

***Mycobacterium tuberculosis*, Strain 95-2689**

**Catalog No. NR-30610**

**Product Description:** *Mycobacterium tuberculosis* (*M. tuberculosis*), strain 95-2689 was isolated between 1995 and 2000 from human sputum from an HIV-negative patient infected with pulmonary tuberculosis in North America. Strain 95-2689 was deposited as a multi-drug sensitive (MDS) strain of tuberculosis with sensitivity to rifampicin and isoniazid.

**Lot<sup>1</sup>: 61728638**

**Manufacturing Date: 02JUL2013**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis<sup>2</sup></b> Cellular morphology Colony morphology <sup>3</sup>  Growth rate Growth at 26°C Growth at 37°C Acid-fast stain Pigmentation in the dark (Scotochromogen) Photoinduction for 1 hour (Photochromogen) Nonchromogen (no pigment) Biochemical tests Niacin production <sup>4</sup> Nitrate reduction Pyrazinamidase	Gram-positive rods Report results  ≥ 7 days Negative Positive Positive (red colonies) Negative (no pigment) Negative (no pigment) Positive (no pigment)  Positive Positive Positive	Gram-positive rods Irregular, peaked, undulate, rough and cream (Figure 1)  ≥ 7 days Negative Positive Positive (red colonies) Negative (no pigment) Negative (no pigment) Positive (no pigment)  Positive Positive Positive
<b>Genotypic Analysis</b> Sequencing of Heat Shock Protein 65 gene (430 base pairs)	Consistent with <i>M. tuberculosis</i>	Consistent with <i>M. tuberculosis</i> <sup>5</sup>
<b>Purity (post-freeze)<sup>6</sup></b>	Consistent with <i>M. tuberculosis</i>	Consistent with <i>M. tuberculosis</i>
<b>Viability (post-freeze)<sup>3</sup></b>	Growth	Growth

<sup>1</sup>NR-30610 was produced by inoculation of the deposited material into Middlebrook 7H9 broth with ADC enrichment and grown for 21 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub>. Broth inoculum was added to Middlebrook 7H10 agar with OADC enrichment kolles which were grown for 20 days under propagation conditions to produce this lot.

<sup>2</sup>Information 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-Frèbault, 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.

<sup>3</sup>21 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub> on Middlebrook 7H10 agar with OADC enrichment

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

<sup>5</sup>Also consistent with *M. africanum*, *M. bovis*, *M. canettii* and *M. microti*

<sup>6</sup>Purity of this lot was assessed for 21 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub> on Middlebrook 7H10 agar with OADC enrichment.

Figure 1: Colony Morphology



Date: 15 OCT 2015

Signature:



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