



# TB OR NOT TB?

Now the **right test** — Now the **right result**

Now Available: **QuantiFERON® - TB Gold Plus**

Latest evolution of QuantiFERON® technology for tuberculosis (TB) infection evaluations

## Selecting the Replacement Standard

QuantiFERON®-TB Gold Plus (QFT®-Plus) is the fourth generation in QuantiFERON-TB testing technology.<sup>1</sup> This single blood specimen collection is recommended by the Centers for Disease Control and Prevention (CDC) for use in certain situations in which a tuberculin skin test (TST) is appropriate.<sup>2</sup> Interferon Gamma Release Assays (IGRAs), such as QFT-Plus, are a modern alternative to the more than 100-year-old TST. QFT-Plus offers improved performance and is preferred in individuals who have received Bacille Calmette-Guérin (BCG) vaccination or who may not be in compliance for return visits to have a TST read.<sup>2</sup>

- QFT has been shown to be more accurate than the TST in identifying people who may have latent tuberculosis (TB) infection.<sup>3</sup>
- QFT has been shown to be more reliable than the TST in identifying those who may progress to active TB.<sup>4</sup> QFT-Plus is >97% specific,<sup>1</sup> nearly eliminating false-positive readings; and false positive rates for TST have been published as low as 3% in non-BCG-vaccinated populations<sup>5</sup> and as high as 65% when using a 10-mm induration as the cutoff in BCG- vaccinated populations.<sup>6</sup>
- QFT-Plus offers >94% sensitivity, decreasing false negatives.<sup>1</sup>



## Improving Upon Technology Limitations

QFT-Plus leads the industry with the new innovative CD8 cell technology.

- QFT-Plus is the latest IGRA technology for TB infection. This new assay adds an additional antigen that targets CD8<sup>+</sup> T cells to provide clear objective results. During *M. tuberculosis* infection, CD4 T cells play a critical role in immunological control through secretions of the cytokine IFN- $\gamma$ . Evidence now also supports a role for CD8<sup>+</sup> T cells in host defense against *M. tuberculosis*. CD8<sup>+</sup> T cells produce IFN- $\gamma$  and other soluble factors.<sup>1</sup>
- Moreover, research indicates that TB-specific CD8<sup>+</sup> T cells that produce IFN- $\gamma$  have been<sup>1</sup>:
  - More frequently detected in those with TB disease (active) vs. TB infection<sup>1</sup> (latent);
  - Associated with recent exposure to TB<sup>1</sup>;
  - Detectable in active TB patients with HIV co-infection and young children who have TB.<sup>1</sup>

## Advantages of QFT®-Plus

### TST Challenges

Requires multiple office visits to inject and read the TST reaction<sup>7</sup>

Higher false-positive rate (than QFT-Plus)

Higher false-negative rate (than QFT-Plus)

Subjective result

May be affected by previous BCG vaccinations

May boost subsequent TST test results

TST approved for use to aid in the evaluation of TB

### QFT Offers Improvements

**One office visit** for single blood draw

**>97% specific, nearly eliminating false positives<sup>1</sup>**

**>94% sensitivity, decreasing false negatives<sup>1</sup>**

**Produces an objective result**

**Unaffected by previous BCG vaccinations<sup>8</sup>**

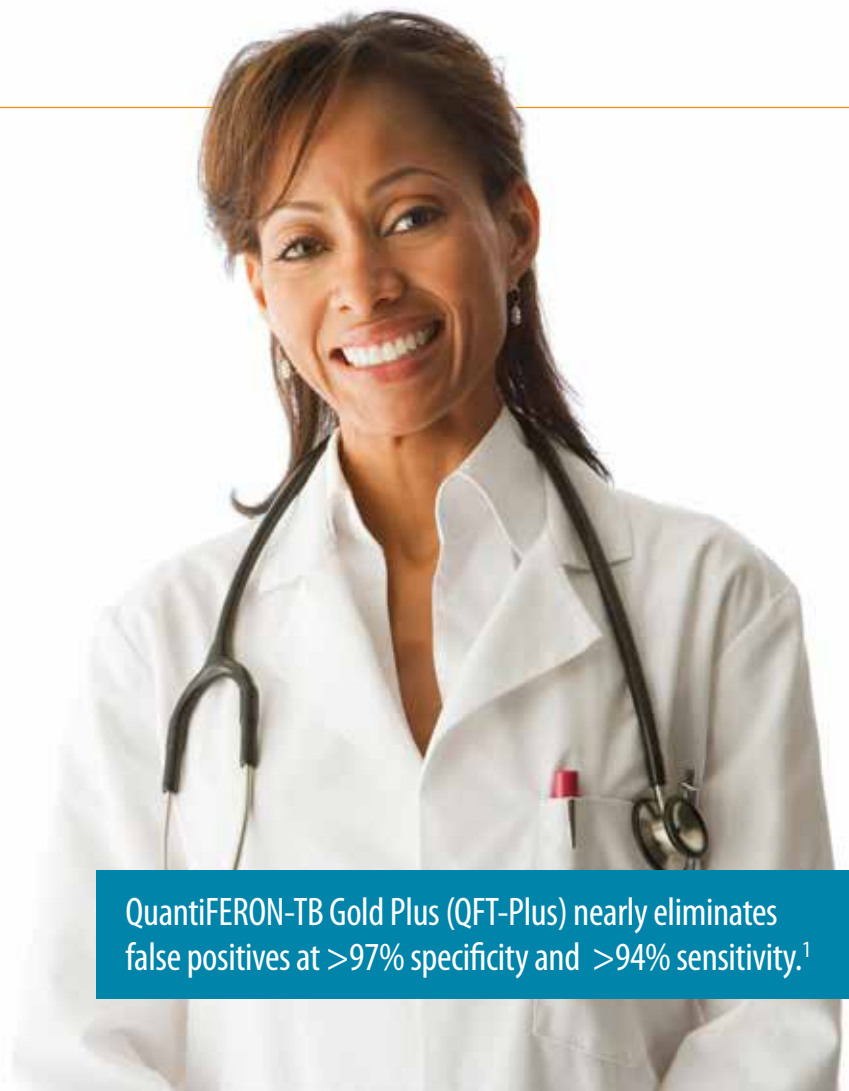
**Does not boost subsequent QFT-Plus test results** and less affected by prior TST<sup>8</sup>

**QFT-Plus is an approved alternative for use where TST is appropriate.<sup>2</sup>**  
**QFT-Plus is also preferred** in individuals who have received BCG vaccination or who may not be in compliance for return visits to have a TST read.

## AT RISK

The CDC states that individuals at increased risk for *M. tuberculosis* infection include:<sup>2</sup>

- ▶ Those with close contact with persons known or suspected to have active tuberculosis
- ▶ Foreign-born persons from areas with a high incidence of active tuberculosis
- ▶ Visitors to areas with a high prevalence of active tuberculosis
- ▶ Residents and employees of congregate settings whose clients are at increased risk for active tuberculosis (correctional facilities, long-term care facilities, and homeless shelters)
- ▶ Health care workers who serve clients at increased risk for active tuberculosis
- ▶ Populations defined locally with increased risk of *M. tuberculosis* infection



QuantiFERON-TB Gold Plus (QFT-Plus) nearly eliminates false positives at >97% specificity and >94% sensitivity.<sup>1</sup>



Test Name	Test No.
QuantiferON®- TB Gold Plus	<b>182879</b>
QuantiferON®- TB Gold Plus (Client Incubated)	<b>182893</b>

**References**

1. QuantiFERON®-TB Gold Plus (QFT®-Plus) Package Insert. Germantown, MD: Qiagen; 2017.
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3. Diel R, Loddenkemper R, Niemann S, Meywald-Walter K, Nienhaus A. Predictive value of a whole blood IFN- $\gamma$  assay for the development of active tuberculosis disease after recent infection with *Mycobacterium tuberculosis*. *Am J Respir Crit Care Med*. 2008;177:1164-1170.
4. Diel R, Loddenkemper R, Niemann S, Meywald-Walter K, Nienhaus A. A negative and positive predictive value of a whole-blood interferon- $\gamma$ -release assay for developing active tuberculosis. *Am J Respir Crit Care Med*. 2011;183:88-95.
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6. Mori T, Sakatani M, Yamagishi F, et al. Specific detection of tuberculosis infection. *Am J Respir Crit Care Med*. 2004;170:59-64.
7. Andersen P, Munk ME, Pollock JM, Doherty TM. Specific immune-based diagnosis of tuberculosis. *Lancet*. 2000;356:1099-1104.
8. National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention. TB Elimination Interferon-Gamma Release Assays (IGRAs) – Blood Tests for TB Infection. – United States, CS22784C-G, Nov 2011;(1-3).

For more information, including client-incubated test information, ask your LabCorp representative, or visit [www.labcorp.com/testmenu](http://www.labcorp.com/testmenu).



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