

***Mycobacterium tuberculosis*, Strain HN353**

Catalog No. NR-18985

Product Description: *Mycobacterium tuberculosis* (*M. tuberculosis*), isolated in 1995 from the pulmonary tissue of a patient with tuberculosis in Texas, USA. Strain HN353 was deposited as a non-drug resistant strain.

Lot¹: 61538745

Manufacturing Date: 03APR2013

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis² Cellular morphology ³ 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)	Gram-positive rod 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 Negative Report results Negative Positive	Gram-positive rod Irregular, flat, undulate, opaque, rough and cream (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 Negative ⁶ Positive Negative Negative Negative Positive
Genotypic Analysis Sequencing of HSP65 gene (~ 420 base pairs)	Consistent with <i>M. tuberculosis</i>	Consistent with <i>M. tuberculosis</i> ⁷
Purity (post-freeze)⁸	Consistent with <i>M. tuberculosis</i>	Consistent with <i>M. tuberculosis</i>
Viability (post-freeze)³	Growth	Growth

¹NR-18985 was produced by inoculation of the deposited material into Middlebrook 7H10 agar with OADC enrichment slants in an aerobic atmosphere with 5% CO₂ for 26 days at 37°C. The material from the initial growth was passaged once in Middlebrook 7H9 broth with ADC enrichment for 29 days under propagation conditions.

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-Frédault, 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.

³14 days at 37°C in an aerobic atmosphere with 5% CO₂ on Middlebrook 7H10 agar with OADC enrichment

⁴All mycobacteria produce niacin but only *M. tuberculosis* accumulates it, resulting in a positive test for *M. tuberculosis*.

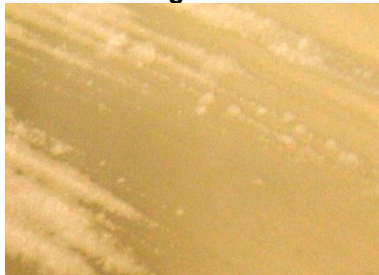
⁵>85% of *M. tuberculosis* strains are positive for urease activity.

⁶Most slow-growing *M. tuberculosis* test positive for aryl sulfate after 14 days, but very slow growers may still show a negative result.

⁷Also consistent with *M. africanum*, *M. bovis*, *M. canetti* and *M. microti*

⁸Purity was checked at 7, 14, 21 and 28 days at 37°C in an aerobic atmosphere with 5% CO₂ on Middlebrook 7H10 agar with OADC enrichment.

Figure 1



Date: 24 SEP 2014

Signature: 

Title: Technical Manager, BEI Authentication or designee

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