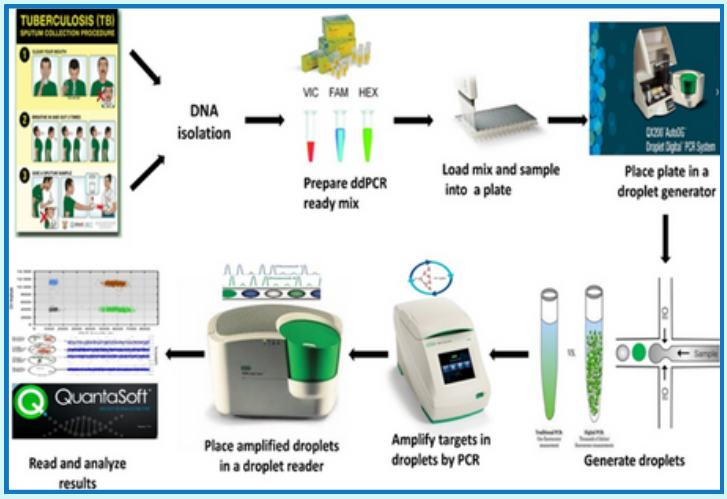
Detection of *Mycobacterium* tuberculosis-derived circulating cell-free DNA (ccfDNA) in plasma for early TB diagnosis

Domain: Diagnostic Assay/Kit

About Technology: This technology features an optimized dual-target droplet digital PCR (ddPCR) assay designed for highly precise detection of Mycobacterium tuberculosis–derived circulating cell-free DNA (ccfDNA) in plasma. By identifying these DNA fragments, the assay enables early and accurate diagnosis of tuberculosis, including cases that are typically difficult to detect through conventional methods. It is particularly valuable for diagnosing extrapulmonary TB, asymptomatic or subclinical infections, symptomatic but clinically indeterminate cases, and for monitoring individuals at high risk of progressing to active TB

Intended Use: Early diagnosis of extrapulmonary TB, asymptomatic or subclinical TB, clinically suspected or possible TB cases, and individuals at high risk of developing TB



Advantages:

- Ultrasensitive, highly specific plasma-based test
- Detects tuberculosis across its full spectrum, including diagnostically challenging cases

Development Status: In-house validation complete; Proof-of-concept established in the laboratory

Institute(s): ICMR-National Institute for Research in Tuberculosis (NIRT)

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