

A MICROFLUIDIC APPROACH TO MALDI SAMPLE PREPARATION

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MALDI-TOF MS has proven to be a rapid and sensitive method for biopolymer identification, and has been widely applied to the field of proteomics (1). Recent innovation in MS design and development together with advances in automated sample handling equipment has seen the availability of several systems capable of analyzing larger numbers of samples as companies have shifted from conventional stainless steel substrate to AnchorChip (Bruker), ProteinChip (CIPHERGEN), microfluidic (Gyros) and lab-on-a-chip technologies.

We have developed a MALDI target for more generalised application based on surface modified carbon filled polyethylene (2). A microfluidic sample application technique has also been developed to facilitate the application and on-target treatments of protein samples using the target system. Mass spectra of proteins were obtained at higher sensitivities using minimal amounts of sample and matrix.

- (1) R. Aebersold *et al*; Journal of the American Society for Mass Spectrometry; 14(7) [2003] 685-695
- (2) L.Hodgson *et al*; POSTER "A surface modified target for MALDI-TOF MS"