

Press Release



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World's first system

Fully automated sample preparation module for LCMS

CLAM-2000: fully automated steps from sample pretreatment to LCMS analysis / For pharmaceutical and medical departments and biological analysis laboratories

Shimadzu, one of the world leaders in analytical instrumentation, has released a new and unique fully automated sample preparation module (RUO) connected online for LCMS to the four major clinical research markets in Europe, i.e. Germany, France, Italy and Spain. The CLAM-2000 (Clinical Laboratory Automated sample preparation Module) automates the pretreatment of blood or other biological samples before LCMS analysis. It is designed for customers handling blood samples in pharmaceutical departments, medical departments or biological analysis laboratories dealing with issues of variability in analytical results or infection risk.

In recent years, there has been considerable progress in the use of mass spectrometers (MS) in the clinical research field due to their highly sensitive detection and high specificity as well as the possibility of multiplexing analysis without the risk of cross reactions inherent to immuno-assays. Mass spectrometry enables direct detection of disease related biological compounds in blood, urine or other biological samples, measurement of trace concentration levels of drugs as well as other applications. However, the bottleneck is still sample preparation which is often tedious, involves risk of errors and increases the risk of contamination of people dealing with sample preparation.

Completely automatic from pretreatment to analysis

By simply placing blood collection tubes in the system, the CLAM-2000 performs all processes through to LCMS analysis automatically. Unlike dispensing systems based on batch processing 96-well plates, the CLAM-2000 is completely automatic from

pretreatment to analysis and processes individual samples successively in parallel. Consequently, it results in uniform pretreatment times between samples without slowing processing speed, while improving data reproducibility and accuracy.

Pretreatment processes available include dispensing samples, dispensing reagents, stirring, suction filtration, incubation and automatic transfer of sample vials to an SIL-30AC autosampler after pretreatment.

World's first

Consequently, the new CLAM-2000 is the first system in the world able to perform all steps fully automated from pretreatment of the sample to LCMS analysis, requiring only the simple task of placing the blood or biological fluid collection tubes, reagents, internal standards and specialized pretreatment vials in the system. It also features excellent management functions providing a dramatically improved workflow with better safety for clinical research and higher reproducibility. It is compatible with the LCMS TQ systems LCMS-8040, LCMS-8050 and LCMS-8060, giving a large choice to adapt to sensitivity needs.

For Research Use Only. Not for use in diagnostic procedures.

Not available in the USA, Canada and China.

Web summary

Shimadzu has released the world's first system for fully automated sample preparation connected online for LCMS. The CLAM-2000 (Clinical Laboratory Automated sample preparation Module) automates the pretreatment of blood or other biological samples before LCMS analysis. It is designed for customers handling blood samples in pharmaceutical departments, medical departments or biological analysis laboratories dealing with issues of variability in analytical results or infection risk.



Figure 1: CLAM-2000 Fully Automated Sample Preparation Module for LCMS and LCMS-8060
Ultra Fast Liquid Chromatograph Mass Spectrometer

Web link: www.shimadzu.eu/clam-2000



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