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Rapid antibiotic susceptibility testing of patient urine samples using large volume free-solution light scattering microscopy

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Antibiotic resistance has become a significant public health threat. To combat the problem, a rapid pathogen identification (ID) and antimicrobial susceptibility testing (AST) technology is needed to provide timely diagnosis of resistant infections and delivery of accurate antibiotic treatment at primary health-care settings, including hospitals and point-of-care (POC). The present project aims to develop a point-of-care AST technology based on a large-image-volume microscopy technique that enables direct detection and tracking of phenotypic features of individual bacterial cells in clinical samples without culturing or pathogen isolation.

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