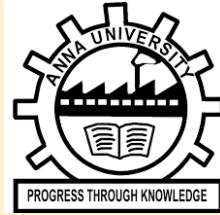




DST-TDT



UGC

AUTOMATED ANTIBIOGRAM DEVICES

For Method Developed by NHHID - Funded by DST-TDT

- ❖ **NABL-Accredited Clinical Laboratory (Microbiological Laboratory India Pvt Ltd, Coimbatore) validated Patented Methodology and associated devices for determining antibiotic susceptibility of bacteria or the infection in 6 h.**
- ❖ **Developed by interdisciplinary teams of scientists and engineers in the programmes funded by DST-TDT & UGC.**

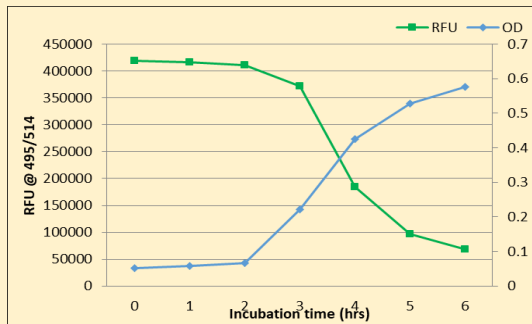
PATENTED METHODOLOGY

Our Discovery:

Ubiquitous property of bacteria releasing long chain fatty amide when grown in a specific medium

Our Innovation:

- Quenching of fluorescent dye by the long chain fatty amide used as signal for bacterial growth. Patent no. 1891/CHE/2010

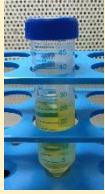


- Clinically validated low-cost methodology to provide antibiotic susceptibility test report to clinicians within 6 h
- Design and development of customizable antibiotic panel
- Design and fabrication of semi-automated and fully automated indigenous devices at low cost.

Purpose:

- To tackle multidrug resistance menace through surveillance and mapping
- Efficacious antibiotic treatment
- High-level of compliance for antibiotic susceptibility testing before therapy

ANTIBIOGRAM METHODOLOGY



Sample inoculation in the medium

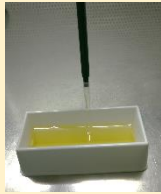


Image Capture and Processing



Report Generation



Distribution of the inoculated medium to the antibiotic coated plate



Incubation



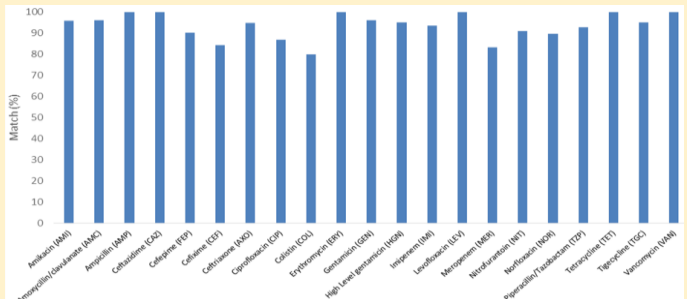
SEMI-AUTOMATED ANTIBIOGRAM DEVICE



The Semi-automated AntibioGram device is capable of automatically reading the cultured antibiotic plate and processing the antibiogram results within a minute. It can be integrated with the clinical lab reporting software and also capable of sending reports to the clinicians, hospitals and Public health agencies.

VALIDATION OF METHODOLOGY & SEMI-AUTOMATED ANTIBIOGRAM DEVICE

Total Number of Test (381 samples)	5027 Test points
Match between methods	3856 Test points (76.7%)
Minor error between methods	860 Test points (17.1%)
Match between methods where minor error considered insignificant	4716 Test points (93.8%)
Major Error	165 Test points (3.2%)
Very Major Error	146 Test points (3.0%)



AUTOMATED ANTIBIOGRAM DEVICE



Our completely automated Antibiogram device inoculates patient samples in the special medium and transfer to our customized antibiotic coated wells. After incubation in the chamber for 6 h, the fluorescence is read to determine the antibiotic susceptibility. The report is shared through laboratory information software and secure network to the hospital or clinician. It enables the doctor to view the antibiogram report securely on their mobiles, tablets or computers to prescribe the effective antibiotic course.