

Indigenous molecular diagnostic tool for TB

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Recently WHO has endorsed **TrueNat**, an Indigenous molecular diagnostic tool for Tuberculosis (TB) diagnosis

About TrueNat

- It is a new molecular test that can diagnose TB in one hour as well as testing for resistance to the drug rifampicin.
- The TrueNat test has been **developed by the Indian firm MolBio Diagnostics Pvt Ltd Goa**. Its development has been **funded by Bigtec Labs, India**.
- It uses a sputum sample taken from a patient to test TB
- As the entire set-up is both battery operated and portable, it can be used at the most basic parts of the healthcare system.

How does the TrueNat test work?

- It works by the rapid detection of TB bacteria **using the polymerase chain reaction (PCR) technique**
- The machine looks for the DNA specific to the TB bacteria. If the machine detects it, it then uses PCR to copy (amplify) small segments of DNA and this DNA can then be used in many different laboratory procedures.
- If any resistance to rifampicin (RR) is detected by doing a second RTPCR (Reverse transcription-polymerase chain reaction)
- Automated battery-operated devices are used for the extraction of DNA (Trueprep Auto device) amplification (TrueNat MTB

Chip) and reading the presence of specific genomic sequences (TrueLab PCR analyzer)

Truenat beta test for COVID-19 detection

- **The Indian Council of Medical Research (ICMR) had recommended the use of the Truenat beta CoV test on Truelab workstation as a screening test for COVID-19 on 4th April 2020.**
- However, ICMR did mention that Truenat beta CoV test should only be performed with all biosafety precautions in BSL-2 or BSL-3 setups at designated laboratories. Performing this test for SARS-CoV2 in mobile test units without proper biosafety level-2 checks is not recommended.