



Antibiogramoscope Device

 drishtias.com/printpdf/antibiogramoscope-device

A team of professors at **Anna University, Chennai** has developed a **device called Antibiogramoscope to deal with antibiotic resistance.**

- The research was supported by **University Grants Commission (UGC)** and **Department of Science and Technology (DST).**
- The team developed a liquid **Antibiotic Sensitivity Testing (AST) medium.** To this, a commercially available **fluorescent molecule** is added along with the **sample (body fluid).**
 - This is transferred to the antibiogramoscope's microwells which are coated with one type of antibiotic.
 - When bacteria grow in the medium, it **produces a compound called erucamide**, which binds to the **fluorescent molecule, turning OFF** its fluorescence.
 - This means **if we see fluorescence in some microwells**, those **antibiotics are effective in killing the bacteria.**
 - **No fluorescence** means the **bacteria is growing despite the antibiotic** which **highlights antibiotic resistance.**
- The **advantages** of Antibiogramoscope over traditional methods are:
 - It identifies **resistant strains of bacteria much quicker**, helping physicians choose the right drug, all at a **lower cost.**
 - The existing method uses a solid medium to grow bacteria, while this new method **uses liquid medium giving superior results.**
 - The system is **automated**, needing no human intervention once the samples and medium are loaded.
- Antibiogramoscope has **cleared validation tests at National Accreditation Board for Testing and Calibration Laboratories (NABL)** accredited microbiological lab.

National Accreditation Board for Testing and Calibration Laboratories (NABL)

- NABL is a **Constituent Board of Quality Council of India.**

- NABL has been established with the objective of providing Government, Industry Associations and Industry in general with a scheme of Conformity Assessment Body's accreditation which involves third-party assessment of the technical competence of testing including medical and calibration laboratories, proficiency testing providers and reference material producers.
- **Quality Council of India (QCI) as a non-profit autonomous society** registered under **Societies Registration Act, 1860.**
- The aim of QCI is to establish an accreditation structure in the country and to spread quality movement in India by undertaking a National Quality Campaign.

It can be noted that in a **separate development** which is also significant, the **scientists at the Centre for Cellular & Molecular Biology (CCMB) have come up with a way to inhibit the multiplication of bacteria even before the cell wall begins to grow.**