

A Novel Interface for Faster Protein Analysis

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Fast and high-throughput analysis of protein products is of high interest, especially in biopharmaceutical industry. Top-down mass spectrometry (TDMS) technology allows the direct measurement of intact proteins (i.e., proteoform) including genetic mutation, alternative RNA splicing and post-translational modifications. We recently developed a new analytical platform, called SampleStream, enabling rapid and high-throughput analysis of proteoforms coupling to TDMS. The SampleStream platform consists of a fluidic channel that uses a molecular weight cutoff (MWCO) membrane to concentrate proteins while enabling cleanup. Purified proteins can be eluted from the SampleStream channel then directly measured by high-resolution mass spectrometry. The platform provides the reduced sample processing time and similar sensitivity to liquid chromatography (LC) technologies.