RAPID MICROORGANISM IDENTIFICATION USING MALDI BIOTYPER

During the last decade a big revolution has occurred in the microbiology laboratories, mainly in the clinical ones, due to the use of MALDI-TOF Mass Spectrometry for microorganism identification.

During this technical session we’ll show the application and advantages that MALDI-TOF Mass Spectrometry offers with the MALDI Biotyper system (Bruker Daltonics) for the rapid microorganism identification in food, environmental and pharmaceutical areas.

The preparation of the sample is done just transferring a small amount of colony to the MALDI target plate and covering it with 1 µL of HCCA matrix. Once is dry the preparation is ready for the analysis with the MALDI Biotyper. The measurement and identification is done in automatic way. The software matches the results against the library entries and assigns a score between 0 and 3 to each sample, considering scores higher than 2 accurate identifications at species level.

The MALDI Biotyper allows the identification of bacteria, yeast and fungi using a phenotypic approach based microorganism libraries.

While the traditional methods need hours or days to confirm a microbiological contamination, the MALDI Biotyper system gives results in minutes, reducing the time needed to react and therefore reducing the costs associated to the production.

During the last years many microorganisms have been added to the MALDI Biotyper library in collaboration with microorganism collections all over the world. This fact allows covering a higher number of species and strains related with environmental, food, veterinary or pharmaceutical fields. Moreover, due to the open concept of the MALDI Biotyper library each user can create his own library of interest.