

Healthcare workers

QuantiFERON®-TB Gold

QFT® streamlines the delivery of healthcare worker (HCW) TB control programs, eliminates doubt and costly follow-up examinations

QFT improves quality of HCW screening programs

QFT Advantages	Limitations of TST (Tuberculin Skin Test) Programs
Unprecedented accuracy in detecting TB infection. <ul style="list-style-type: none">■ Unaffected by BCG vaccination.⁽¹⁾■ Unaffected by most environmental non-tuberculous mycobacterium.⁽²⁾	TST accuracy adversely affected by previous BCG vaccination and non-tuberculous mycobacterial (NTM) infections. <ul style="list-style-type: none">■ A large number of hospital personnel are born in high TB-prevalent countries where BCG vaccination is common.
Objective reproducible results.	Reading requires substantial training and is subjective.
Increased test accuracy provides confidence in initiating therapy and encourages therapy compliance.	Variable Isoniazid (INH) initiation rates amongst HCW indicated for INH therapy. <ul style="list-style-type: none">■ Initiation rates vary between 23-58%.^(3,4) Variable compliance rates amongst HCW indicated for INH therapy. <ul style="list-style-type: none">■ Compliance amongst HCW varies between 8-60%.^(5,6,7,8)

QFT improves productivity of HCW screening programs

QFT Advantages	Limitations of TST Programs
QFT is not subject to boosting, eliminating the need for 2-step testing. ⁽⁹⁾	Serial screening programs require 2-step testing (up to 4 contact visits). <ul style="list-style-type: none">■ Can waste time and resources.
Needs only one visit—which saves time and can improve test adherence.	Problems with testing logistics commonly affect adherence to TST programs. ⁽¹⁰⁾ <ul style="list-style-type: none">■ Follow-up visits for reading the TST can be inefficient and pose a substantial operational challenge.■ May require repeat testing of non-compliant individuals.

QFT represents a cost-effective alternative to the TST for hospital TB control programs

Contrary to popular belief, TST programs may not be as cheap to maintain

- TST reagents represent less than 1.5% of the total cost of TST screening programs⁽¹¹⁾
- Personnel costs are the major cost component of a TST program⁽¹¹⁾
- False-positive skin tests can lead to unnecessary investigations and treatment



Studies show that QFT can reduce the cost of maintaining HCW screening programs by up to 32%.⁽¹²⁾

Cost savings can be achieved by:

- Savings in personnel costs, follow-up, and unnecessary TB therapy costs
- QFT reduces costs associated with false positive skin tests, such as additional investigations (e.g. chest X-ray)

“67% of performed X-rays in HCW with a positive TST were unwarranted because the QFT was negative”
Nienhaus et al 2007⁽¹²⁾

Experience from the University of Illinois Medical Center (Chicago) health service with QFT⁽¹³⁾

Conducted 4643 QFT tests in 2006

- 4313 Negative (92.9%)
- 140 Positive (3.0%)
- 190 Indeterminate (4.1%)

Program analysis showed

- Cost savings, especially when the outreach lab did several thousand tests
- 2,000 fewer visits in 2006 since the transition to QFT
- This did not account for lost time/dollars saved by reduced time away from work, faster hiring process (fewer visits for 2-step testing), and fewer X-rays required

Ordering Information

Product Description	Catalogue Number
QuantiFERON®-TB Gold Unitized Pack (25ct).	0597-0403
QuantiFERON®-TB Gold Single Patient Pack. Not sold in USA.	0597-0201
QuantiFERON®-TB Gold ELISA	0594-0201
QuantiFERON®-TB Gold Reference Lab Pack (10 ELISA)	0594-0501

References

1. Mori T, Sakatani M, Yamagishi F, et al. Specific detection of tuberculosis infection: an interferon-gamma-based assay using new antigens. *Am J Respir Crit Care Med.* 2004; 170(1):59-64.
2. Anderson P, Munk ME, Pollock JM, Doherty TM. Specific immune-based diagnosis of TB. *Lancet.* 2000; 356:1099-1104.
3. Gershon AS, McGeer A, Bayoumi AM, Raboud J, Yang J. Health care workers and the initiation of treatment for latent tuberculosis infection. *Clin Infect Dis.* 2004; 39(5):667-72.
4. Driver CR, Stricof RL, Granville K, et al. Tuberculosis in health care workers during declining tuberculosis incidence in New York State. *Am J Infect Control.* 2005; 3(9):519-26.
5. Barrett-Connor E. The epidemiology of tuberculosis in physicians. *JAMA.* 1979; 241:33-38.
6. Geiseler PJ, Nelson KE, Crispen RG. Tuberculosis in physicians: compliance with preventive measures. *Am Rev Respir Dis.* 1987; 135:3-9.
7. Ruben FL, Norden CW, Schuster N. Analysis of a community hospital employee tuberculosis screening program 31 months after its inception. *Am Rev Respir Dis.* 1997; 115:23-28.
8. Vogeler Douglas M, Burke JP. Tuberculosis screening for hospital employees: a five-year experience in a large community hospital. *Am Rev Respir Dis.* 1978; 117:227-232.
9. Leyten EM, Prins C, Bossink AW, Thijsen S, Ottenhoff TH, van Dissel JT, Arend SM. Effect of tuberculin skin testing on a Mycobacterium tuberculosis-specific IFN-gamma assay. *Eur Respir J.* 2007; 29(6):1212-6.
10. Joseph HA, Shrestha-Kuwahara R, Lowry D, Lambert LA, Panlilio AL, Raucher BG, Holcombe JM, Poujade J, Rasmussen DM, Wilce M. Factors influencing health care workers' adherence to work site tuberculosis screening and treatment policies. *Am J Infect Control.* 2004; 32(8):456-61.
11. Lambert L, Rajbhandary S, Qualls N, et al. Costs of Implementing and Maintaining a Tuberculin Skin Test Program in Hospitals and Health Departments. *Infect Control Hosp Epidemiol.* 2003; 24: 814-820.
12. Nienhaus A, Schablón A, Le Bâcle C, Siano B, Diel R. Evaluation of the interferon - release assay in healthcare workers. *Int Arch Occup Environ Health.* (81) 2007; 81: 295-300.
13. Marder D.C. Presented at First Global Symposium on Interferon-gamma assays. Vancouver, Canada, Feb 21-22, 2007.

Trademarks: QIAGEN®
QM05995041B © 2011 QIAGEN, all rights reserved.

Cellestis, a QIAGEN Company

World Headquarters • Cellestis International • +61 3 8527 3500 • info@cellestis.com

Asia/Pacific • QIAGEN Singapore PTE Ltd • +65 6854 8100 • asiapac@cellestis.com

Australia/New Zealand • Cellestis International • +61 3 8527 3500 • anz@cellestis.com

Europe/Middle East • Cellestis GmbH • +49 6151 428 590 • europe@cellestis.com

Japan/Korea • QIAGEN KK • +81 3 6890 7300 • jp.kr@cellestis.com

North America/South America • Cellestis Inc • +1 661775 7480 • customer.service@cellestis.com

