



TB/NTM

MOLECULAR DIFFERENTIATION

Department of Molecular Biology

INTRODUCTION

Mycobacterium tuberculosis is the causative agent of tuberculosis. Mycobacterium tuberculosis complex refers to a genetically closely related group of Mycobacterium species that can cause tuberculosis. It includes **Mycobacterium tuberculosis**, **Mycobacterium africanum**, **Mycobacterium bovis**, **Mycobacterium bovis BCG**, **Mycobacterium microti**, **Mycobacterium canettii**, **Mycobacterium pinnipedii** and **Mycobacterium mungi**.

CLINICAL UTILITY

Polymerase chain reaction (PCR) techniques are now widely used for early detection and species differentiation of mycobacteria, but mostly with their own limitations. We aim to detect and differentiate Mycobacterium tuberculosis (Mtb) infections by choosing appropriate target sequences, ideally present in all mycobacterial species (MTB complex) and absent in others. Our multiplex realtime PCR method could specifically detect M. tuberculosis and MTB complex infection from that of major pathogenic NTM and nonpathogenic mycobacteria. **This method, by well distinguishing between MTB complex and NTM**, presented a fast and accurate method to detect and diagnose mycobacterial infections more efficiently and could thereby help in better patient management particularly considering the increase in mycobacterial infections due to emergence of NTM over the past decades.

METHOD AND RESULTS

- Specificity: 99%
- Sensitivity: 98%
- Best quality results in cost-effective price
- Qualitative test is determining the presence or absence of MTB/NTM.
- It is more sensitive than any of the other tests and provides clinically useful information in a timely fashion

LIST OF TB/NTM DETECTED IN ASSAY

Sr No.	Target Microbe Strain	TB/NTM
1	Mycobacterium microti	TB
2	Mycobacterium tuberculosis H37Rv	TB
3	Mycobacterium avium	NTM
4	Mycobacterium chelonae subsp. chelonae	NTM
5	Mycobacterium fortuitum	NTM
6	Mycobacterium gastri	NTM
7	Mycobacterium goodii	NTM
8	Mycobacterium intracellulare	NTM
9	Mycobacterium kansasii	NTM
10	Mycobacterium malmoense	NTM
11	Mycobacterium nonchromogenicum	NTM
12	Mycobacterium phlei	NTM

Sr No.	Target Microbe Strain	TB/NTM
13	Mycobacterium scrofulaceum	NTM
14	Mycobacterium simiae	NTM
15	Mycobacterium terrae	NTM
16	Mycobacterium triviale	NTM
17	Mycobacterium vaccae	NTM
18	Mycobacterium gilvum	NTM
19	Mycobacterium parafortuitum	NTM
20	Mycobacterium szulgai	NTM
21	Mycobacterium abscessus	NTM
22	Mycobacterium peregrinum	NTM
23	Mycobacterium marinum	NTM

TEST ORDER INFORMATION

TEST NAME	METHOD	SPECIMEN	REPORTING TIME
TB/NTM PCR	Real Time PCR	Sputum, BAL and Tissue	48 Hours