

Novel Walk Away Automation for DBS sample extraction from 4-Spot Cards to LC-MS

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The Dry Blood Spot (DBS) technique of eluting the blood sample from filter paper cards still lacks simple, reliable and inexpensive automation. Recently, Prolab Instruments, GmbH introduced a system (SCAP DBS System) built on the popular PAL XYZ robotic platform. LEAP Technologies has teamed up with the system developer Prolab to offer the SCAP DBS system in the U.S. and Canada. There are approx. 100 methods/applications known for these sample carrier DBS cards. In many such areas automation would be a tremendous benefit. It would not only be labor saving, but also decrease handling, which means less errors and more consistency in getting the samples introduced into a separation and then the analytical system.

The presentation goes through the work flow of the automation approach step by step. The experience with hardware and software so far will be reviewed, including experience with the built-in internal standard addition. The SCAP DBS has patent pending technology applied and is simple to use. The approach of eluting the dry blood sample off the card directly to a multi-column system by-passes all manual and cumbersome treatment steps of the sample cards. First results from needed cycle times and throughput will be presented. Beta test results with analytical data compared to the traditional manual method will also be shown.

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