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STEP BY STEP PREPARATION OF URINE SAMPLES FOR IN-SOLUTION, GEL-FREE PROTEOMIC STUDIES, SUITABLE FOR MALDI TOF MS AND LCMS QTOF MS

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ABSTRACT

Two-dimensional electrophoresis is an established method for isolating and separating proteins for proteomic analysis and identification of proteins. However, it requires a lot of optimization and it suffers from some ongoing concerns regarding quantitative reproducibility and limitations on its ability to study certain class of proteins. We propose a simpler method in preparing urine samples from acute melioidosis patients for in-solution proteomics using liquid chromatography coupled with mass spectrometry quadrupole time of flight (LCMS-QTOF MS) or matrix assisted laser desorption ionization-time of flight mass spectrometry (MALDI-TOF MS). This method is relatively easier than 2-dimensional electrophoresis, affordable, reproducible, can be performed in less equipped laboratories for transport to specialized centers for proteomic studies and bioinformatic analysis.

Keywords: proteomics, in-solution, LCMS, urine , melioidosis, proteome