

clinPAL – Automation that has your back

First fully automated sample handling solution for analyzing clinical samples using ICP-MS

Jena, August 5, 2024 – clinPAL from Analytik Jena (www.analytik-jena.com) is the first fully automated solution for sample preparation and sample handling for analysis using ICP-MS. The device is tailored to the typical workflow for testing human samples such as plasma, serum, urine and whole blood. The optimized and reproducible process minimizes sources of error and ensures accurate analysis results. The new "Pal" in the lab saves valuable resources.



ICP-MS is one of the most powerful techniques in the field of trace element analysis. However, most of the sample preparation and processing steps in the analysis of clinical samples have often been carried out manually up to now. This makes sample handling and preparation time-consuming, cost-intensive and error-prone. Analytik Jena's clinPAL automates the entire workflow of preparing and handling clinical samples, keeping the lab staff's back free for other activities.

The core of clinPAL is the dilutor head, which transports the sample tubes to the integrated barcode reader and vortex modules and is equipped with a needle for working with the sample solutions. Unlike conventional autosamplers for ICP-MS, the robust sample needle allows septum piercing, so clinPAL does not require the usual cover to protect it from particles in the laboratory air. During the workflow, the sample needle is cleaned inside and outside to prevent cross-contamination. Thanks to an innovative metal-free coating, contamination of the samples by the material of the sample needle is also avoided.

Device-sided teamwork

clinPAL is integrated into the software of the PlasmaQuant MS, ASpect MS. This interface transfers the sample information from the barcode reader to the ASpect MS and automatically links it to the results, so that mistakes - for example due to mixing up the tubes during sample preparation - are ruled out. An integrated flow injection system with switching valve ensures fast and contamination-free sample introduction and while a sample is being measured, clinPAL prepares the next sample. This not only ensures optimal timing efficiency, but also reproducible sample treatment.

Ready to sample

Thanks to the modular system, clinPAL's sample capacity can be adapted to individual sample throughput requirements. Manual preparation steps are no longer necessary, valuable laboratory space is saved: the samples can be placed directly on the device. There is no need to transfer the sample to an intermediate vial, as clinPAL works with conventional blood collection tubes. The system also includes a barcode reader, a vortex

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module for optimum homogenization of the original and diluted samples, a switching valve for injecting the measuring solution and a washing station for cleaning the sample needle.

Reliable measurement results

clinPAL from Analytik Jena ensures ideal laboratory utilization and reliable results at the same time. The optimized and reproducible workflow minimizes sources of error and ensures accurate analysis results. The completely metal-free flow path without any sources of contamination also ensures reliable results. With clinPAL, clinical laboratories take their trace element analysis to the next level and master every analytical and economic challenge - now and in the future.

About Analytik Jena GmbH+Co. KG

Analytik Jena is a leading supplier of analytical measurement technology, instruments in the field of molecular biology as well as liquid handling and automation technology. Precise results and easy handling are the top priorities in the development of Analytik Jena's laboratory analysis products. Services and instrument-specific consumables complete the extensive range. Analytik Jena is part of the Endress+Hauser Group, a family-owned company based in Switzerland.

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