THE FOUNDATION FOR CONFIDENT RESULTS
We know it’s not as simple as it seems in the movies, on television, or in the latest potboiler: forensic science is an exacting science, driven by the twin imperatives of accuracy and timeliness.

Whether you’re testing for controlled substances, identifying unknown powders, liquids, or pills; or analyzing crime scenes for evidence of firearm residue or fire scenes for accelerants, you’re who law enforcement relies on to drive criminal investigations. Your forensic lab relies on analytical solutions to provide rapid and accurate forensic chemical analyses.
Seized Drugs: Multiple Confirmatory Assays from the Smallest Sample

Suspicious powders, unknown substances: labs are often focused on identification and quantification of controlled drugs. Often the analysis is performed on the smallest of samples, to preserve as much of the substance as possible for multiple runs and sample archiving, as well as for further testing as needed. You can identify and quantify compounds present in the sample by LC, IR, or GC/MS, gleaning the most information from the smallest samples. These technologies can be used in collaboration, depending on the sample and level of confirmation certainty needed.

Webinar
Hear from Lee Marotta, our principal field application scientist, on the importance of switching between two columns in a GC/MS analysis of controlled substances.

Product Spotlight
Our PerkinElmer GC 2400™ Platform with mass spec capabilities gives laboratories a robust solution that offers both stability and ultralow detection limits.

WATCH NOW
LEARN MORE
Explosives and Ignitable Substances: Understanding What the Scene Is Telling You

From the scene of a fire, labs must be able to confirm or deny the presence of an accelerant. The sample can be collected and sent to the laboratory for accurate, reliable confirmation of ignitables by GC/MS with ATD – a solution that eliminates solvents and reduces associated hazards and costs. With GC/MS-ATD, the mass spectrum of each substance can be recorded and compared to a database of known compounds for positive identification.

Webinar
With over 25 years of forensic experience, Alan Gallaspy, our principal customer education specialist, demonstrates an alternative solution to charcoal strips for analysis of fire debris.

Product Spotlight
Our GC/MS portfolio with integrated workflows allow you to deal with the most challenging applications and matrices, with software platforms that support regulatory compliance.
Trace Evidence: Processing with Confidence

Trace evidence is often no more than tiny fragments of physical evidence such as hairs, paint chips, single fibers, glass fragments, or gunshot residue – and understanding this evidence is critical to delivering reliable and actionable results. IR microscopy is the go-to technique for trace analysis from the crime scene. Because samples come in many different shapes and sizes, our IR solutions’ adaptable sampling and analysis methods – coupled with dependable performance – are foundational to providing reliable scientific data.

Application Note
Read about the sampling modes and automation features of the Spotlight™ 200i IR microscope system applied to an automobile paint chip sample.

Product Spotlight
Read how our Spotlight IR systems with micro- and macro-sampling enable you to choose the optimum method for your unique sample.
Toxicology: Robust Solutions for Blood Alcohol Analysis

Accuracy and precision are critical in blood alcohol analysis: toxicologists must be confident enough in their results to withstand tough cross examination by defense attorneys. The gold standard for blood alcohol testing is headspace gas chromatography with the ability to perform dual column confirmation or confirmation by FID/MS as recommended by the latest regulations.

Case Study
Learn how the Vermont Forensics Laboratory was able to earn accreditation using PerkinElmer headspace and GC/FID solutions.

Product Spotlight
The PerkinElmer GC 2400 Platform delivers unprecedented levels of efficiency, with a detachable touchscreen and smart sampling capabilities for faster decision making, in and out of the lab.
Toxicology: Sensitive Solutions for Drug Analysis

From identification and quantification of drugs of abuse in various matrices to exploring the adverse effects of chemical substances on living organisms, laboratories need to rely on sensitive yet robust solutions to deliver accurate results. Liquid chromatography tandem mass spectrometry (LC/MS/MS) has proven to be a valuable solution, especially for toxicological screening and quantitation of contaminants in human fluids due to its high sensitivity and specificity.

Application Note
Read how the Qsight® 220 LC/MS/MS system is used for separation and detection of 44 drug-of-abuse compounds in urine samples.

Product Spotlight
Read more about the Qsight 420 LC/MS/MS, a ready-to-implement solution with exceptional sensitivity and throughput for the most challenging, complex samples.
Toxicology: Advanced Solutions for Heavy Metals Analysis

ICP-MS is the tool of choice for trace analysis of elements such as lead, arsenic, mercury, and copper in urine, blood, serum, saliva, and tissue. Our NexION® 5000 multi-quadrupole ICP-MS brings together reaction and collision capabilities with triple quadrupole technology for spectral interference removal, allowing for accurate determination of low and high levels of analytes in one analytical run.

Application Note
Read how our NexION 5000 multi-quadrupole ICP-MS performs reproducible analyses of blood samples with excellent stability over long sample runtimes.

Product Spotlight
The multiple award-winning NexION 5000 ICP-MS is equipped with a host of new and proprietary technologies, including superior interference removal, that together surpass traditional triple-quad capabilities.

LEARN MORE
Toxicity Screening: Accuracy Is in Our Blood

A toxicology screening tells the forensic lab what kind of drug a person has ingested – and exactly how much of it. (Confirmational testing ensures that your positive or negative result was accurate the first time.)

Screening tests are first performed on collected biological samples — usually blood or urine, but they may include stomach contents — to determine if compounds of interest are present and whether results need to be escalated for confirmational testing. These tests are usually performed on LC/MS, LC-UV, or GC/MS systems.

Webinar

In this webinar, we describe the analysis of ethanol in blood using gas chromatography with headspace technology.

LEARN MORE

Video

Learn about California’s Adventist Health Toxicology and their successes using our QSight LC/MS/MS for drug screening and blood alcohol analysis.

WATCH NOW
Confirmational Testing: Making Sure You Get It Right

For confirmational testing, validated analytical methods are used following screening on a variety of biological samples and various matrices. Confirmational testing allows for the absolute identification of a substance detected in the sample. It’s most often done using mass spectroscopy instrumentation and methods, which are more appropriate for determination of the drug’s structure and identity.

Video
Read about this method used in sexual assault cases to detect and quantify 40 target analytes in urine required by the ASB 121 standard, using our QSight LC/MS.

Video
This presentation by Boston University’s Sabra Botch-Jones describes a method for the quantification of benzodiazepines development, using the QSight LC/MS/MS.
Trust the Consumables Engineered for Your Instruments

Each instrument requires consumables to complete the analytical workflow, and that’s why our consumables are engineered and tested to provide optimal performance for your critical applications. From chromatography to spectroscopy, we have the consumables required to prepare your instrument to collect your forensics data accurately and precisely.

Browse our interactive, downloadable consumables catalogs to find the right parts for your instrument and application.
Supporting The Business Of Science

Our OneSource® Laboratory Services deliver solutions that cover all aspects of scientific lab operations and can be customized for the scientific workflows – and business outcomes – you’re driving toward.

OneSource is the one service organization with the requisite understanding of lab and R&D needs, delivering a customized systems approach to your success. With insights and expertise, our consultants pinpoint the issues and inefficiencies and engineer the right solutions to solve your scientific and business challenges. From everyday instrument repair and service to compliance and validation, from laboratory IT service to consulting and scientific staffing, OneSource Laboratory Services can help streamline your lab routines and get your scientists back to their main order of business – their science.