

Data you can trust
and stand behind

Waters

THE SCIENCE OF WHAT'S POSSIBLE.™

Waters' forensic solutions

Data You Can Trust: You have a job to do. Whether it's identifying seized drugs, presenting reliable forensic data in court, analyzing prohibited substances in a sports doping investigation, monitoring illicit drug use, or keeping up with the demand to identify new psychoactive substances, your job presents challenges. With Waters as your partner, you're never alone. We're here to help you overcome those challenges every day.

We provide powerful forensic solutions that enable you to get the critical data you need. Our industry-leading liquid chromatography, mass spectrometry, informatics, and chemistries are designed to give you information you can trust. Our comprehensive support is always here for you.

At Waters, we're committed to advancing science, and we're dedicated to you.

Allow us to prove it. Contact us today to learn more about how we can support you and your laboratory.

waters.com/**forensic**

A comprehensive portfolio of forensic systems and applications

Waters' forensic screening and confirmatory analysis solutions based on both high resolution time-of-flight (ToF) and quadrupole mass spectrometry (MS) technology offer unmatched ease-of-use, accuracy, and sensitivity:

- Pre-configured methods and workflows so that you can spend more of your time analyzing samples rather than on developing methods
- Industry leading UltraPerformance Liquid Chromatography™ (UPLC™), MS, informatics, and chemistries
- A team of dedicated scientists with extensive experience and understanding of forensic applications

We offer a portfolio of complete solutions specifically designed for forensic laboratories whether you need to:

- Identify seized drugs
- Perform a comprehensive screen for DUID and post-mortem forensic toxicology investigations
- Analyze prohibited substances in a sports doping investigation
- Monitor illicit drug use
- Keep up with the demand to detect and identify novel psychoactive substances (NPS)

APPLICATION AREAS:



Drug Testing Laboratories



Medical Examiner,
Institute of Legal Medicine



State Crime Laboratory,
Homeland Security,
Forensic Toxicology Laboratory



Sports Doping



Simplify workflows with the power of LC/MS in your laboratory

ACQUITY QDa MASS DETECTOR

The ACQUITY™ QDa™ is a low-cost, easy-to-use system designed for many forensic applications that have been traditionally addressed by GC-MS or LC-UV systems. With the ACQUITY QDa, less sample preparation is required than GC-MS as there is no need to derivatize samples prior to analysis. In addition, the ACQUITY QDa Mass Detector provides higher specificity than LC-UV or LC-PDA systems.

- Compact, space-saving design
- Ideal for routine toxicology screening applications where high sensitivity is not essential
- No need to derivatize samples prior to analysis
- Improved specificity compared to LC-UV or LC-PDA systems

For more information, reference **Technology Brief [720006725EN](#)**



ACQUITY QDa Mass Detector



ACQUITY QDa Mass Detector





Rapid and specific analysis of seized drugs

RADIAN ASAP DIRECT MASS DETECTOR

Easy to use, rapid identification of seized drugs using direct ionization mass spectrometry

The RADIAN™ ASAP provides real-time analysis of seized drug samples with high specificity enabling forensic drug chemistry laboratories to improve sample throughput and turnaround times. The RADIAN ASAP provides a rapid and specific alternative for samples that don't respond to color tests or are not suited to FTIR analysis.

- Rapid and specific analysis using direct ionization mass spectrometry
- Samples analyzed in approximately 1 minute with minimal sample preparation
- LiveID Software processes data in real time
- Improves sample throughput and turnaround time
- Confident identification of controlled drugs in mixtures

For more information, reference application note [720007125EN](#) and Scientific Publication [SCTF135081215](#)



RADIAN ASAP





Robust high-performance for routine analysis

Xevo TQ-S micro

When combined with the ACQUITY UPLC I-Class System, the Xevo™ TQD or Xevo TQ-S micro provide exceptional performance, delivering ease-of-use and robust, high-quality data in a small footprint. Whether you need to identify seized drugs, detect and identify toxicants in physiological fluids, or perform quantitative analysis for drug panels these systems provide:

- MRM and full scan MS screening methods with automated data processing and library searching
- Fast-scanning, high-sensitivity, ease-of-use, and robustness
- Quantitative methods including sample pre-treatment and optimized LC-MS methods
- Confident quantitative analysis for alternative matrices such as oral fluid and hair

For Routine Forensic Toxicology Laboratories

Screening and confirmation of common illicit and prescription drugs, such as opiates, amphetamines, cocaine, benzodiazepines, and psychoactive drugs.

Application	Xevo TQD	Xevo TQ-S micro
Routine screening	●	●
Confirmation panels for common illicit and prescription drugs	●	●
High sensitivity assays in oral fluid and hair		●

For more information, reference Technology Brief [720006502EN](#)



Xevo TQ-S micro



Quantitative analysis for the most challenging applications

Xevo TQ-XS

When you need the ultimate in analytical sensitivity, the ACQUITY UPLC I-Class/Xevo TQ-XS offers unmatched performance, ease-of-use, and robustness. Whether you are analyzing small or large molecules, single analytes, or panels of multiple compounds, this system will provide data that you can rely upon and features:

- StepWave™ XS ion guide that provides increased sensitivity for challenging compounds
- Enhanced detection system to ensure routine high sensitivity is always accessible
- Tool-free probe design reduces the time taken for routine maintenance and provides improved reproducibility between users
- UniSpray™ ionization for wider compound coverage optional

For more information, reference [Technology Brief 720006330EN](#)
and [Scientific Publication SCTF135080571](#)



Xevo TQ-XS





The ultimate solution to meet the NPS challenge and unknown compound identification

Xevo G2-XS QTof

When you need to screen for a large number of compounds and keep up with the challenge of constantly changing NPS, Waters' Forensic Toxicology Screening Application Solution with UNIFI™ brings the power and versatility of high resolution MS to the forensic toxicology laboratory providing:

- A comprehensive Scientific Library of over 1700 compounds
- Library search using retention time and accurate mass of precursor and fragment ions
- Workflows for targeted and non-targeted screening
- Retrospective data analysis
- Common fragment and neutral loss search functions to identify NPS
- Automated discovery workflows for elemental composition derivation and structural elucidation

For more information, reference **Technology Brief [720005943EN](#)**
and **Scientific Publication [SCTF135080580](#)**



From sample preparation to column chemistries, we've got it covered

In addition to performance leading UPLC-MS systems, Waters also provides a comprehensive range of SPE sample preparation and UPLC column chemistry products to ensure method robustness and accurate results.

SAMPLE PREPARATION

Sample preparation solutions for quantitative analysis make it easy to deliver a sample that is reproducible, yields high recovery, and is free of interferences.

Oasis™ Sample Extraction products deliver unmatched purity, consistency, and quality for sample analysis. With a broad range of sorbents and an array of formats, Oasis products meet a wide variety of sample preparation needs, from simple and fast sample matrix cleanup to more complex sample preparation challenges.

COLUMN CHEMISTRIES

With more than 200 combinations of column configurations and chemistries, UPLC columns combine faster separations with higher resolution and sensitivity.

All Waters' UPLC columns are designed, tested, and guaranteed for routine use in applications up to 18,000 psi (1241 bar).

For more information, reference **Application Note [720006060EN](#)**

Choose Waters

GLOBAL SERVICES

Waters' Service and Support offerings are tailored to optimize your laboratory's productivity while addressing your budget realities. Our offerings help maintain peak system performance, minimize down time, address scientific application challenges, and support stringent compliance requirements. As your service and support provider, we are committed to the success of your laboratory and business.

Waters' quality support and consultative services ensure your success wherever your laboratory is located in the world.



Forensics mass spectrometry reference guide

With the ACQUITY UPLC family of systems



	ACQUITY QDa	RADIAN ASAP
Seized drug material, bulk chemical identification/forensic chemistry	●	●
Targeted screening solutions for systematic toxicological analysis		
MRM screening solution available (180 drugs)	—	—
Full Scan/library screening* solution (>100 drugs)	●	●
Full Scan/library screening* solution (>1200 drugs)	—	—
Comprehensive screening with accurate mass library (>1700 compounds)	—	—
Non-targeted screening: Discovery workflows for novel psychoactive substances (NPS)	—	—
Confirmatory Assays		
*Routine-sensitivity confirmatory assays (e.g., urine, blood)	●	—
High-sensitivity assays, alternative sample matrices (e.g., oral fluid, hair)	—	—
Informatics	MassLynx	LiveID

	Xevo TQD	Xevo TQ-S micro	Xevo TQ-XS	Xevo G2-XS QTof
	●	●	●	●
	●	●	—	—
	●	●	—	—
	—	—	—	●
	—	—	—	●
	●	●	●	●
	—	●	●	●
Informatics	MassLynx	MassLynx	MassLynx	UNIFI

*Full scan/library searching solution on ACQUITY QDa, Xevo TQD, or Xevo TQ-S micro requires ChromaLynx Application Manager. Forensic drug libraries are regularly updated, check with your Waters representative on the current library content

Contact us today to learn more about how we can support you and your laboratory.

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For your local sales
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