

“Characterization of Proteins from Human Cerebrospinal Fluid by a Combination of Preparative Two-Dimensional Liquid-Phase Electrophoresis and Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry”

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To characterize proteins in low concentration in complex biological samples, an innovative approach combined the use of preparative two-dimensional liquid-phase electrophoresis (2D-LPE) and matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS). Preparative 2D-LPE is based on isoelectric focusing and gel electrophoresis techniques and was used to simultaneously concentrate and separate relatively low-abundance proteins in large samples. Subsequently, MALDI-TOF MS was used to efficiently characterize the separated proteins. This process was demonstrated in the successful characterization of the proteins cystatin C and β -2 microglobulin in human cerebrospinal fluid.

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