

# VIASURE

## *M. tuberculosis complex* Real Time PCR Detection Kit

### Pathogen and product description

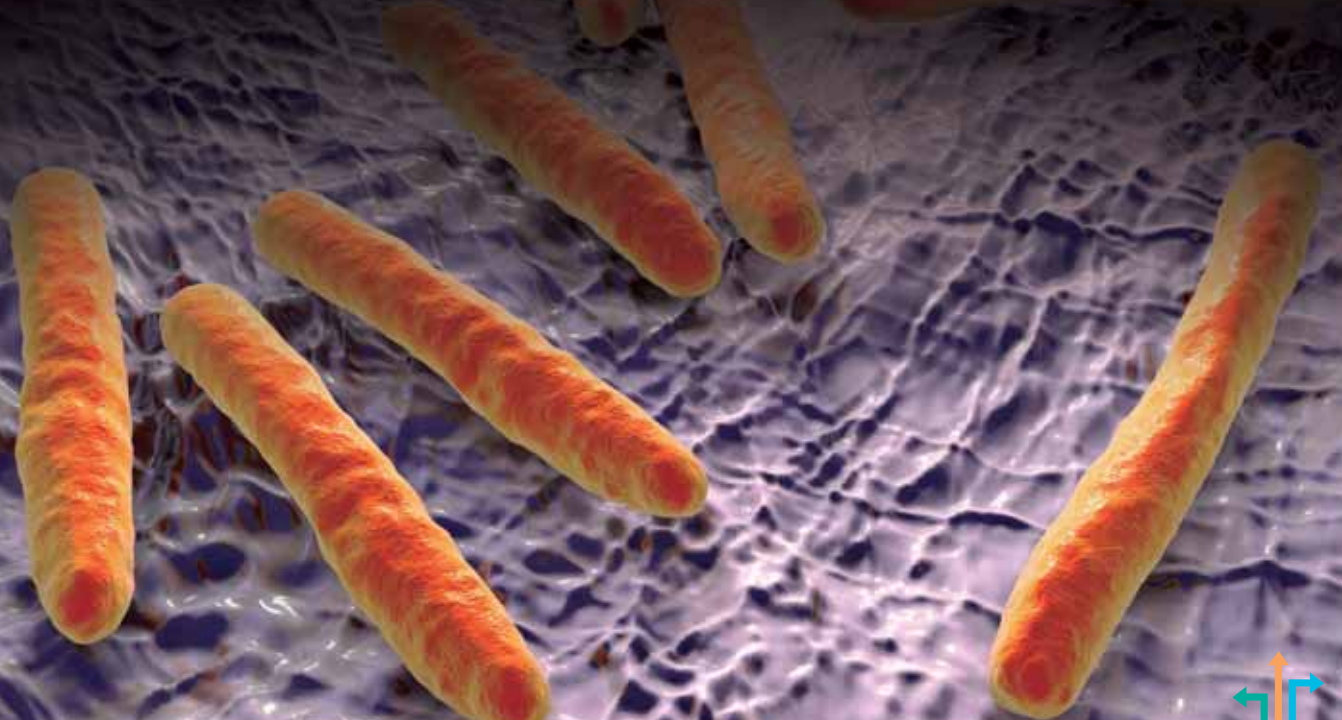
**T**uberculosis is a contagious, chronic and granulomatous disease caused by *M. tuberculosis*. This disease was declared in 1993 as a “global health emergency” due to its magnitude as a public health problem. Infection occurs through the inhalation of aerosols that contain the pathogen and are transmitted by people with active pulmonary tuberculosis. After inhalation, the bacteria deposit in the alveoli and spread through the lymphatic circulation. Further dissemination to other parts of the lung and occasionally to other organs is achieved through hematogenous circulation. The most common form of the disease is pulmonary tuberculosis, although tuberculous meningitis, miliary tuberculosis (disseminated), intestinal tuberculosis, lymphadenitis, osteomyelitis and Pott’s disease (affected bones) also occur. Primary infection leads to active disease in approximately 10% of infected people and in 80% of these cases in the period of two years. In the remaining 90%, the immune system controls the infection and the individual is not infectious or asymptomatic. It is estimated that one third of the world population has latent tuberculosis; that is, these people are infected with the bacillus, but (still) have not become ill or can transmit the infection. In this clinical state, TB bacilli can remain inactive for years (latent TB). However, when the immune

system weakens, the latent infection can be reactivated. In a person infected with HIV, the risk of reactivation of latent TB is more than 10% per year, compared to a lifetime risk of 10-20% for HIV negative people.

When the active form of the disease occurs, the symptoms (cough, fever, night sweats, weight loss, etc.) can be mild for many months. As a result, patients sometimes take time to seek medical attention and transmit the bacteria to others. Over a year, a tubercular patient can infect 10 to 15 people through close contact. If they do not receive the appropriate treatment, up to two thirds of the tubercular patients die.

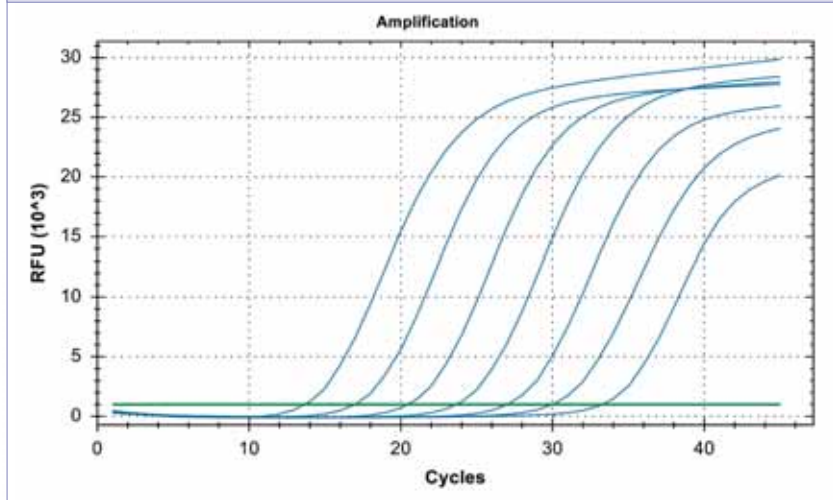
The application of molecular techniques for diagnosis and typing, more sensitive, specific and quick than traditional tests, allow to improve the knowledge of the epidemiology of the infection and facilitate decisions for its control.

VIASURE *M. tuberculosis complex* Real Time PCR Detection Kit is designed for the diagnosis of Tuberculosis caused by *M. tuberculosis complex* strains in clinical samples. After DNA isolation, the detection of *M. tuberculosis complex* strains is performed by the amplification of regions of the insertion sequence IS6110 and IS1081 using specific primers and fluorescent-labeled probes.



## Analytical sensitivity

**VIASURE** *M. tuberculosis complex* Real Time PCR Detection Kit has a detection limit of  $\geq 10$  DNA copies per reaction.



Dilution series of Insertion sequences IS6110 and IS1081 ( $10^7$ - $10^1$  copies/rxn) template run on the Bio-Rad CFX96™ Real-Time PCR Detection System (channel FAM).

## Components

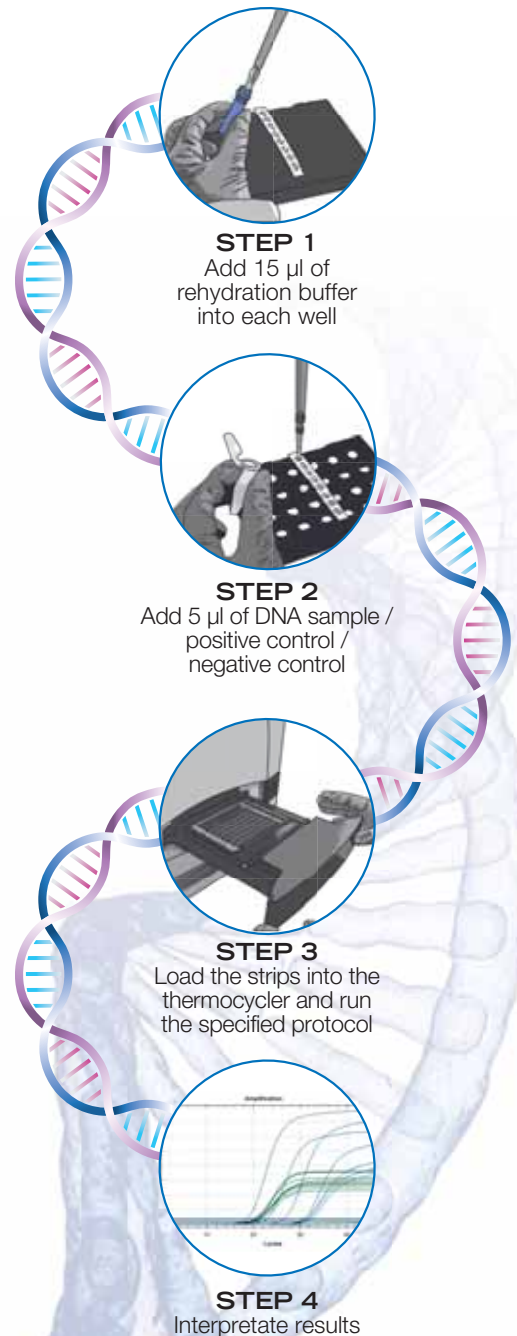
Reactivo/Material	Description	Colour	Quantity
<i>M. tuberculosis complex</i> 8-well strips	A mix of enzymes, primers-probes, buffer, dNTPs, stabilizers and Internal control in stabilized format	White	6/12 x 8-well strip
Rehydration Buffer	Solution to reconstitute the stabilized product	Blue	1 vial x 1,8 mL
<i>M. tuberculosis complex</i> Positive Control	Non-infectious synthetic lyophilized DNA	Red	1 vial
Negative Control	Non template control	Violet	1 vial x 1 mL
Water RNase/DNase free	Water RNase/DNase free	White	1 vial x 1 mL
Tear-off 8-cap strips	Optical caps for sealing Wells during thermal cycling	Transparent	6/12 x 8-cap strip

## Kit References

Reference	Description
VS-MTC106L	Viasure <i>M. tuberculosis complex</i> Real Time PCR Detection Kit 6 x 8-well strips, low profile
VS-MTC106H	Viasure <i>M. tuberculosis complex</i> Real Time PCR Detection Kit 6 x 8-well strips, high profile
VS-MTC112L	Viasure <i>M. tuberculosis complex</i> Real Time PCR Detection Kit 12 x 8-well strips, low profile
VS-MTC112H	Viasure <i>M. tuberculosis complex</i> Real Time PCR Detection Kit 12 x 8-well strips, high profile
VS-MTC113L	Viasure <i>M. tuberculosis complex</i> Real Time PCR Detection Kit 96-well plate, low profile
VS-MTC113H	Viasure <i>M. tuberculosis complex</i> Real Time PCR Detection Kit 96-well plate, high profile
VS-MTC136	Viasure <i>M. tuberculosis complex</i> Real Time PCR Detection Kit 9 x 4-well strips, Rotor-Gene®
VS-MTC172	Viasure <i>M. tuberculosis complex</i> Real Time PCR Detection Kit 18 x 4-well strips, Rotor-Gene®

## Work Flow

**One-step rehydration of wells and add your extracted DNA**



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