

## **Certificate of Analysis for NR-49259**

## Mycobacterium caprae, Strain NLA000700039

## Catalog No. NR-49259

**Product Description:** *Mycobacterium caprae* (*M. caprae*), strain NLA000700039 was isolated in December 2006 from human pus.

Lot<sup>1</sup>: 63954377 Manufacturing Date: 18MAR2016

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis <sup>2,3</sup>		
Cellular morphology	Gram-positive rods	Gram-positive rods
Colony morphology <sup>4</sup>	Report results	Irregular, slight peaked, undulate, rough and cream (Figure 1)
Growth rate	≥ 7 days	22 days
Growth at 26°C	Report results	Negative
Growth at 37°C	Positive	Positive
Acid-fast stain	Positive (red colonies)	Positive (red colonies)
Pigmentation in the dark (Scotochromogen)	Negative (no pigment)	Negative (no pigment)
Photoinduction for 1 hour (Photochromogen)	Negative (no pigment)	Negative (no pigment)
Nonchromogen (no pigment)	Positive (no pigment)	Positive (no pigment)
Biochemical tests		, , ,
Niacin production <sup>5</sup>	Negative	Negative
Nitrate reduction	Negative	Positive <sup>6</sup>
Pyrazinamidase	Positive	Positive
Genotypic Analysis		
Sequencing of Heat Shock Protein 65 gene (~ 420 base pairs)	≥ 99% sequence identity to <i>M. caprae</i> type strain  (GenBank: AF547884.1)	100% sequence identity to <i>M. caprae</i> type strain  (GenBank: AF547884.1) <sup>7</sup>
Purity (post-freeze) Middlebrook 7H10 agar with OADC enrichment <sup>8</sup>	Growth consistent with expected	Growth consistent with expected
madical care fri to agai with cribe childrinon	colony morphology	colony morphology
Tryptic Soy agar <sup>9</sup>	Report results	No growth
Viability (post-freeze) <sup>4</sup>	Growth	Growth

<sup>&</sup>lt;sup>1</sup>NR-49259 was produced by inoculation of the deposited material into Middlebrook 7H9 broth with ADC enrichment. Broth inoculum was added to Middlebrook 7H10 agar with OADC enrichment kolles, which were grown for 37 days at 37°C in an aerobic atmosphere with 5% CO₂ to produce this lot.

**BEI Resources** 

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<sup>&</sup>lt;sup>2</sup>Information on Mycobacterium testing is available from Ribón, W. "Biochemical Isolation and Identification of Mycobacteria." <u>Biochemical Testing.</u> (2012) Jose C. Jimenez-Lopez (Ed.), InTech, <a href="http://www.intechopen.com/books/biochemical-testing/biochemical-isolation-and-identification-of-mycobacteria">http://www.intechopen.com/books/biochemical-testing/biochemical-isolation-and-identification-of-mycobacteria</a> and Lévy-Frébault, V. V. and F. Portaels. "Proposed Minimal Standards for the Genus *Mycobacterium* and for Description of New Slowly Growing *Mycobacterium* Species." <a href="https://www.intechopen.com/books/biochemical-testing/biochemical-isolation-and-identification-of-mycobacteria">https://www.intechopen.com/books/biochemical-testing/biochemical-isolation-and-identification-of-mycobacteria</a> and Lévy-Frébault, V. V. and F. Portaels. "Proposed Minimal Standards for the Genus *Mycobacterium* and for Description of New Slowly Growing *Mycobacterium* Species." <a href="https://www.intechopen.com/books/biochemical-testing/biochemical-isolation-and-identification-of-mycobacterium">https://www.intechopen.com/books/biochemical-testing/biochemical-isolation-and-identification-of-mycobacterium</a> and Lévy-Frébault, V. V. and F. Portaels. "Proposed Minimal Standards for the Genus *Mycobacterium* and for Description of New Slowly Growing *Mycobacterium* Species." <a href="https://www.intechopen.com/books/biochemical-testing/bio

<sup>&</sup>lt;sup>3</sup>Phenotypic characterization of *M. caprae* was performed following: Aranaz, A., et al. "*Mycobacterium tuberculosis* subsp. *caprae* subsp. nov.: A Taxonomic Study of a New Member of the *Mycobacterium tuberculosis* Complex Isolated from Goats in Spain." Int. J. Syst. Bacteriol. 49 (1999): 1263-1273. PubMed: 10425790.

<sup>&</sup>lt;sup>4</sup>22 days at 37°C in an aerobic atmosphere with 5% CO₂ on Middlebrook 7H10 agar with OADC enrichment

<sup>&</sup>lt;sup>5</sup>All mycobacteria produce niacin but only *M. tuberculosis* accumulates it, resulting in a positive test for *M. tuberculosis*.

<sup>&</sup>lt;sup>6</sup>NR-49259 was deposited as *M. caprae* and is reported to be negative for nitrate reduction. Testing performed in triplicate by BEI Resources indicates a positive result.

<sup>&</sup>lt;sup>7</sup>Also consistent with M. africanum, M. bovis, M. microti and M. tuberculosis

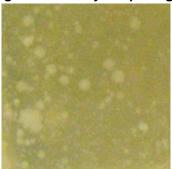
<sup>&</sup>lt;sup>8</sup>Purity of this lot was assessed for 80 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub>.

<sup>&</sup>lt;sup>9</sup>Purity of this lot was assessed for 22 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub>.



## **Certificate of Analysis for NR-49259**

Figure 1: Colony Morphology



**Date:** 26 OCT 2017

Signature:

**BEI Resources Authentication** 

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