Certificate of Analysis for NR-44267

Mycobacterium intracellulare, Strain 1956

Catalog No. NR-44267

Product Description: *Mycobacterium intracellulare* (*M. intracellulare*), strain 1956 was isolated in 2011 from human sputum at the National Institutes for Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), Bethesda, Maryland, USA.

Lot[1]: 62009756 **Manufacturing Date: 21OCT2013**

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis[2]		
Cellular morphology	Gram-positive rods	Gram-positive rods
Colony morphology[3]	Report results	Punctiform, convex, undulate, opaque, smooth and cream (Figure 1)
Motility (wet mount)	Report results	Non-motile
Growth on Brain Heart Infusion agar	Report results	Growth
Growth rate	≥ 7 days	≥ 7 days
Acid-fast stain	Positive (red colonies)	Positive (red colonies)
Pigmentation in the dark (Scotochromogen)	Negative (no pigment)	Positive (yellow pigment)[4]
Biochemical tests[5,6]		
Catalase	Report results	Positive
Catalase (semiquantitative)	Report results	Negative
Catalase (68°C)	Report results	Positive
Iron uptake	Negative	Negative
Nitrate reduction	Negative	Negative
Tween 80 hydrolysis	Negative	Negative
Genotypic Analysis[7]		
Whole Genome Sequencing (~ 5.2 megabase pairs)	Report results	Consistent with *M. intracellulare*
Purity (post-freeze)[8,9]	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze)[3]	Growth	Growth

[1]NR-44267 was produced by inoculation of the deposited material into Middlebrook 7H9 broth with ADC enrichment and grown for 17 days at 37°C in an aerobic atmosphere with 5% CO_2. Broth inoculum was added to Middlebrook 7H10 agar with OADC enrichment kolles, which were grown for 18 days at 37°C in an aerobic atmosphere with 5% CO_2 to produce this lot.

[2]Information on *Mycobacterium* testing is available from Ribón, W. "Biochemical Isolation and Identification of Mycobacteria" 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.

[3]18 days at 37°C in an aerobic atmosphere with 5% CO_2 on Middlebrook 7H10 agar with OADC enrichment

[4]Specification for this test was obtained from 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, which indicates that most strains of *M. intracellulare* are nonchromogens and show no pigment; however, a few strains (~ 15%) may develop pigmentation as they age.

[5]Negative tests are observed for > 7 days.

[6]Biochemical test results rule out some other slow-growing *Mycobacterium* species, including *M. asiaticum*, *M. flavescens*, *M. genavense*, *M. gordonae*, *M. kansasii*, *M. terrae* and *M. triviale.*

[7]Illumina® MiSeq® sequence was analyzed with CLC Genomics Workbench Version 7.0.2.

[8]Purity of this lot was assessed for 18 days at 37°C in an aerobic atmosphere with 5% CO_2 on Middlebrook 7H10 agar with OADC enrichment.

[9]Middlebrook 7H10 agar with OADC enrichment contains malachite green, which may inhibit growth of contaminating microorganisms.

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Figure 1: Colony Morphology

Date: 27 OCT 2015 **Signature:**

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