QuantiFERON®-TB Gold In-Tube and *Mycobacterium tuberculosis* Antibody, IgG by ELISA

FOR USE IN THE DIAGNOSIS OF LATENT OR ACTIVE MYCOBACTERIUM TUBERCULOSIS INFECTION

Test Highlights

- New panel combines the QuantiFERON®-TB Gold in-tube test (QFT- GIT) with the *Mtb* IgG ELISA.
- Requires only a single patient visit to draw blood sample.
- The nil tube required for the QuantiFERON®-TB Gold in-tube test provides plasma for use in the IgG ELISA, so no extra draw is required.
- Panel increases the ability to differentiate active and latent cases of TB.

Disease Overview

- Tuberculosis (TB) is caused by the bacterium *Mycobacterium tuberculosis (Mtb)* and typically presents as a lung infection.
- *Mtb* is transmitted via airborne droplets that contain the infectious bacilli.
- Persons who have latent tuberculosis infection (LTBI) are infected but do not have TB.
- About 10 percent of latent infections develop into active TB disease. However, the risk increases in immunosupressed individuals, especially those with HIV infection.
- Mortality in untreated active disease is upwards of 50 percent.

Epidemiology

- Over one-third of the world's population has been exposed to *Mtb*, making it one of the most common infectious diseases in the world.
- TB causes nearly two million deaths per year.
- Seventy-five percent of all *Mtb* infections occur in developing countries.

Indications for Ordering

This panel should be ordered if any form of TB disease is suspected.

Interpretation

- A positive QFT-GIT result indicates latent TB infection.
- A positive IgG result indicates progression to active disease.

Limitations

- This panel has not been validated for use on patients with HIV/TB co-infection and is not recommended for this population.
- AFB culture may be helpful in further characterizing active disease.

Methodology

- Patient blood is collected into three specialized blood-collection tubes.
- The amount of INF-γ produced by each tube (nil, mitogen, antigen) is measured using a standard ELISA format.
- Plasma in the nil tube is used for the TB IgG assay, which operates using a standard ELISA format.

References

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5. Carvalho AC, et al. QuantiFERON®-TB Gold test in the identification of latent tuberculosis infection in immigrants. *J Infect* 2007;55(2):164–8.
6. Mazuerk GH, et al. Guidelines for using the QuantiFERON®-TB Gold test for detecting Mycobacterium tuberculosis infection, United States. *MMWR Recomm Rep* 2005;54:49–55.
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Test Information

2001627 **QuantiFERON®-TB Gold In Tube & *Mycobacterium tuberculosis* Antibody, IgG**

For specific collection, transport, and testing information, refer to the ARUP Web site at www.aruplab.com.
For information on test selection, ordering, and interpretation, refer to ARUP Consult® at www.arupconsult.com.