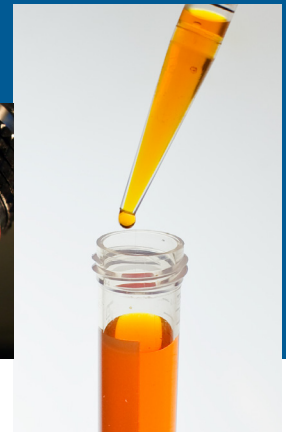


BARC Laboratories pioneer an integrated approach to tuberculosis diagnosis in South Africa. Integrating esoteric and clinical pathology in a

## BARC Tuberculosis P3 Laboratory - Charting a new course for the management of tuberculosis in South Africa

Mycobacterium Tuberculosis (TB) P3 laboratory, enabling accurate and rapid diagnosis that now significantly reduces results time.



### FEATURES AND CAPACITY

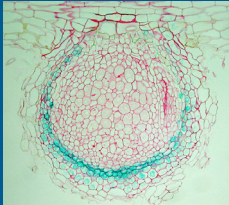
#### Screening

- Auramine stain - more sensitive than Ziehl Neelsen (ZN) due to ease of scanning; enables lab to handle larger volumes of work, up to 1200 samples received daily in laboratory
- Ziehl Neelsen stain used as confirmatory stain for positive Auramine samples
- Sputum assessment with ZN stain possible for BARC clinical trial samples only

#### Culture capacity

- 19 MGIT instruments currently, each with capacity for 960 samples for culture and sensitivity; sensitivity results may be obtained within 2 weeks of positive culture
- Average Time to positivity if culture positive
  - Smear negative - 3 weeks
  - Smear positive - 4 - 14 days

### Methods of identification available



- Rapid chromatographic immunoassay for qualitative detection of MTB complex Antigen from culture
- GeneExpert: semi quantitative nested real time PCR detection of MTB complex DNA - Rapid testing, test time of 1 hr 55 mins; smear negative samples can be used.
- Gen-probe : Nucleic Acid Hybridisation Identification from culture: Gen-probe Accuprobe culture identification test for Mycobacterium Tuberculosis, Mycobacterium Avium, Mycobacterium Kansassii and Mycobacterium Intracellular.
- Hains MTBDR Plus: PCR reverse hybridisation line probe strip assay identification of Mycobacterium Species and drug resistance to INH and RIF on MTB; smear positive and culture samples can only be used.
- Lowenstein Jensen Media – BARC Clinical Trials only

### TB Sensitivity on culture samples using GenProbe methodology

- First-line - Rifampicin, INH, Ethambutol, Streptomycin, PZA
- Second-line - Ofloxacin/moxifloxacin, Kanamycin, Ethionamide

### TB Resistance testing on sputum samples for screening for MDR/XDR initially:

- GeneExpert: PCR - RIF (smear positive and smear negative samples)
- Hains: PCR - RIF and INH (smear positive samples only)

### Resistance testing on cultures

- MGIT - DST Full first line and second line sensitivity testing if required

### Quantiferon Elisa Test

- Differentiates TB infection from BCG and TB infection from nearly all non-TB Mycobacterial infections, but **does not differentiate between latent and active disease**
- Results within 48 hours

### Specimens of choice

- Pulmonary specimens
- Tissues
- Fluid from Sterile sites
- **NO Blood samples** except Bone Marrow aspirates taken in TB Lytic culture bottles

For more information on the features of the laboratory contact  
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 Clinical Pathologist: Dr Jessica Trusler