Drug Screen Suite

Confidently and Rapidly Screen for Unknown Drugs

Innovation with Integrity

The increasing number of new psychoactive substances (NPS), including synthetic cannabinoids and synthetic opioids is creating demand for rapid, cost-effective and high sensitivity forensic analysis solutions. The detection and analysis of traditional illicit drugs, such as cocaine, heroin, and methamphetamines, and prescription medications is also essential in forensic investigations.

Bruker offers an easy-to-use, automated, end-to-end mass spectrometry workflow that enables forensic testing laboratories to accelerate analysis and increase throughput.

Introducing the Bruker Drug Screen Suite

The Bruker Drug Screen Suite is an automated workflow requiring minimal sample preparation for the confident screening of unknown drugs and drug metabolites in body fluids like urine, blood and oral fluids.

The workflow provides comprehensive identification and qualitative confirmation using data-dependent liquid chromatography-high resolution mass spectrometry (LC-HRMS). The system is ready for direct use, thanks to the software and ready-to-use methods.

These methods enhance selectivity and sensitivity, meeting the demands of forensic toxicology.

Open library concept

Recent increases in drug abuse by NPS, such as synthetic cannabinoids or opioids, means that analytical requirements are constantly changing and screening methods must be rapidly adapted.

A feature of the Drug Screen Suite is the open library concept that allows users to quicky and easily add unknown compounds to their library to store and compare future samples, allowing forensic analysts to stay up to date with NPS.

New substances can be added by extending the spectral libraries, without the need for additional method optimization. This enables easy and fast library updates, e.g. for NPS, in drug screening applications. User-defined library entries can be created, allowing laboratories to respond rapidly to new patterns of drug abuse.

Compatibility with national and international forensic libraries

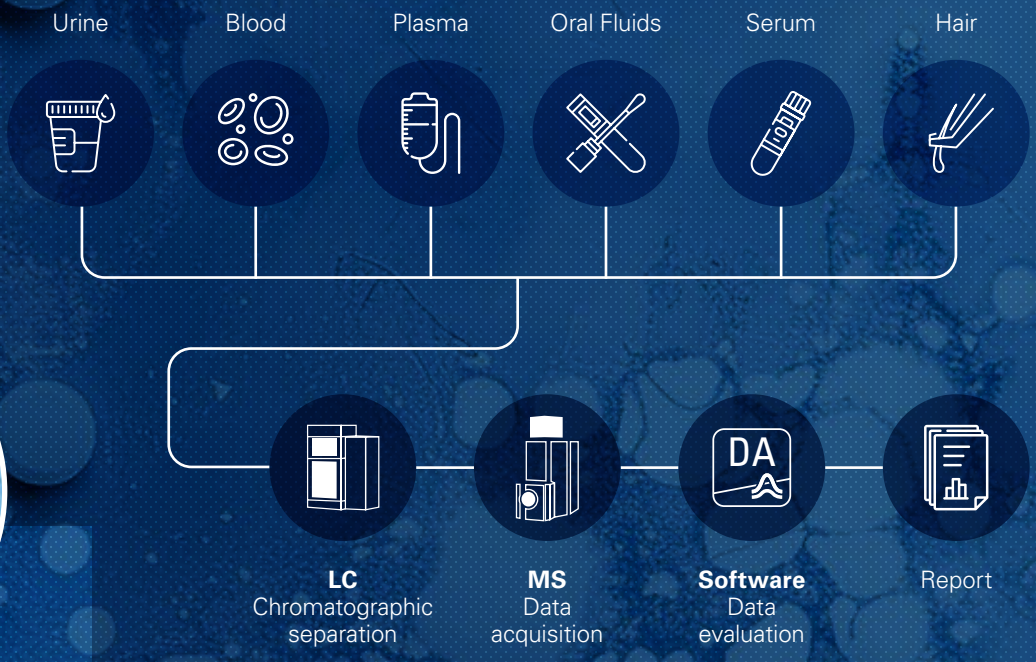
Samples can be compared against the network of databases to confirm traces of drugs and other medications. The Drug Screen Suite can be integrated with major forensic databases including:

- **Bruker Drug Screen library** which includes retention time for reliable identification of compounds
- **Maurer/Meyer/Helfer/Weber (MMHW) LC-HR-MS/MS library** with 2,000 substances and 3,000 metabolites
- **NIST/EPA/NIH Mass Spectral Library 2023** with approx. 4,900 drug and forensic compounds and 9,700 metabolites

Access to the libraries allows forensic and clinical research and routine labs to quickly and accurately confirm and identify drugs, poisons, and their metabolites, optimizing metabolite-based mass spectrometry screening and minimizing false negative results. The libraries are constantly updated with contributions from customers and collaboration partners.

The Drug Screen Suite also offers confident sample identification with full transferability of library search results from laboratory to laboratory.

Drug Screen Suite workflow

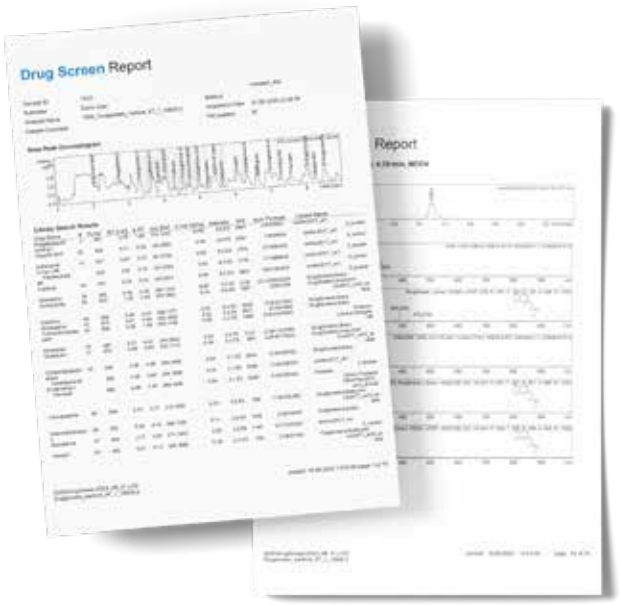


Automated reporting

When searching the national and international forensic libraries, the Drug Screen Suite offers automated reporting and search functionality. The report provides a list of identified compounds.

DataAnalysis software enables one-click review of library search results for fast interactive results evaluation using chromatogram and MSn spectra views. Identified compounds can be sorted by various parameters, including signal intensity, retention time, or alphabetically.

Reports can then be exported to laboratory information management systems (LIMS) or as PDFs for sharing via email.



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Bruker Switzerland AG

Fällanden · Switzerland
Phone +41 44 825 91 11

Bruker Scientific LLC

Billerica, MA · USA
Phone +1 (978) 663-3660

marketing.bams.emea@bruker.com - www.bruker.com

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Learn more about the workflow on our website: