

A Novel Method for Identification of Microorganisms/Cells

OVERVIEW

Researchers on campus have developed a rapid method for identification of microorganisms. The method involves comparing the mass spectrum of a set or mixture of unknown proteins against publicly available database protein collections assembled from known organisms. Molecular mass is used for comparisons and hence only pico molar amounts of sample are required.

Spectra comparison matches of molecular weights of unknown proteins against the known data is reproducible and the researchers have demonstrated the feasibility of microorganism detection at the species level.

Mass spectra of protein mixtures is currently used for organism identification. The current approach is based on determining differences in the "fingerprint" protein profile for different organisms. The "fingerprint", which is a pattern of spectral peaks, is not easily reproducible.

A researcher at the University of Maryland, College Park, has developed a technology that overcomes the "reproducibility problem." This technology could lead to accurate and rapid detection of the identification of individual organisms present in a mixture of organisms. This technology could be applied to detect dispersed biological weapons, food contaminants, and as a diagnostic tool in medicine.

For additional information please contact the Office of Technology Commercialization, University of Maryland, College Park, MD 20742. Phone 301-405-3947. E-mail: <u>otc@umd.edu</u>.

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Additional Information

INSTITUTION

University of Maryland, College Park

LICENSE STATUS

Contact OTC for licensing information

CATEGORIES

Genomics/Proteomics/Database

EXTERNAL RESOURCES

• US Patent 7,020,559

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