TB OR NOT TB



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

Testing has evolved — QuantiFERON® (QFT®) provides a convenient replacement technology for tuberculosis (TB) infection evaluations.

Advantages of QFT

TST Challenges	QFT Offers Improvements
Requires multiple office visits to inject and read the tuberculin skin test (TST) reaction.[1]	**One office visit** for single blood draw
Higher false-positive rate (than QFT) with more follow-up required	**>99% specific, nearly eliminating false positives.**[2,3] Fewer false positives mean less follow-up.[1] False-positive results may also confound prescribing immunosuppressive therapy or workplace decisions.[4,5]
Subjective result	**Produces an objective result**
May be affected by previous BCG vaccinations	**Unaffected by previous BCG vaccinations**[6]
May boost subsequent TST test results	**Does not boost subsequent QFT test results** and less affected by prior TST[7]
TST approved for use to aid in the evaluation of TB.	**QFT is an approved alternative for use where TST is appropriate. QFT 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. Less caution might be warranted when using QFT in children ≥5 years old than in children <5 years old.[6]

The CDC states that individuals at increased risk for *M tuberculosis* infection include[6]:

- 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

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QuantiFERON® (QFT®) may be more accurate than the TST in identifying people who may have latent TB (tuberculosis) infection.[8]

False-positive TST results may burden the system

QFT's increased accuracy may yield better outcomes for patients, allowing for more confidence in correctly identifying TB infection, with significant cost savings through fewer false-positive results. Studies show that switching to QFT provides significant program cost advantages.[4]

One study reported up to 32% reduction in cost compared to the TST. When deciding whether to perform a follow-up chest X ray, the study suggests that using QFT instead of TST may reduce the need. If a positive QFT result is the discrete referral decision driver vs a positive TST, (using the data in the study), a QFT positive result might have reduced the chest x-ray referral by 37.5% in the group with no BCG vaccination who also had a prior TST inoculation history. A QFT positive result might also have reduced the referrals within all study participants by 60% (includes sum of no BCG/no TST history; BCG; and TST/no BCG history participants).[8]

Improving Upon Technology Limitations

QFT contains TB mycobacterial proteins (ESAT-6, CFP-10, and TB 7.7)[7] which are not found in the BCG vaccine or PPD (tuberculin purified protein derivative) TST injection.[4,5,6] Because of this highly-specific composition, QFT overcomes many of the shortcomings of the TST, and it is not affected by previous BCG vaccinations or exposure to nontuberculosis Mycobacteria, both with the added benefit of providing a laboratory-based, objective result.

The table to the right illustrates the reactivity of antigens from QFT and the tuberculin skin test (TST) to various species of Mycobacteria.[1,2,6,7]

Tuberculosis Complex	QFT TB Specific Antigens			TST Antigens
	ESAT–6	CFP–10	TB 7.7	PPD
M tuberculosis	+	+	+	+
M africanum	+	+	+	+
M bovis	+	+	+	+
BCG substrain				
gothenburg	–	–	–	+
moreau	–	–	–	+
tice	–	–	–	+
tokyo	–	–	–	+
danish	–	–	–	+
glaxo	–	–	–	+
montréal	–	–	–	+
pasteur	–	–	–	+
Environmental strains				
M abscessus	–	–	–	+
M avium	–	–	–	+
M branderi	–	–	–	+
M celatum	–	–	–	+
M chelonae	–	–	–	+
M fortuitum	–	–	–	+
M genavense	–	–	–	+
M gordonii	–	–	–	+
M intracellulare	–	–	–	+
M kansasii	+	+	–	+
M malmoense	–	–	–	+
M marinum	+	+	–	+
M scrofulaceum	–	–	–	+
M smegmatis	–	–	–	+
M szulgai	+	+	–	+
M terra	–	–	–	+
M vaccae	–	–	–	+
M xenopi	–	–	–	+

Test Name	Test No
QuantiFERON®-TB Gold	182873
QuantiFERON®-TB Gold (Client Incubated)	183244

Send your patients to a LabCorp patient service center (PSC), and we will perform the specimen preparation; or you may collect and carefully follow the essential collection and incubation requirements shown in the Test Menu at **www.LabCorp.com.**

At low risk — with a low positive value

In healthy persons who have a low likelihood both of *M tuberculosis* infection and of progression to active tuberculosis if infected, a single positive IGRA or TST result should not be taken as reliable evidence of *M tuberculosis* infection. Because of the low probability of infection, a false-positive result is more likely. In such situations, the likelihood of *M tuberculosis* infection and of disease progression should be reassessed, and the initial test results should be confirmed. Repeat testing (using a newly collected specimen), with either the initial test or a different test, may be considered on a case-by-case basis. For such persons, an alternative is to assume, without additional testing, that the initial result is a false positive.[2]

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