Bacterioscan

BacterioScan 216Dx Laser Light-Scattering Instrument

The constant threat and broadening impact of antibiotic resistance continues to plague society on a global level. Challenges associated with new antibiotic discovery and development have limited the restocking of the anti-infective armamentarium, forcing clinicians into the challenging position of having to choose between preserving the utility of existing anti-infective agents versus the preservation of patients' lives. As a consequence, the importance of *in vitro* diagnostic devices has never been greater, as effective tests should alleviate some of this burden by enabling antibiotic stewardship efforts and, in turn, improving patient care. The BacterioScan 216Dx laser light-scattering instrument, currently in development for the rapid detection of urinary tract infections (UTIs), provides a faster time-to-result (3 hours) than conventional methods through its 3-log improvement in lower limit of detection. This benefit can also be leveraged in rapid, phenotypic antimicrobial susceptibility testing (AST) applications, using real-time growth monitoring of bacterial populations in the presence/absence of different antibiotics to accurately predict drug resistance/susceptibility. In both cases, a considerable reduction in the amount of unnecessary or inappropriate antibiotic use is anticipated. This proposal focuses on establishing the 216Dx as a fast, reliable, and inexpensive AST device that can accommodate multiple specimen types and provide customizable antibiotic panels.