thermo scientific

Confident. Concise. Comprehensive.

Robust LC-MS workstream for toxicology analysis

Thermo Scientific Tox Explorer Collection

ThermoFisher SCIENTIFIC

Tox Explorer Collection

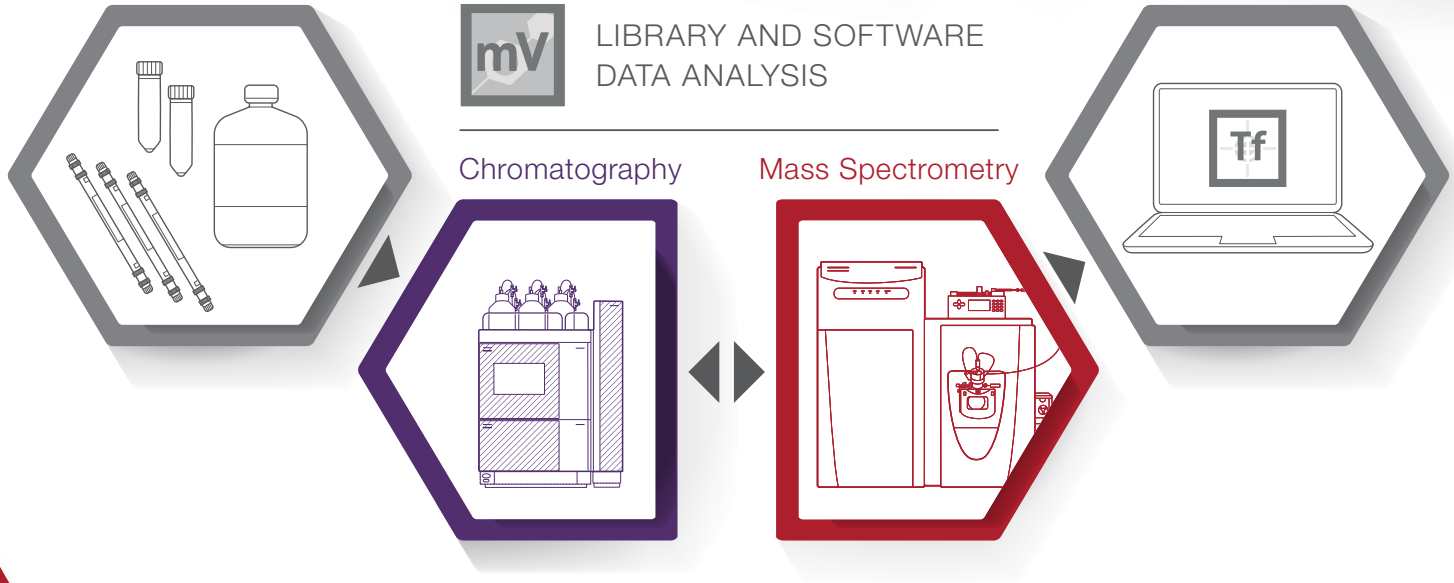
Be confident with a concise and comprehensive workstream

The Thermo Scientific™ Tox Explorer™ Collection is an easily implementable optimal combination of sample preparation guidelines, Ultra High-Performance Liquid Chromatography (UHPLC) and Mass Spectrometry (MS) technology, along with an extensive library of compounds to enable screening and quantitation. Proven methods and powerful software with customizable reporting templates, along with necessary support and training, are all geared to address your critical challenges in toxicology.

With a pre-tested method and a comprehensive library containing spectra for more than 1,500 molecules, the Tox Explorer Collection enables every toxicology laboratory to step up productivity and achieve high quality analysis of data with confidence. From accurate targeted screening to robust, reliable quantitation methods—every toxicology laboratory can now achieve both scientific and business goals while maximizing efficiency and productivity, fully capitalizing on the instrument's versatility without worrying about cost per analysis and varying methods or guidelines for analyzing a multitude of compound classes.

Sample Preparation Guidelines

Reporting



Improve efficiency and productivity by capitalizing on an optimal combination of preparation guidelines, outstanding LC, robust MS, intuitive software with LIMS connection capabilities, extensive compound library and easy to implement methods—all backed by comprehensive training and application support.

Confidence achieved

Wide applicability—every analyte—every matrix—every user

Sports anti-doping

From determining and quantifying trace amounts of performance enhancers in athletes to optimizing biological passports for horses as a part of equine doping—scientists in the world of sports anti-doping seek high efficiency workstreams developed and optimized with LC-MS systems. Ensure confidence from identification to quantitation of performance enhancers and critical metabolites in any biological matrix.

Clinical toxicology

The focus is on the determination and management of poisoning and disorders caused by toxins or chemicals that have a negative effect. With a robust LC-MS platform and methodology in place, you can now address a wide variety of toxicology assays in the clinical research laboratories from monitoring drug overdose to determining side effects of medications and drug-drug reactions, and determining toxin exposures.

Toxicology is not limited to a certain domain, but finds wide applicability throughout the world of Clinical Research and Toxicology.

Workplace testing

A growing list of drugs that are commonly consumed has redefined the landscape of workplace testing. From amphetamines, cocaine, marijuana, methamphetamines and opiates to nicotine and alcohol markers—LC-MS assays used for workplace testing in today's world seek wider coverage of analytes and sensitivity for monitoring trace analytes. Gain confidence in screening with an extensive library, and ensure high resolution and sensitivity requirements are met with this optimal LC-MS platform solution.

Forensic toxicology

LC-MS has been used extensively for determination, identification and quantitation of drugs or chemicals in biological fluids. Whether it is during an autopsy or for the analysis of samples obtained from a crime scene—forensic toxicologists can now feel confident about not missing any drug or chemical with the extensive, library and robust LC-MS platform.

Success assured

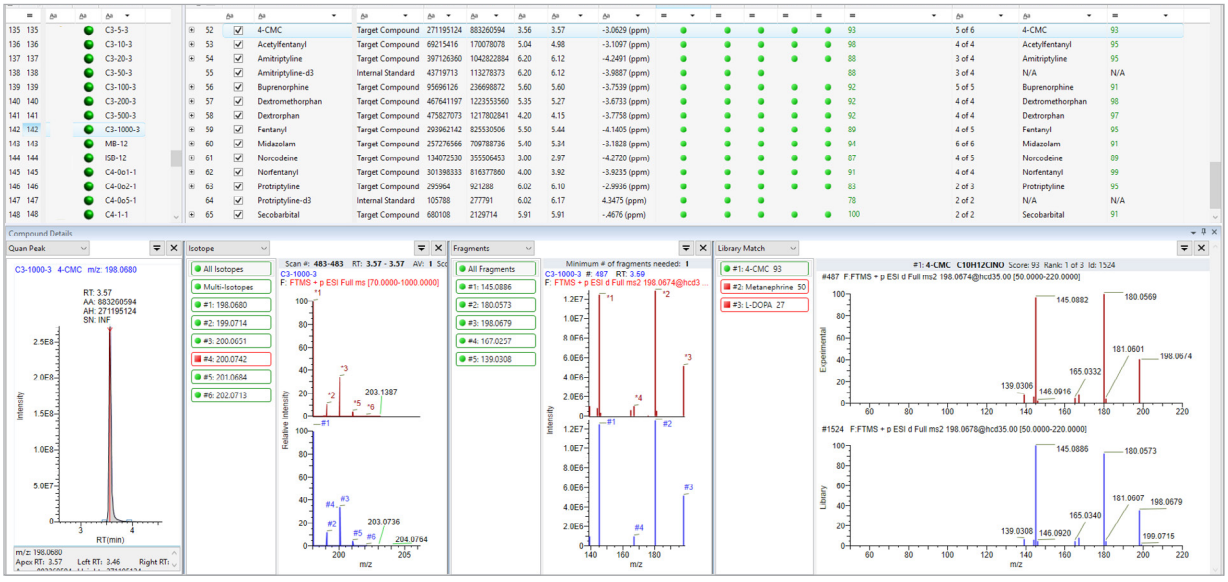
One provider—customizable options—extensive capabilities

The Tox Explorer Collection is an extensive suite of options, all from one provider, designed by scientists, for the scientists in the world of toxicology. Pre-tested methods, extensive library of molecules and robust LC and MS platforms ensure high quality data, every time. From capitalizing on outstanding LC options to a varied list of MS technologies—Tox Explorer Collection ensures high efficiency and quality of data for every toxicology assay.

Address your challenges. Meet all requirements. Achieve your goals.

Every toxicology laboratory faces a host of daunting and varied set of challenges in developing robust, reliable, reproducible, sensitive LC-MS methods for hundreds of analytes across several biological matrices. In addition, there are other challenges of reducing cost per analysis and ensuring high performance of the method, regardless of analyte and matrix complexity and regardless of the user expertise.

Whether you are focused on screening or quantifying drugs of abuse, screening for a targeted list of performance enhancers in sports anti-doping or trying to determine the constituents of the drug panel for forensic analysis, and even everyday quantitation of steroids in humans—Tox Explorer Collection can address LC-MS analytical challenges faced by every toxicology laboratory.



Data review from TraceFinder software of targeted screening showing XIC chromatograms, and experimental versus reference data for isotopes, fragments, and library match.

LC-MS/MS is the analytical method of choice for confident, comprehensive drug screening in the toxicology laboratory.

Developed by scientists and industry experts who set the standards for success in toxicology analyses.

The key benefits for Tox Explorer Collection

- **Start with confidence**—Proven methods allow every toxicology laboratory to accelerate its efforts to achieve highly efficient assays
- **Accelerate your productivity**—Eliminate time-consuming method development in targeted screening and quantifying of drugs of abuse in biological matrices
- **Expansive library for targeted screening**—An extensive library of more than 1,500 molecules covering a wide range of compound classes including molecular information, chromatographic retention time, and spectral library, as well as many other features
- **Accurate determination and identification**—The intuitive software ensures automated assignment of analytes—from drugs of abuse to sports anti-doping

Additional benefits

- Reduce experimental costs and enhance productivity
- Analyze a broad spectrum of compounds in one run
- Retrospective data analysis capabilities
- Easily meet required levels of detection and quantitation
- Expand your testing menu by importing or transferring ready-to-go methods
- Exceptional mass accuracy and stability within and between runs—even at low mass ranges—to ensure confidence in results

Customizability enables efficiency

Every toxicology laboratory has its own set of challenges. While it is productivity and throughput for labs with large sample loads, it is sensitivity for another. While resolution is sought by some laboratories for efficient screening of a complex mixture of analytes, another toxicology laboratory might face budgetary constraints and would prefer an affordable platform solution for conducting targeted screening and quantitation on a daily basis. Tox Explorer Collection offers a suite of LC and MS capabilities to allow every laboratory to achieve its goals with ease—regardless of the challenges.

Confident identification of toxicology compounds

The extensive toxicology library resides on the Thermo Scientific™ mzVault™ mass spectral library—an expansive repository of valuable information on critical analytes that seamlessly integrates with the acquisition and processing software. The mzVault mass spectral library is an offline high resolution accurate mass spectral database that is used in conjunction with Thermo Scientific™ TraceFinder™ software to help identify compounds. mzVault also allows you to build and curate your own database.

"We have been using mass spectral libraries since 1987 to aid in the identification of mass spectra from full scan and MS^n GC-MS, MS^n LC-MS and more recently HRAM MS^2 LC-MS and have constructed several in house mass spectral libraries. When I talk about mass spectral libraries to non-experts, I liken mass spectra to 'fingerprints' for chemicals and in combination with HRAM measurement, the fingerprints become far more specific. Ultimately, the more entries in a mass spectral library the better, and more recently with mzCloud, the information is present for anybody to use."

—Simon Hudson, Technical Director, LGC

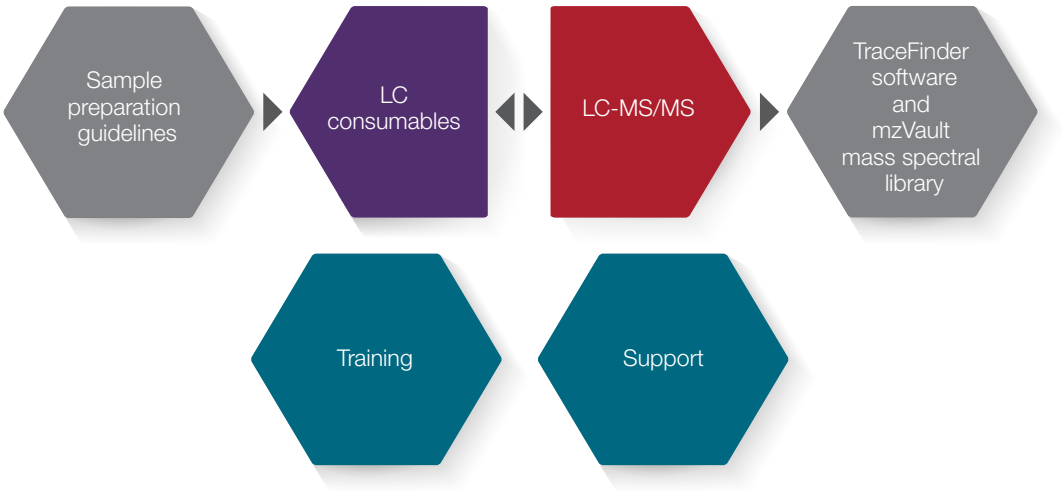
thermo scientific

An array of LC-MS options to enable a wider domain of opportunities

The Tox Explorer Collection comprises proven methods, robust LC-MS platform, easy-to-use software for superior confidence in toxicology assays, training, and application support, to enable success—regardless of analyte and matrix complexity and user expertise.

Be confident with with your everyday toxicology assays with the concise and comprehensive Tox Explorer Collection.

The most comprehensive portfolio for toxicology analysis



Improve efficiency and productivity with an optimal combination of sample preparation guidelines, outstanding LC, robust MS, intuitive software with LIMS connection capabilities, extensive compound library and easy to implement methods—all backed by comprehensive training and application support.

Find out more at **thermofisher.com/toxexplorer**

ThermoFisher SCIENTIFIC