

Development of a MALDI-MS-Based Immunoassay Detection Method for Antigen Identification

This technique involves capturing antigens on covalently linked antibody surfaces and detecting the presence of the antigen by matrix assisted laser desorption/ionization mass spectrometry (MALDI-MS). A sample, such as blood, sputum or a skin swab, from a diseased patient can be passed over the immobilized antibody to capture the antigen protein of interest onto the surface. A layer of MALDI matrix is then applied to the surface and MALDI-MS is performed to confirm that the antigen is present by measuring the mass of the captured antigen. We have shown this assay to work with a simple goat IgG/anti-IgG system, where the anti-IgG was successfully captured and detected by MALDI-MS.

We hope to use this method to isolate and analyze proteins of interest by mass spectrometry from real world samples. Collaborations and ideas are welcome!

