

***Mycobacterium tuberculosis*, Strain HN563**

Catalog No. NR-18986

Product Description: *Mycobacterium tuberculosis* (*M. tuberculosis*), strain HN563 was isolated in 1996 from the lymphatic tissue of a patient with tuberculosis in Texas. Strain HN563 was deposited as a multi-drug resistant (MDR) strain of tuberculosis with resistance to rifampicin and isoniazid.

Lot¹: 60917997

Manufacturing Date: 18JUN2012

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis² Cellular morphology Colony morphology ³ Growth on Brain Heart Infusion agar Growth on MacConkey agar (without crystal violet) Growth rate Growth at 26°C Growth at 37°C Growth at 45°C Growth at 55°C Acid-fast stain Pigmentation in the dark (Scotochromogen) Photoinduction for 1 hour (Photochromogen) Nonchromogen (no pigment) Biochemical tests Niacin production ⁴ Nitrate reduction Pyrazinamidase Urease ⁵ Aryl sulfate (3 days) Aryl sulfate (14 days) Catalase Iron uptake Tween 80 hydrolysis Growth in the presence of 5% sodium chloride Growth in the presence of thiophene-2-carboxylic acid hydrazide (TCH)	Report results Report results Report results No growth ≥ 7 days Negative Positive Negative Negative Positive (red colonies) Negative (no pigment) Negative (no pigment) Positive (no pigment) Positive Positive Positive Report results Negative Positive Positive Negative Report results Negative Positive	Gram-positive rod Circular to slightly irregular, rough and white (Figure 1) Growth No growth ≥ 7 days Negative Positive Negative Negative Positive (red colonies) Negative (no pigment) Negative (no pigment) Positive (no pigment) Positive Positive Positive Negative Negative Positive Positive Negative Negative Negative Positive
Genotypic Analysis Sequencing of Heat Shock Protein 65 gene (420 base pairs)	Consistent with <i>Mycobacterium tuberculosis</i>	Consistent with <i>Mycobacterium tuberculosis</i> ⁶
Viability (post-freeze)³	Growth	Growth

¹NR-18986 was produced by propagation of the deposited material in Middlebrook 7H9 broth with ADC enrichment supplemented with 0.02% glycerol and 0.075% Tween 80 in an aerobic atmosphere with 5% CO₂ for 23 days at 37°C.

²Information on *Mycobacterium* testing is available from Ribón, W. "Biochemical Isolation and Identification of *Mycobacteria*, Biochemical Testing" *Biochemical Testing*. (2012) Jose C. Jimenez-Lopez (Ed.), InTech, Available from: <http://www.intechopen.com/books/biochemical-testing/biochemical-isolation-and-identification-of-mycobacteria> and Lévy-Frébault, V. V. and F. Portaels. "Proposed Minimal Standards for the Genus *Mycobacterium* and for Description of New Slowly Growing *Mycobacterium* Species." *Int. J. Syst. Bacteriol.* 42 (1992): 315-323. PubMed: 1581193.

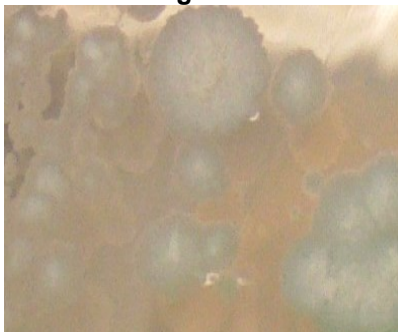
³21 days at 37°C and aerobic atmosphere with 5%CO₂ on Middlebrook 7H10 Agar with OADC enrichment

⁴All *mycobacteria* produce niacin but only *M. tuberculosis* accumulates it.

⁵>85% of *M. tuberculosis* strains are positive

⁶Also consistent with *Mycobacterium bovis*

Figure 1



Date: 23 JAN 2012

Signature: 

Title: Technical Manager, BEI Authentication or designee

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