



TB contact investigation

When time is of the essence,
trust QuantiFERON®-TB Gold Plus



Sample to Insight

TB contact investigation: when time is of the essence



Rapid and accurate contact investigation in response to newly emerging TB cases is an essential component of TB control. The World Health Organization (WHO) strongly recommends systematic testing and treatment of latent TB infection for adult and child contacts of pulmonary TB cases (1).

- Evaluation of contacts exposed to infectious tuberculosis is one of the most important TB control priorities to ensure individual and public health safety.
- Contacts face a 15-fold increased risk of progression to active TB within the first 2 years of infection (2).
- The WHO reports clear evidence of benefit from systematic testing and treating of LTBI among active TB contacts (1).
- Systematic screening is a cost-effective intervention (1).

QuantiFERON-TB Gold Plus – for lean, highly accurate contact screening

QuantiFERON-TB Gold Plus (QFT®-Plus) produces more accurate results than the century-old tuberculin skin test (TST), providing improved identification of contacts who are truly infected with TB. Published data indicate that QuantiFERON technology is 2–4 times better than the TST at detecting individuals who will progress to active TB disease (3, 4).

- Highest specificity of any test for TB infection
- Single patient visit
- Unaffected by prior-BCG vaccination
- Does not boost subsequent test results (5).



QuantIFERON technology produces highly accurate results in contact investigations

A comprehensive study of 954 contacts compared the ability of QuantiFERON-TB Gold (QFT) and the tuberculin skin test (TST) to predict progression to active TB (Figure 1).

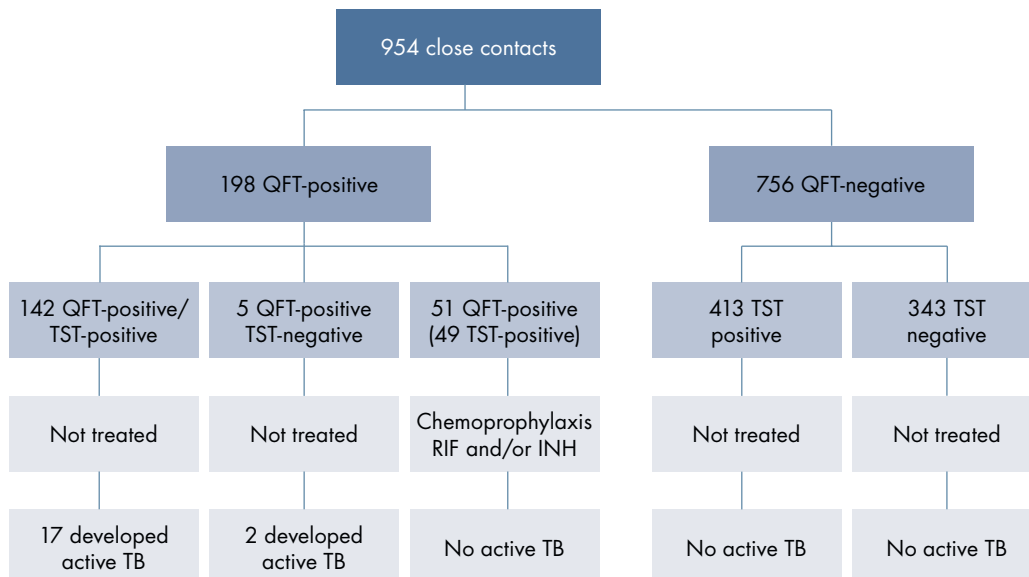
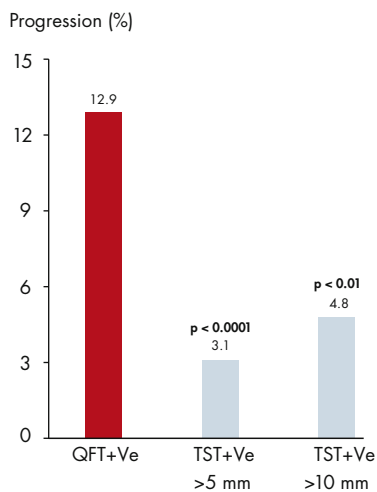


Figure 1. Diel et al. (2011) overall study results. Mean follow-up time >3.5 yr; TST cut-off >5mm.

In this study, QFT demonstrated 100% negative predictive value and 100% sensitivity for progression to active TB (3).

- QFT identified 100% (19/19) of contacts who progressed to active TB (Figure 2)
- TST @ >5 mm cut-off identified 89% (17/19)
- TST @ >10 mm cut-off identified only 53% (10/19)
- 55% of QFT-negative were TST-positive, and none of these individuals progressed to active TB at 3.5 years

Rates of Progression to Active TB



Sensitivity for Progression to Active TB

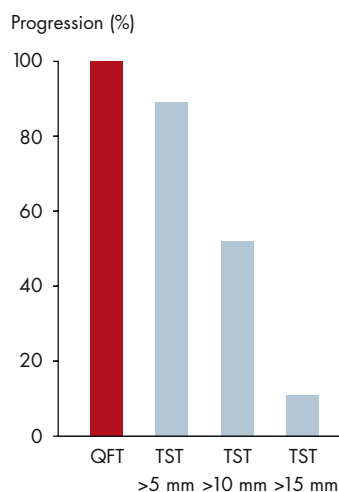


Figure 2. Rate of progression and sensitivity for progression to active TB as published in Diel et al. (2011).



A second study evaluated both QFT and QFT-Plus among 119 TST-positive contacts in a low incidence setting. In this study (6):

- Average time spent with the index case was the strongest indicator for both QFT and QFT-Plus positivity.
- QFT-Plus showed a stronger risk association to aggregate exposure time than QFT (Odds ratio 6 QFT; 14 QFT-Plus)
- QFT-Plus showed a stronger risk association to index case proximity than QFT (Odds ratio 4 QFT; 6 QFT-Plus)
- The authors concluded "...our data show that QFT-Plus in contact screening has improved performance compared to QFT..."

When time is of the essence, you can trust QuantiFERON-TB Gold Plus for accurate detection of TB infection.

For more information, contact your QIAGEN sales representative or visit www.QuantiFERON.com.

References: 1. World Health Organization. (2015) Guidelines on the management of latent tuberculosis infection. WHO/HTM/TB/2015.01. 2. Lobue, P. and Menzies, D. (2010) Treatment of latent tuberculosis infection: An update. *Respirology* **15**, 603. 3. Diel, R. et al. (2011) Negative and positive predictive value of a whole-blood interferon-g release assay for developing active tuberculosis: an update. *Am. J. Respir. Crit. Care Med.* **183**, 88–95. 4. Diel, R. et al. (2011) Interferon-c release assays for the diagnosis of latent *Mycobacterium tuberculosis* infection: a systematic review and meta-analysis. *Eur. Respir. J.* **37**, 88–99. 5. US Centers for Disease Control and Prevention. (2010) Updated guidelines for using interferon gamma release assays to detect mycobacterium tuberculosis infection – United States 2010. *MMWR* **59**:RR-5. 6. Barcellini et al. (2016) First evaluation of QuantiFERON-TB Gold Plus performance in contact screening. *Eur. Respir. J.* **48**, 1411–1419.

QuantiFERON-TB Gold Plus (QFT-Plus) is an in vitro diagnostic aid for detection of *Mycobacterium tuberculosis* infection (including disease) and is intended for use in conjunction with risk assessment, radiography and other medical and diagnostic evaluations. QFT-Plus results alone cannot distinguish active TB disease from latent infection. QFT-Plus Package Inserts, available in multiple languages, as well as up-to-date licensing information and product-specific disclaimers can be found at www.QuantiFERON.com.

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