

VCI P6

**Rapid characterisation of cultured cells by MALDI-TOF mass spectrometry**\*A. Karger<sup>1</sup>, B. Bettin<sup>1</sup><sup>1</sup>Friedrich-Loeffler-Institut, Institute of Molecular Biology, Greifswald – Insel Riems, Germany

Cell cultures play a paramount and very versatile role in virology. Apart from being the primary basis for the virologist's day-to-day laboratory routine, they serve diagnostic purposes, production of vaccine virus, and within limits as animal models. Increasing numbers of scientific publications deal with virus-host cell interactions. On this background, the characterisation of the used cell cultures is of great importance for the significance of the results from virological experiments performed in cell culture. We have adapted a protocol for the mass spectrometric identification of bacteria for the identification and characterisation of cultured eukaryotic cells. Sample preparation is simple and can be completed within one hour, the cost per sample is negligible. A database with spectra from over 70 cell lines representing over 30 species (insects, birds, reptiles, fish, mammals) was established. Spectra were processed with BioTyper software (Bruker Daltonics). Database queries with sample spectra allowed the unequivocal determination of the species in all and the identification of the respective cell line in most cases. We suggest MALDI-TOF mass spectrometry as a very rapid complementary tool for the characterisation of cell cultures, e.g. for quality control or in-process control purposes.

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