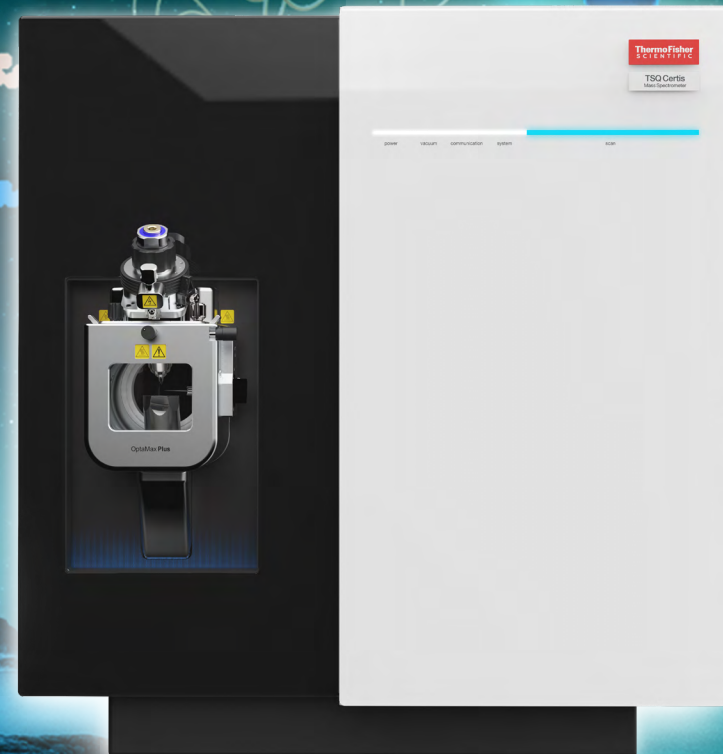


Mass spectrometry

Beyond the box.
Beyond the bottleneck.

TSQ Certis triple quadrupole
mass spectrometer



TSQ Certis triple quadrupole mass spectrometer

Beyond the box. Beyond the bottleneck.

Confident quantitation. Relentless productivity.

The Thermo Scientific™ TSQ Certis™ Mass Spectrometer (MS) is a next-generation triple quadrupole platform engineered to deliver uncompromising quantitative performance with dramatically improved robustness and uptime. Designed to go *beyond the box*, the TSQ Certis MS extends value past the instrument itself to address the true bottlenecks that limit laboratory productivity—downtime, maintenance burden, and workflow interruptions. Built on more than four decades of leadership in triple quadrupole mass spectrometry, Thermo Fisher Scientific brings renewed focus and innovation to quantitative LC-MS/MS with the TSQ Certis mass spectrometer. This innovative system enables laboratories to generate high-quality data, day after day, across demanding applications.



Key application areas

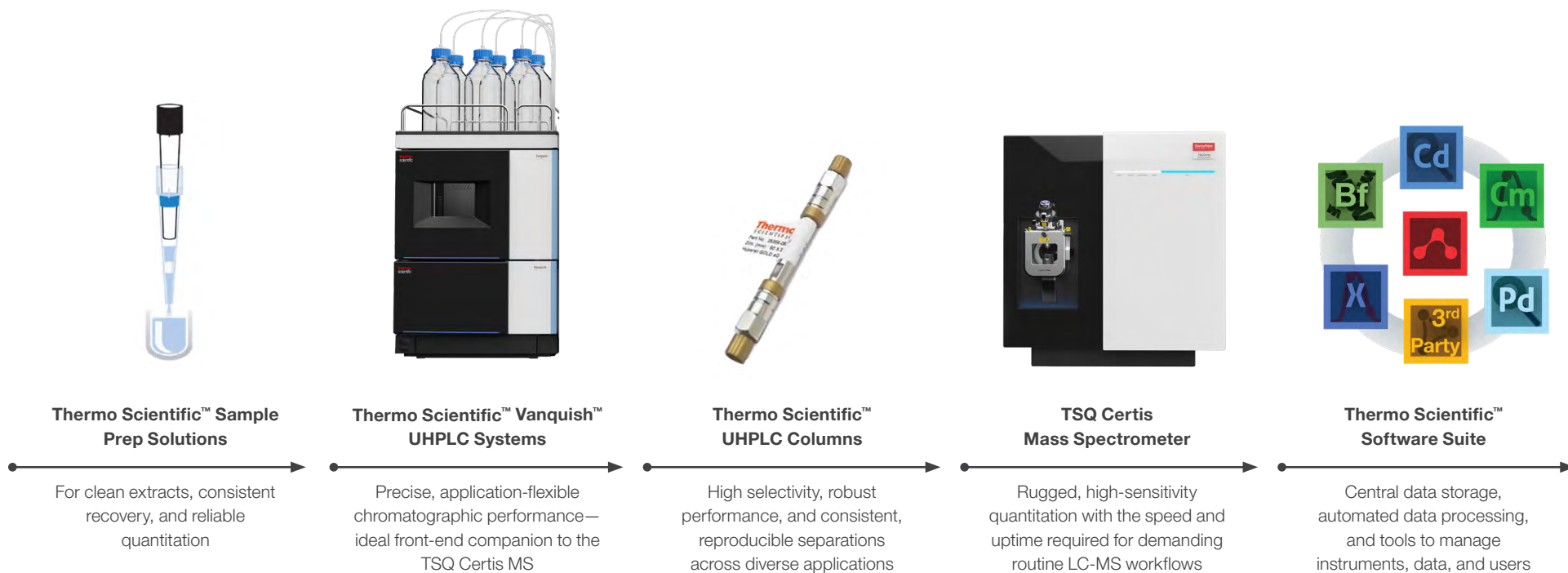
The TSQ Certis MS is optimized to support a broad range of quantitative workflows where sensitivity, robustness, and compliance are critical.

- Biomarker quantitation
- Pharma and biopharma quantitation
- Drugs of abuse testing
- Clinical research
- Environmental, food, and industrial testing

*Inquire about our tailored workflow solutions—
configured for your application, built for value!*

Beyond the box. Beyond the bottleneck

The TSQ Certis mass spectrometer is more than an instrument that provides extraordinary results. It is part of a next-generation end-to-end Thermo Scientific™ solution that brings together best-in-class components covering everything from sample preparation, liquid chromatography, and mass spectrometry to data acquisition and interpretation. In addition, our Unity™ Lab Services team delivers world-class service solutions to support your instruments.



✓ Installation and start-up services

✓ Preventative maintenance

✓ Repair services

✓ Compliance services

When you invest in Thermo Scientific™ instrumentation, you not only benefit from top quality product performance, you can also enjoy world-class service solutions from Unity™ Lab Services. Our comprehensive service portfolio was designed to meet the needs of your lab. Keep focused on what matters.

Supported instruments and equipment vary by region. Visit thermofisher.com/unitylabservices to view supported services in your area.

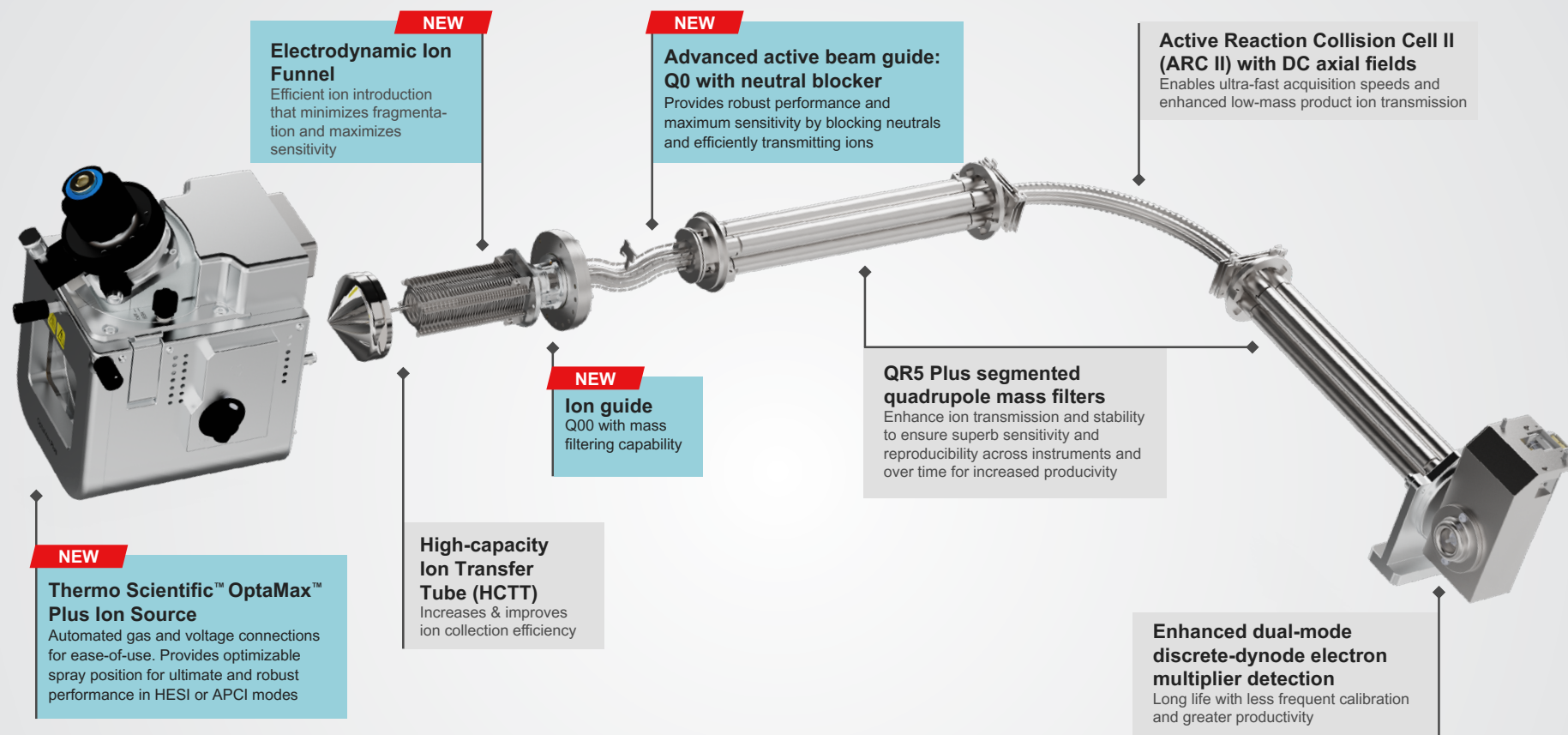
We've got your back.



unity
lab services

The ion flight path of the TSQ Certis mass spectrometer

At the core of TSQ Certis MS is a newly refined ion path designed to maximize ion transmission while actively managing contamination. Strategic component placement and improved ion optics reduce the impact of matrix build-up, helping ensure consistent sensitivity and quantitative accuracy over extended operation.



Next-generation hardware for sensitivity and robust performance

The performance advantages of the TSQ Certis MS are engineered from the front end of the ion path. Ionization begins with the OptaMax Plus ion source, delivering stable, efficient ionization across diverse methods and matrices. Enhanced ion optics and mass-filtering elements—including the advanced ion funnel, Q00 ion guide, and Q0 active beam guide—maximize ion transmission while actively removing neutral contaminants to deliver a clean, focused ion beam into the mass analysis region.

The TSQ Certis MS builds on proven Thermo Scientific triple quadrupole architecture with QR5 segmented quadrupole mass filters, the ARC II collision cell with DC axial fields, and high-gain electron multiplier detection. Together, these innovations reduce contamination, improve long-term stability, and deliver superior robustness and reproducible quantitative performance.



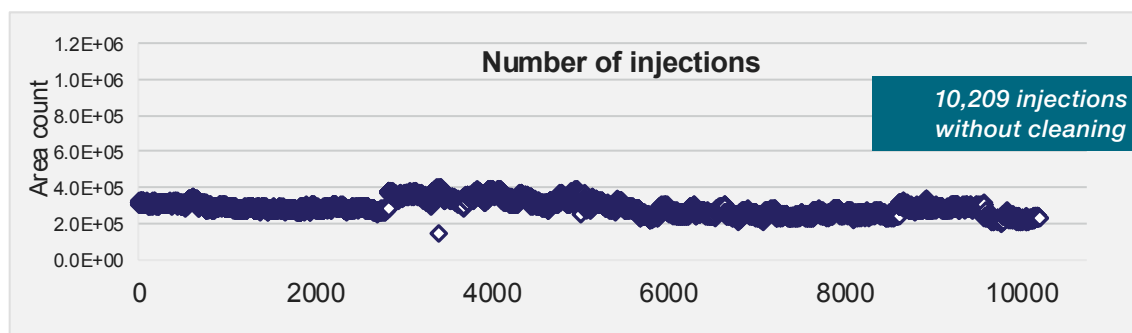
TSQ Certis MS

A premier workhorse triple quadrupole MS

Advanced ion optics lead to increased uptime for high profitability fee-for-service customers

Ion optics benefits:

- Improved front-end ion vector extends performance and reduces maintenance
- Prolonged intervals between instrument cleanings enables tens of thousands of injections
- Mass filtering capabilities reduces contamination of quadrupoles



Peak area for Ascomycin:

Raw peak areas of 15 pg Ascomycin on column were determined in whole blood for 10,209 injections. The experiment was run over a 5-week period, and the system delivered an RSD of 13.8% with no cleaning of the ion transfer tube or the sweep cone.

New features prolong intervals between instrument cleaning!

Designed for productivity and reliability

Modern analytical laboratories are under constant pressure to do more with fewer resources. In these environments, the instrument is rarely the bottleneck—the interruptions around it are. The TSQ Certis MS was developed to remove those bottlenecks by delivering sustained uptime, predictable performance, and workflows that keep moving regardless of sample complexity or operator variability. The TSQ Certis MS was developed specifically to address these challenges by minimizing unplanned downtime, reducing routine maintenance, and maintaining consistent performance over long operating periods.

Key productivity drivers

Enhanced robustness through an optimized ion path that resists contamination and maintains performance in real-world sample matrices

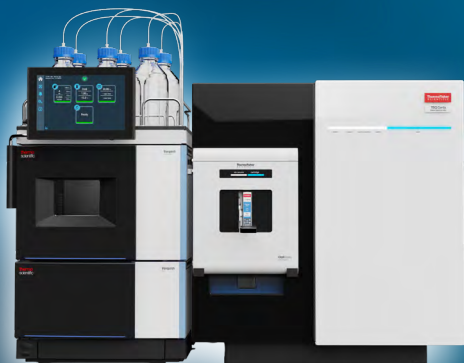
- **Reduced maintenance frequency** enabled by improved source and interface design
- **Time savings**, from automatic tuning and a robust optical design that reduces manual RF adjustments when switching between different samples allowing operators to return to sample analysis quickly
- **Stable, reproducible quantitation** across long sequences and multi-day runs

Speed and precision for targeted peptide workflows

Designed for modern targeted peptide workflows, the TSQ Certis MS combines fast acquisition speeds with robust quantitative performance to support reproducible peptide analysis at scale. Advanced ion optics enable efficient ion transmission and high multiplexing capability, helping laboratories achieve reliable quantitation across complex biomarker panels.

Thermo Scientific™ OptiSpray™ ion source technology further enhances workflow operability by simplifying capillary-flow operation through automated emitter positioning and cartridge-based columns. This ease of use—combined with consistent ionization performance—makes the TSQ Certis MS an ideal solution for translational research and clinical biomarker laboratories seeking high-throughput peptide quantitation with confidence.

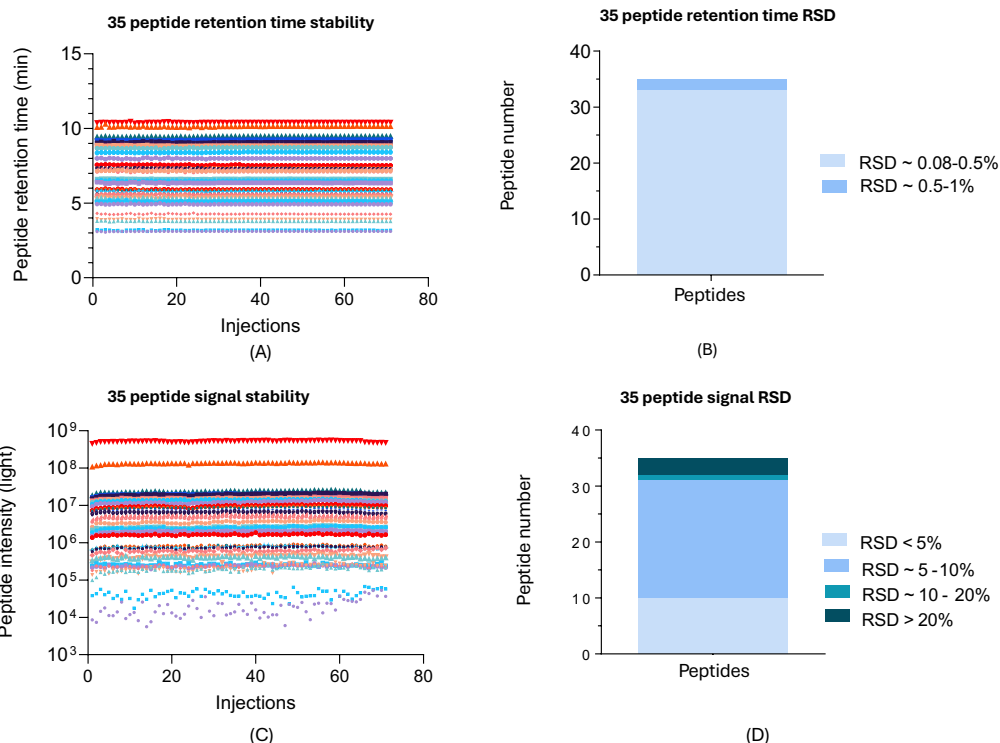
“Consistent peptide quantitation to support research of clinical biomarkers.”



Stability you can rely on—run after run

Consistent retention time stability is essential for reliable, highly multiplexed targeted peptide assays. The TSQ Certis MS coupled to the Thermo Scientific™ Vanquish™ Neo System with the OptiSpray source delivers exceptional chromatographic reproducibility, enabling accurate scheduling of multiple peptide transitions and supporting confident quantitation across complex biomarker panels.

In this workflow, stable retention times were maintained across a broad peptide elution window, demonstrating the system's ability to deliver consistent performance over repeated analyses. This level of stability simplifies method setup, improves scheduling efficiency, and helps ensure reproducible results across extended injection sequences—critical for routine peptide quantitation.

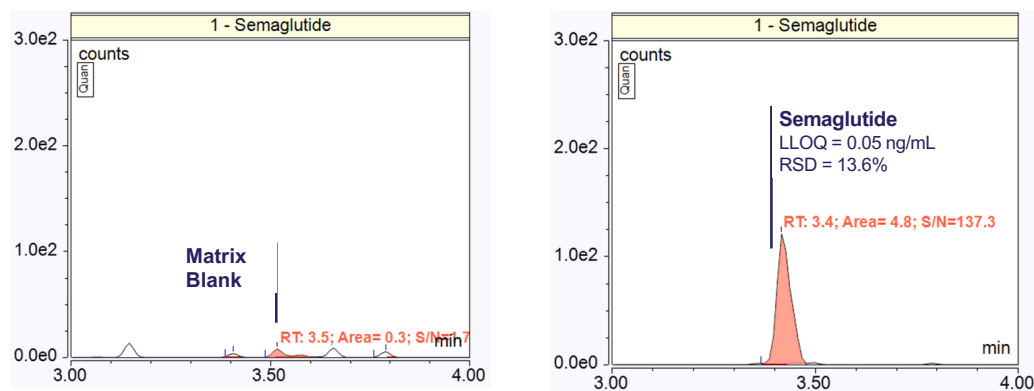


Retention time and peak area reproducibility: Over 71 injections, 35 peptides representing 24 well-recognized protein markers reproducibility were investigated. (A) Retention times ranged from 3.09 to 10.42 min with RSDs between 0.084% and 0.56%. (B) 33 peptides showed RT RSD < 0.5%, and 2 peptides had RT RSDs between 0.5 and 0.56% across 71 injections, indicating excellent chromatographic stability. (C) Peak area reproducibility and (D) variation across 71 injections, with 31 peptides showing RSD < 10% and 33 peptides showing RSD < 20%.

High-sensitivity GLP-1 quantitation without the downtime

Demand for highly sensitive, specific, and stable methods for the bioanalysis of GLP-1 peptides is increasing. The development of LC-MS assays for GLP-1 peptide therapeutics has advanced rapidly as biopharmaceutical programs increasingly demand highly selective, quantitative methods for pharmacokinetic (PK) and biomarker studies.

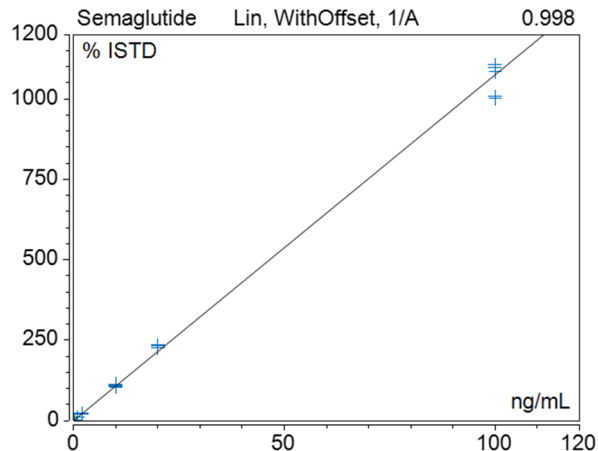
Achieve required quantitative performance with any sample preparation. Our complete solution includes CFR 21 compliance-ready software, Thermo Scientific™ Chromeleon™ CDS, and delivers the ROI your lab demands.



LOQ in human plasma

Protein precipitation + SPE

Semaglutide	0.05 ng/mL
Liraglutide	0.05 ng/mL



Achieve required quantitative performance with any sample preparation. Our complete solution includes CFR 21 compliance-ready software, Chromeleon CDS, and delivers the ROI your lab demands.

PHARMA AND BIOPHARMA

Robust quantitation. Ready for regulation.

Pharmaceutical and biopharmaceutical laboratories operate in environments where **downtime directly translates to financial risk, delayed timelines, and regulatory exposure.** Whether supporting CRO bioanalysis, generic drug manufacturing, or internal QA/QC operations, these laboratories must deliver consistent quantitative results across long analytical campaigns while maintaining compliance.

As compound portfolios expand to include GLP-1 analogs, oligonucleotides, and trace-level impurities, laboratories face increasing pressure to balance sensitivity, robustness, and cost control.

“In regulated bioanalysis, consistency over time is just as critical as sensitivity on day one.”

The TSQ Certis MS addresses these challenges by sustaining stable response ratios and long cleaning intervals, even in demanding biological matrices. This enables laboratories to run extended sequences with confidence, minimizing disruptions that can invalidate methods or require repeat analysis.

Confident, high-throughput toxicology analysis

Forensic toxicology and clinical research laboratories require accurate, reliable quantitation of drugs of abuse, many times, in complex matrices, while meeting increasing demands for throughput and regulatory compliance. As compound panels expand, laboratories need workflows that deliver speed, sensitivity, and reproducibility without added complexity.

The TSQ Certis MS enables confident quantitation of 80 commonly encountered drugs of abuse through a ready-to-run, end-to-end workflow. Streamlined sample preparation, fast chromatographic separation, and selective SRM detection ensure consistent performance in complex biological matrices.

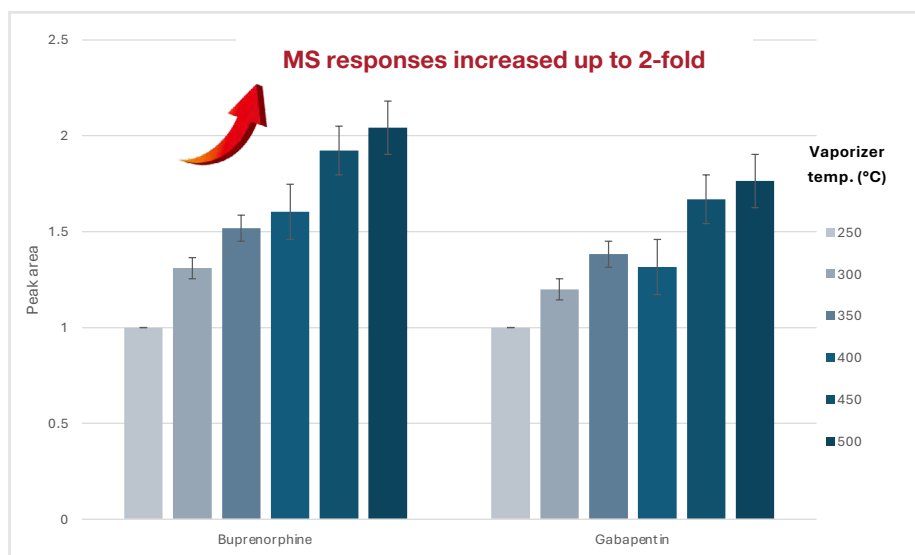
With >900 SRMs per second, sub-5 ms polarity switching, and a 4.5-minute run time, laboratories can process up to 320 samples per day. Proven sensitivity down to 0.05 ng/mL and stable performance across hundreds of injections demonstrate the robustness required for routine toxicology testing.

“A ready-to-run toxicology workflow designed for speed, confidence, and consistency in complex forensic matrices.”

Optimized ionization for improved drugs-of-abuse testing

The TSQ Certis MS enables rapid, accurate, and reproducible quantitation of large drugs-of-abuse panels in biological matrices, such as whole blood, supporting the demands of routine forensic toxicology laboratories. Built for high-throughput operation, the system delivers consistent performance across extended analytical sequences, helping laboratories maintain confidence in results while maximizing productivity.

Sensitivity is further enhanced by the OptaMax Plus HESI source, which enables higher vaporizer temperatures to improve ionization efficiency for challenging drugs-of-abuse compounds. This optimized source design drives increased signal response, supporting reliable quantitation at low ng/mL levels while maintaining robustness across complex biological matrices and high sample loads.



OptaMax Plus ion source is the key to sensitivity and robustness for routine toxicology

The OptaMax Plus HESI ion source enhances sensitivity and robustness for routine toxicology workflows in complex biological matrices. By enabling higher vaporizer temperatures and stable ionization, it improves signal response across diverse drugs of abuse—supporting reliable low-level quantitation without sacrificing uptime when paired with the TSQ Certis MS.

Single-run quantitation of 80 drugs with exceptional sensitivity

Extracted ion chromatograms of two of the eighty analytes—buprenorphine and THC-COOH—at their respective LOQ concentrations are shown. Even at 2 ms/transition, the TSQ Certis MS was able to achieve more than sufficient points across the peak to meet challenging LOQ levels. Enhanced sensitivity delivered by the OptaMax Plus ion source—operated at elevated vaporizer temperatures—further increases analyte response, enabling high-throughput toxicology analysis without compromising data quality.

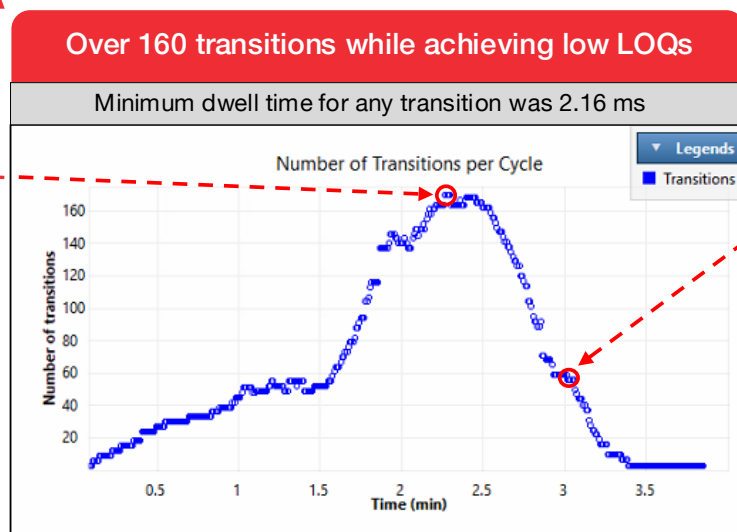
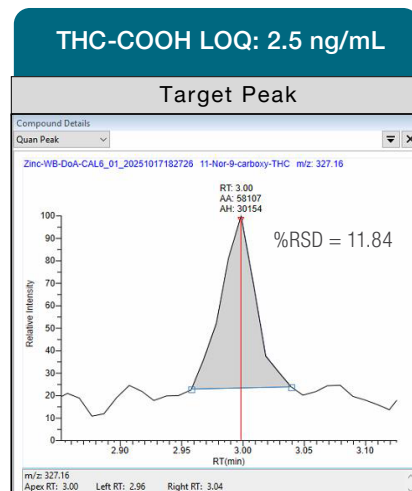
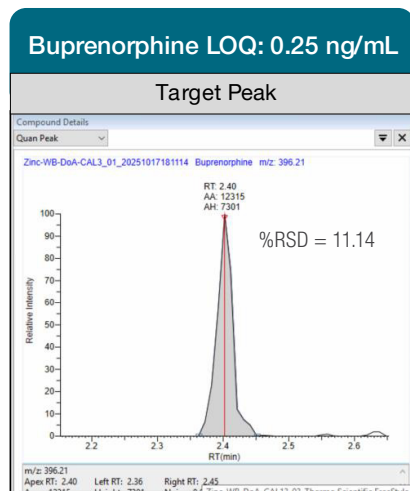
DRUGS OF ABUSE

Built for high-throughput toxicology

Toxicology laboratories are under constant pressure to deliver fast, defensible results across large drug panels—often with limited staff and no tolerance for downtime.

The TSQ Certis MS removes these bottlenecks by enabling rapid, high-confidence quantitation of up to 80 drugs in a single workflow, with fast separations, low-level sensitivity, and stable performance sustained over hundreds of injections. With fewer injections, faster turnaround times, and predictable uptime, the TSQ Certis MS helps toxicology labs keep pace with demand—without compromising data quality or operational efficiency.

“This workflow delivers the speed, sensitivity, and stability needed to confidently run large forensic toxicology panels—day after day—without interrupting throughput.”



Reduced rework. Maximized uptime and confidence.

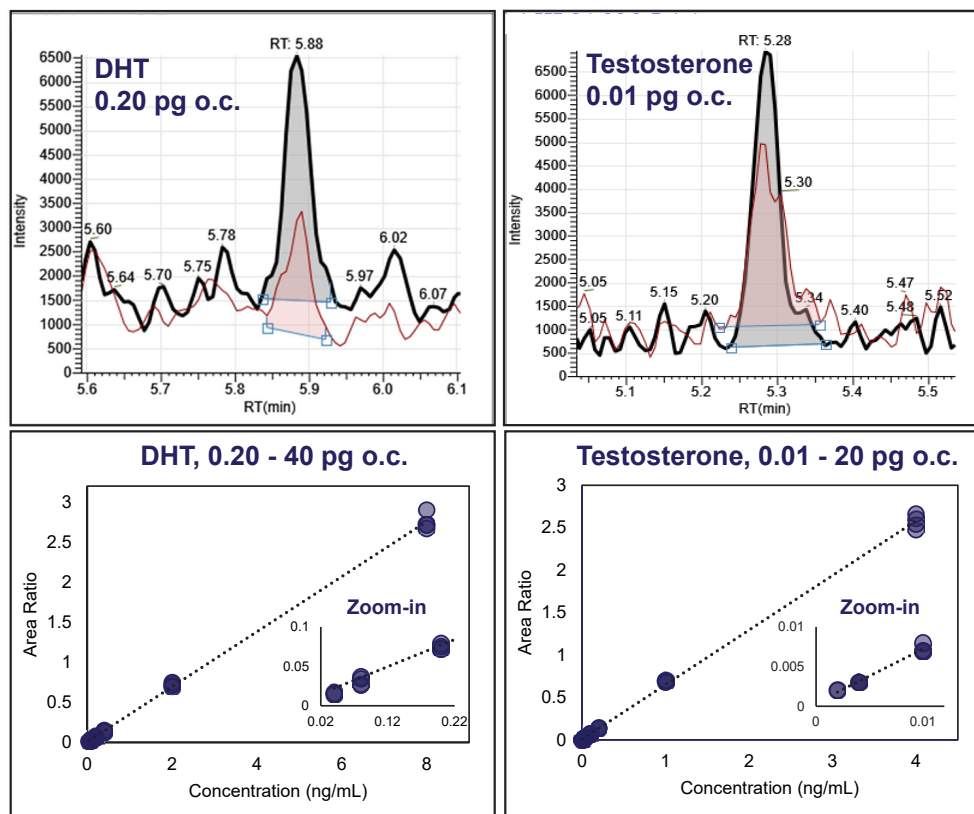
A robust and sensitive LC-MS/MS workflow was developed for the simultaneous quantitation of 18 steroids in human serum, achieving excellent linearity ($R^2 > 0.99$), precision, and reproducibility across a wide dynamic range.

The TSQ Certis MS maintains highly stable response for internal standards across 311 consecutive injections in a BSA matrix. The minimal drift observed over time illustrates the effectiveness of the optimized ion path and contamination management strategy. Consistent performance over more than 311 consecutive injections highlights the long-term stability and throughput capability of the TSQ Certis MS for routine steroid biomarker analysis.

“For routine biomarker laboratories, stability translates into fewer interruptions for cleaning, reduced need for recalibration, and greater confidence in long analytical sequences.”

Exceptional linearity and precision for steroid biomarker quantitation

A robust and sensitive LC-MS/MS method was developed for the simultaneous quantification of 18 steroids in human serum. The method demonstrated excellent linearity, precision, and reproducibility across a wide dynamic range. Robust performance was confirmed by consistent internal standard (ISTD) peak area responses, with low %RSDs observed over 311 consecutive injections of steroid calibration samples prepared in 0.05% BSA. DHT and testosterone were selected as representative examples to demonstrate the calibration curves and corresponding EICs of quantifier (black trace) and qualifier ions (red trace) at their LOQ levels.



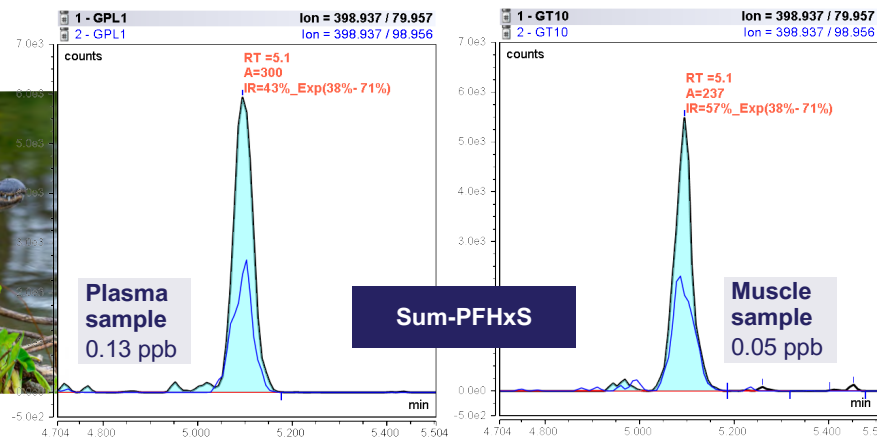
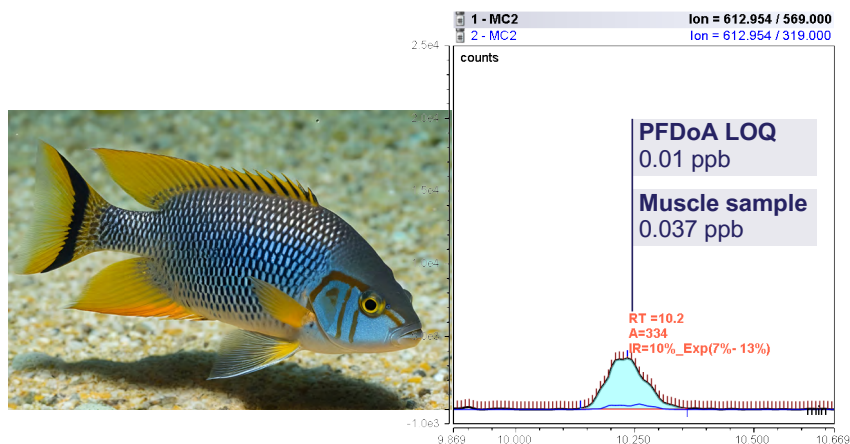
Compound name	LOQ (pg o.c.)	%RSD at LOQ	%CV at LOQ	Linear range (pg o.c.)	R^2	ISTD peak area %RSD over 311 injections
DHT	0.20	8.66	7.37	0.20-40	0.9981	7.10
Testosterone	0.01	7.59	4.88	0.01-20	0.9984	6.21

o.c.: on-column

LOQ is defined as the lowest concentration with $R^2 > 0.99$, 1% Diff, %RSD (of the calculated amount), %CV (of the peak areas) and relative ion ratio < 20% (N = 4).

Going beyond water for PFAS analysis

PFAS research can also include complex biological matrices, such as Mayan cichlid (fish) tissue and alligator blood samples where matrix interference is severe. Nonhuman blood and tissue samples, such as those from alligators and fish, offer insights into bioaccumulation and trophic transfer of PFAS across ecosystems, underscoring the need for high-performance instrumentation capable of reliable quantitation in demanding sample types.



Data courtesy of Prof. John Bowden,
University of Florida

Reliable performance for regulatory monitoring

Environmental laboratories must meet strict regulatory limits while managing highly variable and often contaminated samples. Changing regulations and emerging contaminants, such as PFAS, place ongoing demands on analytical flexibility and robustness.

“Environmental testing doesn’t slow down when samples get dirtier.”

The TSQ Certis MS sustains sensitivity and reproducibility across extended environmental workflows, allowing laboratories to maintain LOQs and adapt methods without frequent instrument intervention.

Quantitation of branched and linear PFAS isomers near the LOQ in complex matrices demonstrates the suitability of the TSQ Certis MS for real-world environmental samples beyond clean water extracts.

Predictive maintenance for maximum uptime

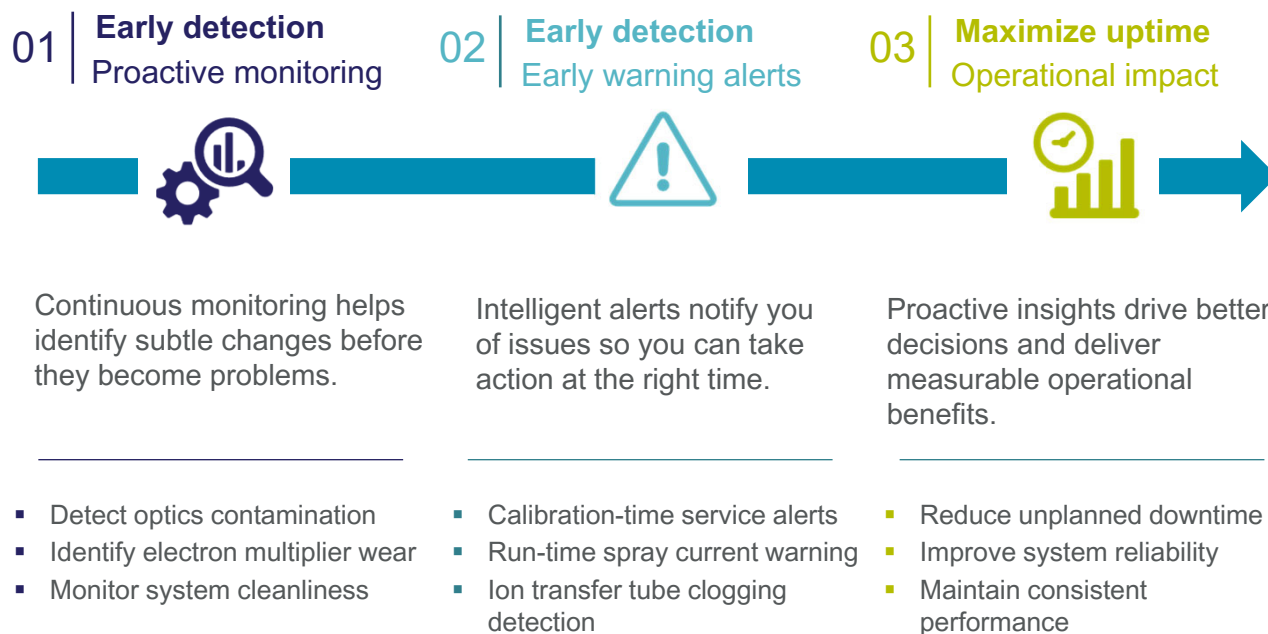
The Early Warning System provides calibration-time service alerts for multiplier aging and optics contamination, as well as run-time warnings for potential capillary clogging, spray current issues, and leaks at the metal connection.

The system continuously monitors key performance indicators related to system cleanliness, optics contamination, electron multiplier wear, spray current, and ion transfer tube clogging. When the instrument is healthy, status lights remain green and no maintenance messages are displayed.

"If attention is needed, status lights turn yellow and corresponding warning messages appear in the Tune page readbacks panel and bottom warnings panel."

Early warning system prevents issues before they impact your lab

Help prevent small issues before they impact lab productivity. The TSQ Certis triple quadrupole MS includes a new Early Warning System designed to support predictive maintenance, giving users greater visibility into instrument health and helping high-throughput labs stay ahead of potential downtime. This predictive maintenance capability helps laboratories plan service more proactively, reduce interruptions, and keep routine workflows moving with confidence.



Stay ahead. Prevent downtime. Protect productivity.



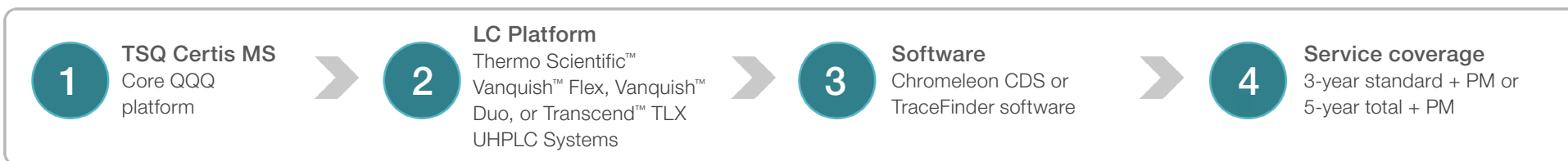
With predictive alerts and actionable insights, the TSQ Certis MS gives you greater control over uptime—so you can focus on what matters.

TSQ Certis MS bundles – a complete path to productivity

TSQ Certis MS bundles combine the instrument, single- or multi-channel LC separation, software, methods, service, support, and training needed to help routine laboratories get up and running faster—and stay productive longer. With Chromeleon CDS or Thermo Scientific™ TraceFinder™ Software, ready-to-run workflows, and method templates for key applications, each bundle helps simplify adoption, support method transfer, and enable confident quantitation across demanding routine testing environments. With integrated service offerings, supported by Unity Lab Services, TSQ Certis MS bundles help maximize uptime with installation, preventive maintenance, repair, compliance support, education, and service plans.



End-to-end bundle options pair the TSQ Certis MS with the right LC platform, software, and value-driven service coverage—so labs can select the configuration that matches their compliance, quantitation, throughput, and long-term uptime needs.



Bundle	TSQ Certis MS	Vanquish Flex UHPLC	Vanquish Duo UHPLC	Transcend TLX UHPLC	Software	3-yr warranty + PM option*	5-yr warranty + PM option*
Essential compliance Routine regulated workflows	✓	✓	—	—	Chromeleon CDS	✓	Available
Essential quantitation Targeted quantitative workflows	✓	✓	—	—	Tracefinder software	✓	Available
Accelerator compliance Productivity-focused compliance	✓	—	✓	—	Chromeleon CDS	✓	Available
Booster quantitation High-throughput LC for larger reference labs	✓	—	—	✓	Tracefinder software	✓	Available

*Value-driven service packages are intentionally built into 3-year and 5-year bundles to better meet the uptime, support, and cost-control needs of routine testing laboratories.

The Thermo Scientific™ triple quadrupole MS portfolio— a solution for all your analytical needs

Thermo Fisher Scientific offers a complete portfolio of triple quadrupole mass spectrometry solutions designed to meet the needs of every laboratory and budget—from accessible entry-level systems to premium triple quadrupole platforms. Each solution is built to deliver reliable, scalable quantitative performance across routine and regulated applications.

Going **beyond the box**, we provide fully integrated workflows that combine mass spectrometry with optimized sample preparation, liquid chromatography systems, UHPLC columns, software, and comprehensive service and support—helping laboratories achieve consistent results and long-term value.

Over four decades of leadership in triple quadrupole mass spectrometry—built on trust, performance, and innovation.

The TSQ Certis MS is part of Thermo Fisher Scientific's complete triple quadrupole mass portfolio designed to meet the full spectrum of quantitative and routine analytical needs—from accessible, cost-efficient platforms to premium, innovation-driven systems.

This portfolio brings Thermo Fisher Scientific's legacy of high-end innovation into routine and applied laboratories, delivering exceptional value through performance, robustness, and productivity that consistently outperform competing triple quadrupole MS solutions.

Thermo Scientific™ TSQ Quantis™ Plus MS

Reliable, cost-effective quantitation



Mid-level performance at an entry-level price

Thermo Scientific™ TSQ Altis™ Plus MS

High-performing triple quadrupole MS



Better linearity and dynamic range

TSQ Certis MS

Premier workhorse triple quadrupole MS



Improved instrument performance and uptime

**Advanced performance for complex
analytical requirements**

Reliable, robust performance—delivering results that scale across applications, workflows, and laboratories.

Learn more at thermofisher.com/tsqcertis

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