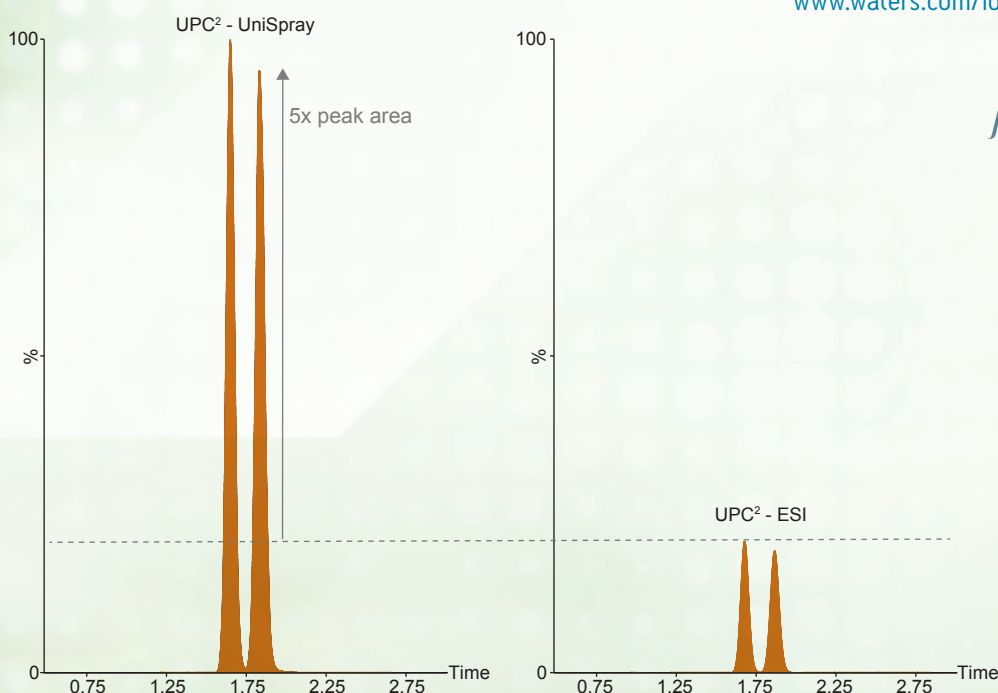


■ ESI/APCI probe design

Innovative new probe design allowing routine maintenance to be completed in minutes with reproducible operator to operator performance.



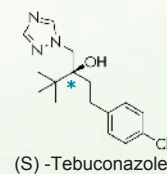
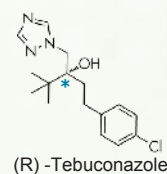
To see the extensive range of ionization options on the Xevo TQ-XS, please visit, www.waters.com/ionsources



ACQUITY UPC²-MRM chromatogram showing the enantioseparation for the triazole fungicide tebuconazole, using either UniSpray or ESI. When using UniSpray, improvements in peak area are observed versus ESI.

Acquity[®] UPC²

Trefoil



* - Stereogenic center

PHARMACEUTICAL QUANTITATION. COMPLEXITY SIMPLIFIED.

The pharmaceutical industry is producing a variety of complex molecules, and performance demands are greater than ever. Biotherapeutics are increasingly being developed and are now a significant part of the total drug market. Pharmaceutical research and development laboratories across the globe are incorporating the technological and scientific expertise required to deal with the complexities such analyses bring. The growing diversity within the drug

market ranges from small molecules, metabolites, small linear or cyclic peptides, all the way to complex monoclonal antibodies and antibody drug conjugates.

In this strict regulatory environment, where compliance is of paramount importance, you need to be able to analyze more compounds with better and faster results. Be equipped to quantify the most challenging compounds with market-leading sensitivity, robustness, and reproducibility.



Vancomycin: Xevo TQ-XS versus Xevo TQ-S. On average, the analyte area counts on Xevo TQ-XS were >10x higher than area counts on Xevo TQ-S for Vancomycin.

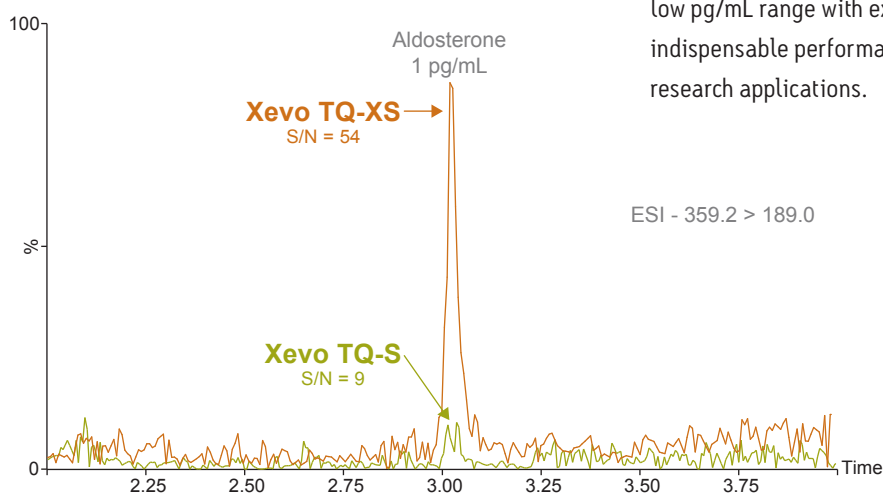
TRANSLATIONAL AND CLINICAL RESEARCH. ESSENTIAL PERFORMANCE FOR LEADERS.

The requirement to reliably measure both endogenous metabolites and proteins at low concentration levels is vital for successful clinical research and biomarker verification studies. Methods used in clinical research and biomarker verification must be reproducible sample after sample across multiple centers.

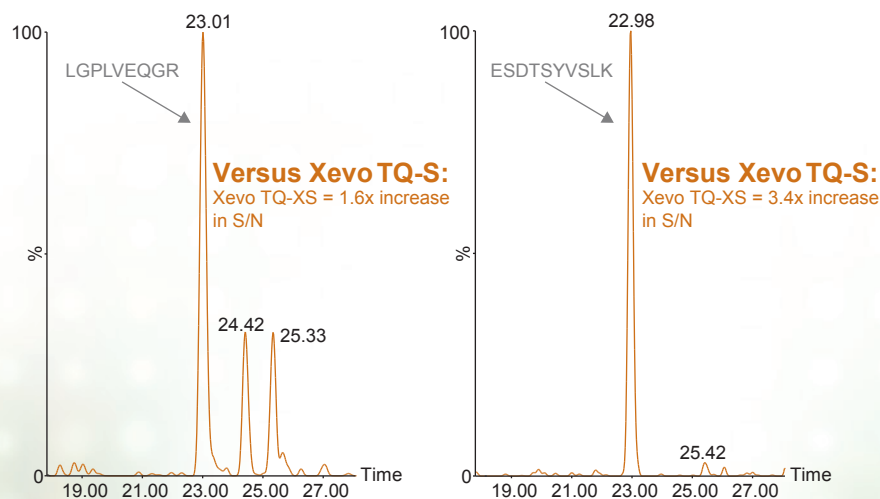
The Xevo TQ-XS provides unmatched sensitivity and robustness to provide the highest quality data necessary to meet the standards for acceptance in today's peer-reviewed clinical research journals.

For peptide quantitation, the combination of the Xevo TQ-XS with ionKey/MS produces unrivalled performance and ease-of-use at low flow rates. The sensitivity of the Xevo TQ-XS is typically 10x or better than standard flow UPLC-MS/MS systems, enabling increased reproducibility for the reliable quantitation of low abundance proteins.

Endogenous steroids, such as aldosterone, are involved in many biological pathways and therefore frequently monitored in research programs. Data collected using the Xevo TQ-XS demonstrate sensitivity in the low pg/mL range with exceptional precision, delivering indispensable performance for demands of clinical research applications.



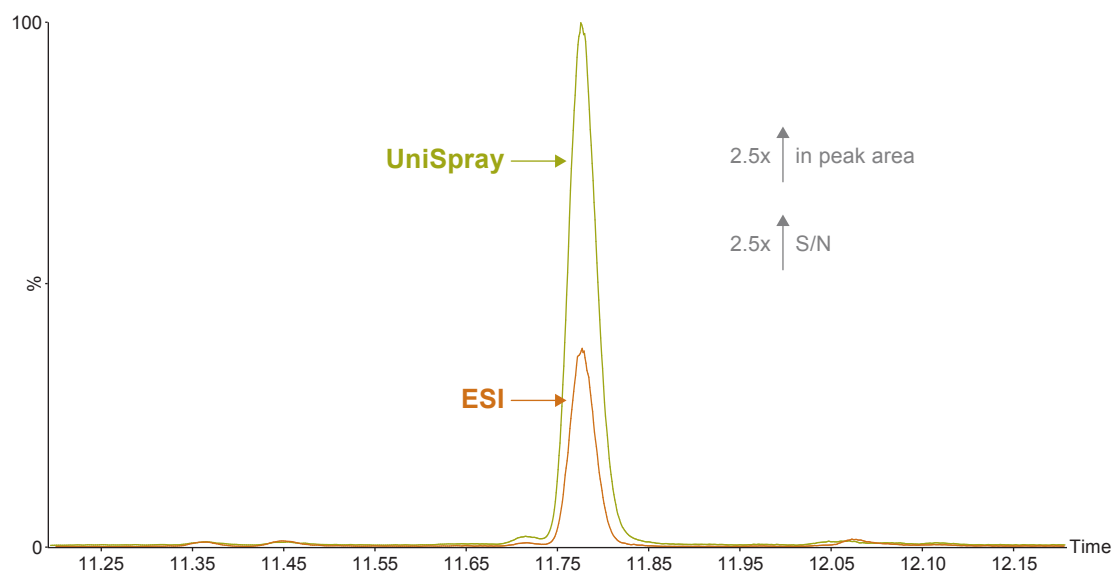
UPLC/MRM 50 fg on column aldosterone in ESI negative showing >5x increase in S/N.



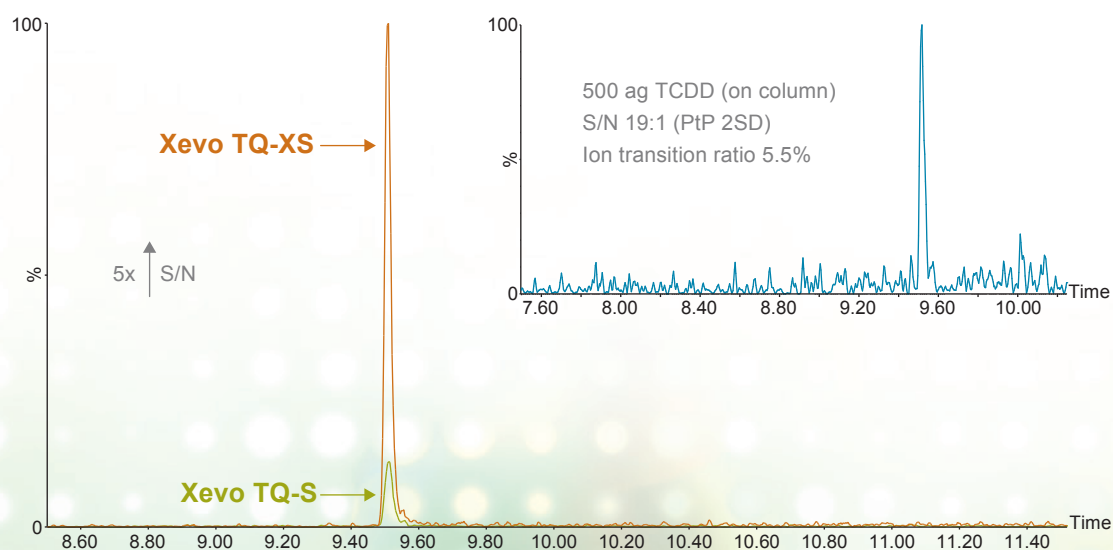
When combined with the unique ionKey/MS, the Xevo TQ-XS offers unmatched sensitivity for peptide quantitation. In the example shown here, the Xevo TQ-XS is routinely and reliably able to measure peptides at concentrations of 0.125 fmol/μL level in non-depleted tryptically digested serum from a 1μL injection.

FOOD AND ENVIRONMENTAL TESTING LABORATORIES. EXPANDED FLEXIBILITY.

With increasing global trade and ever changing regulations, the challenges associated with food testing and environmental monitoring continue to impact laboratory performance. Having the most effective analytical solution is more important than ever to ensure the safety of the public and the environment. The Xevo TQ-XS provides combined ultimate sensitivity and flexibility for your food and environmental quantitative and confirmatory analyses, allowing you to quantify banned and restricted analytes of interest with confidence.



UniSpray provides improved sensitivity for $10 \mu\text{g.kg}^{-1}$ fenpropimorph in green tea allowing for increased flexibility to dilute matrix without impacting analyte detection.



The pioneering EU Commission Regulation 2014/589 now permits GC-MS/MS for the confirmatory analysis of dioxins in food and feed.

APGC coupled with Xevo TQ-XS offers a 5x increase in sensitivity for 10 fg 2,3,7,8-tetrachlorodibenzo-p-dioxin on column. Inset illustrates unparalleled sensitivity for 500 attograms of TCDD (1 μl injection volume). Ion transition ratio (319.9 > 256.9 to 321.9 > 258.9 m/z), relative to the theoretical ratio were within the regulatory permitted 15% tolerance for all concentrations.

IMPROVED LAB EFFICIENCY. BETTER USABILITY.

In an environment where every second counts, you need a solution that will maximize your efficiency. Waters' laboratory informatics software provides a powerful suite of solutions allowing you to convert scientific data into useful information.

Focus on what you do with the data, not how you get it, so you can accelerate decision making, improve laboratory effectiveness, and get results faster.

High Productivity, Minimal Complexity

IntelliStart™ simplifies system set-up with a user-friendly interface that automates routine tasks, reduces the burden of complicated operation, and introduces consistency between users.

Simple, Integrated Method Databases

The extensive and searchable QUANPEDIA™ database allows for efficient management and optimization of quantitative LC-MS/MS method information, including automatic time scheduling of MRMs and automated generation of acquisition and processing methods.

Critical QC Information Delivered Real Time

Automated real-time QC checking ensures that valuable samples and instrument time are not wasted.

Comprehensive Data Processing with Streamlined Results Review

TargetLynx XS now provides the ability to perform standard addition to accurately calculate analyte concentrations in complex samples despite extreme matrix variability. This software streamlines automated quantitative data review and reporting, minimizing the possibility of errors. TargetLynx XS provides a clear overview of QC checks, statistics and results, flagging any results outside user-defined tolerances.

Confidence in Your System Performance

Trending inter and intra batch QC and sample results over time is easy with TrendPlot, with clear graphical displays to enable quick decision making. Drag and drop capabilities eliminate the need for manual result transcription, allowing faster delivery of results.



WATERS GLOBAL SERVICES. DELIVERING WORLD RENOWNED SERVICES AND SUPPORT.

Waters Service and Support helps maintain system peak performance, minimize down time, address scientific application challenges, and support stringent compliance requirements. We are committed to your laboratory and business success.

Consistent quality support and professional services ensure your success wherever your laboratory is located in the world. Based on customer feedback, Waters has earned the ACE Award every year since 2001 for best-in-class technical knowledge, issue resolution, and process support.

We have a range of offerings to service and support your Xevo TQ-XS:

- Our Professional Services team is ready to provide onsite training and consultation for integrating your new Xevo TQ-XS into your laboratory and assist with your data migration and method transfer needs.

- Through our comprehensive portfolio of service plans, the Waters Service Team provides the most in-depth and up-to-date knowledge of the advanced science and technologies within Waters systems. This knowledge enables us to protect and enhance the value of your investment in our high performance instruments.
- In addition, our Compliance Services can simplify the process of qualification, validation, and record-keeping so that your business can focus on delivering products to market. We work with you to ensure you are able to meet the regulations in your industry and in the countries where you conduct business.

All these are supported by Waters Quality Parts® manufactured to strict regulatory standards for uncompromised reliability and performance.

For more information, go to www.waters.com/service



The Power of Xevo

EXPAND YOUR CAPABILITIES



Xevo TQ-XS

ULTIMATE SENSITIVITY AND RELIABILITY

Your world is changing and you need to be able to develop robust methods quickly, get the same result every time, and generate data you can trust.

Take your analyses to the next level by employing market-leading instrumentation, combined with the right chemistries and methodologies and unrivalled specialist support, allowing you to focus on what you do with the data, not how you get it.

Leap forward in your scientific challenges and benefit from the innovative and accomplished Xevo mass spectrometers, engineered to deliver reproducible and accurate quantitative data, with system versatility and simplicity of operation.



Xevo TQ-S micro

SENSITIVE, RELIABLE, AND COMPACT



Xevo G2-XS QTof

COMPREHENSIVE, QUANTITATIVE,
AND QUALITATIVE INFORMATION



Xevo TQD

ACCESSIBLE, RELIABLE, AND PROVEN

Xevo[®]

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