

***Mycobacterium avium* subsp. *avium*, Strain 2285 Smooth**

Catalog No. NR-44265

Product Description:

Mycobacterium avium (*M. avium*) subsp. *avium*, strain 2285 Smooth was isolated between 2009 and 2013 from human sputum at the National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), Bethesda, Maryland, USA. NR-44265 was produced by inoculation of the BEI Resources seed lot 62009737 into Middlebrook 7H9 broth with ADC enrichment and grown for 19 days at 37°C in an aerobic atmosphere with 5% CO₂. Broth inoculum was added to Middlebrook 7H10 agar with OADC enrichment kolles, which were grown for 16 days at 37°C in an aerobic atmosphere with 5% CO₂ to produce this lot.

Lot: 70031774

Manufacturing Date: 15JAN2020

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis¹ Cellular morphology 14 days at 37°C in an aerobic atmosphere with 5% CO ₂ on Middlebrook 7H10 agar with OADC enrichment Colony morphology Motility (wet mount) Growth rate Acid-fast stain Biochemical tests VITEK [®] MS (MALDI-TOF)	Gram-positive rods Report results Report results ≥ 7 days Positive (red colonies) <i>M. avium</i>	Gram-positive rods Circular, convex, entire, smooth and cream (Figure 1) Non-motile 14 days Positive (red colonies) <i>M. avium</i> (99.9%)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1420 base pairs) Sequencing of Heat Shock Protein 65 gene (~ 440 base pairs)	≥ 99% sequence identity to <i>M. avium</i> type strain (GenBank: CP046507.1) ≥ 99% sequence identity to <i>M. avium</i> type strain (GenBank: CP046507.1)	100% sequence identity to <i>M. avium</i> type strain (GenBank: CP046507.1) ² 100% sequence identity to <i>M. avium</i> type strain (GenBank: CP046507.1)
Purity (post-freeze) Middlebrook 7H10 agar with OADC enrichment 20 days at 37°C in an aerobic atmosphere with 5% CO ₂ Tryptic Soy agar 20 days at 37°C in an aerobic atmosphere with 5% CO ₂	Growth consistent with expected colony morphology Report results	Growth consistent with expected colony morphology Growth consistent with expected colony morphology
Viability 20 days at 37°C in an aerobic atmosphere with 5% CO ₂ on Middlebrook 7H10 agar with OADC enrichment	Growth	Growth

¹Information 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>; 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; and Magee, J. G. and A. C. Ward. "Family III. *Mycobacteriaceae* Chester 1897, 63^{AL}." Bergey's[®] Manual of Systematic Bacteriology, Second Edition, Volume Five. (2012) Goodfellow, M., et al. (Ed.), Springer.

²Phenotypic tests performed on BEI Resources seed lot 62009737 rule out other slow-growing *Mycobacterium* species [Magee, J. G. and A.C. Ward. "Family III. *Mycoacteriaceae* Chester 1897, 63^{AL}." Bergey's[®] Manual of Systematic Bacteriology, Volume 5. (2012) Goodfellow, M., et al. (Ed.), Springer.].

Figure 1: Colony Morphology



/Heather Couch/
Heather Couch

26 JUN 2020

Program Manager or designee, ATCC Federal Solutions

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

ATCC® is a trademark of the American Type Culture Collection.

You are authorized to use this product for research use only. It is not intended for human use.

