

GeneXpert MTB WITH RIFAMPICIN RESISTANCE, QUALITATIVE

GeneXpert MTB WITH RIFAMPICIN RESISTANCE, QUALITATIVE (Real Time PCR)	
Type of Specimen	
Mycobacterium tuberculosis complex	Detected Very low / Detected Low / Detected medium / Detected High / Not Detected
Rifampicin resistance	Detected / Not Detected

Interpretation

MYCOBACTERIUM TUBERCULOSIS (MTB)	RIFAMPICIN RESISTANCE	REMARKS
Detected	Detected	Target DNA detected resistant to Rifampicin
Not Detected	Not Detected	Target DNA not detected
Detected	Not Detected	Target DNA detected sensitive to Rifampicin
Detected	Indeterminate	Target DNA concentration very low to determine Rifampicin resistance
Indeterminate	Indeterminate	Target DNA could not be detected may be due to presence of inhibitors

MTB RESULT	Ct RANGE
High	<16
Medium	16-22
Low	22-28
Very Low	>28

Note:

1. A positive result does not necessarily indicate presence of viable organisms. However it indicates a presumptive presence of MTB
2. A negative result does not preclude Mycobacterium Tuberculosis infection because results depend on adequate specimen collection, absence of inhibitors, and sufficient DNA to be detected.
3. Results may be affected by antecedent or concurrent antibiotic therapy. Hence therapeutic success or failure cannot be assessed by this test as DNA might persist following antimicrobial therapy

## Comments

Mycobacterium tuberculosis complex (M. tuberculosis, M.bovis, M.microti & M.africanum) are the only Mycobacteria that are transmitted from person to person and therefore are of public health importance. These infections are usually treated by 4 common first line drugs- Rifampicin, Ethambutol, Pyrazinamide & Isoniazid. As documented by WHO Rifampicin resistance is rarely encountered by itself and usually indicates resistance to a number of other anti-tubercular drugs. Resistance to Rifampicin or other first-line drugs usually indicates the need for full susceptibility testing, including testing against second-line agents.

Dr Lal PathLabs