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## Laser microdissection in proteomic analysis

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Laser Microdissection (LMD) is an emerging microscopic technology with increasing applications for proteomic analysis. The method is designed for contact and contamination-free isolation of entire areas of tissue or specific single cells or sub-cellular structures from a wide variety of tissue samples, allowing the isolation of homogeneous, specific and pure targets from heterogeneous samples for downstream analysis. The dissectate is then available for further molecular methods such as PCR, real-time PCR, proteomics and other analytical techniques. LMD is now used in a large number of research fields, e.g. neurology, cancer research, plant analysis, forensics. Recently, techniques such as MALDI-TOF (time-of-flight) IMS or MALDI-FTICR (Fourier Transform Ion Cyclotron Resonance) IMS, mass spectrometry analysis, have been applied using samples collected by LMD, for example, in drug development. LMD systems offers a precise, easy and contamination-free solution to obtain sufficient sample quantities from specimens. Simply identify your region of interest drawing it on the PC screen and directly cut the areas by a guided laser beam. The dissectate is automatically separated from the surrounding tissue with the movement of a laser beam and is immediately available for downstream analysis. The whole process can be fully automated in combination with pattern recognition (e.g. AVC). Many diseases result from protein malfunction, misfiling and agglutination. For this reason protein analysis is the key to understanding causes of and discovering therapies for many defects. Leica LMD systems help you easily obtain sufficient sample quantities from your specimen under visual control.

### Biography

Mauro Baron graduated in Biology in 1993 from the University of Milan. He worked for 2 years in the Institute of Internal Medicine of the University of Milan on innovative diagnosing *H. pylori* and HCV. In 1995, he moved to a company for diagnostic products occupying the position of Product Specialist. In 2000, he started to work for Leica Microsystems, Italy as Product Manager Microscopy covering all aspects of microscopy applications, in particular those related to Laser Microdissection. In 2009, he became European Field Support Specialist for the Life Science Research Division being responsible for all microdissection related topics in Europe.

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