Table 1 **Advantages and disadvantage of different laboratory tests for tuberculosis**

Laboratory method	Description	Advantages	Disadvantages
Ziehl–Neelsen staining of clinical specimen and culture material	Microscopic examination for acid-resistant mycobacteria	Low cost, can be applied in non-specialized laboratories	Needs 3 samples, low sensitivity
Fluorescent auramine staining	Similar to Ziehl–Neelsen staining but fuchsin is replaced by auramine	Rapidity of reading	Requires costly equipment, constant electricity supply and trained technicians
Löwenstein–Jensen culture	Solid egg-enriched medium	Each live bacillus forms colonies on culture	Requires at least 3 weeks of incubation for the colonies to be visible to the naked eye
Culture on solid agar-based medium (Middlebrook 7 H10 and 7 H11)	Solid synthetic transparent materials	Useful for studying the colonial morphology	Costly
Culture on liquid medium (Bactec MGIT 960 system)	Modified Middlebrook 7H9 broth with fluorescent indicator and an antibiotic mixture	Bacilli can be detected in 8–14 days	Easily contaminated
Polymerase chain reaction	Genome amplification technique using specific probes to identify the different mycobacteria	Allows the amplification of the minimum DNA molecule that exists in clinical specimen. Result available within 24 to 48 hours	Costly equipment
Amplified mycobacterium tuberculosis direct test (Gen-Probe)	Target-amplified nucleic acid probe test for the in vitro diagnostic detection tuberculosis complex rRNA	Rapid test (3.5 hours result), high specificity and sensitivity of mycobacterium	Costly equipment, special training

References: [2–8].