

***Mycobacterium abscessus*, Strain MA 1948**

Catalog No. NR-44263

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Mycobacteriaceae*, *Mycobacterium*

Species: *Mycobacterium abscessus*

Strain: MA 1948 (also referred to as strain 1948)¹

Original Source: *Mycobacterium abscessus* (*M. abscessus*), strain MA 1948 was isolated between 2009 and 2013 from human sputum in the United States.¹ NR-44263 was deposited as *Mycobacterium abscessus*. Whole genome sequencing performed at ATCC® putatively identified strain MA 1948 as subspecies *bolletii*.

Comment: *M. abscessus*, strain MA 1948 is part of the [Top Priority Nontuberculosis Mycobacteria Whole Genome Sequencing Project](#) at the Genomic Sequencing Center for Infectious Diseases (GSCID) at University of Maryland School of Medicine. The complete genome of *M. abscessus*, strain MA 1948 is available (GenBank: [JAOH00000000](#)).

M. abscessus is an acid-fast, Gram-positive, non-motile, non-pigmenting, rod-shaped, rapidly growing nontuberculous mycobacterium.^{2,3} It is highly resistant to a number of antimicrobials, as well as commonly used disinfectants, particularly chlorine.²⁻⁴ *M. abscessus* is associated with chronic pneumonia in patients with chronic lung disease and with soft-tissue and post-surgical infections in both community and healthcare settings. This organism has been isolated from human, animal and environmental sources, including soil, bioaerosols and water.⁴ *M. abscessus* is subspecies into *M. abscessus* subsp. *abscessus*, *M. abscessus* subsp. *bolletii* and *M. abscessus* subsp. *massiliense* based on the functionality of an inducible erythromycin methylase (*erm*) gene, with *M. abscessus* subsp. *massiliense* lacking a functional *erm*.^{5,6}

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in Middlebrook 7H9 broth with ADC Enrichment supplemented with 10% glycerol.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:

NR-44263 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

Growth Conditions:

Media:

Middlebrook 7H9 broth with Middlebrook ADC Enrichment or equivalent

Middlebrook 7H10 agar with Middlebrook OADC Enrichment or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Aerobic with 5% CO₂

Propagation:

1. Keep vial frozen until ready for use; then thaw.
2. Transfer the entire thawed aliquot into a single tube of broth.
3. Use several drops of the suspension to inoculate an agar slant and/or plate.
4. Incubate the tube, slant and/or plate at 37°C for 2 to 6 weeks.

Citation:

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Mycobacterium abscessus*, Strain MA 1948, NR-44263.”

Biosafety Level: 2

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. [Biosafety in Microbiological and Biomedical Laboratories](#). 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

This publication recommends that practices with this agent include the use of respiratory protection and the implementation of specific procedures and use of specialized equipment to prevent and contain aerosols.

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References:

1. Ordway, D., Personal Communication.
2. Adékambi, T., et al. “*rpoB* Gene Sequence-Based Characterization of Emerging Non-Tuberculous Mycobacteria with Descriptions of *Mycobacterium bolletii* sp. nov., *Mycobacterium phocaicum* sp. nov. and *Mycobacterium aubagnense* sp. nov.” *Int. J. Syst. Evol. Microbiol.* 56 (2006): 133-143. PubMed: 16403878.
3. Adékambi, T. and M. Drancourt. “Dissection of Phylogenetic Relationships Among 19 Rapidly Growing *Mycobacterium* Species by 16S rRNA, *hsp65*, *sodA*, *recA* and *rpoB* Gene Sequencing.” *Int. J. Syst. Evol. Microbiol.* 54 (2004): 2095-2105. PubMed: 15545441.
4. Brown-Elliott, B. A. and R. J. Wallace, Jr. “Clinical and Taxonomic Status of Pathogenic Nonpigmented or Late-Pigmenting Rapidly Growing Mycobacteria.” *Clin. Microbiol. Rev.* 15 (2002): 716-746. PubMed: 12364376.
5. Nessar, R., et al. “*Mycobacterium abscessus*: A New Antibiotic Nightmare.” *J. Antimicrob. Chemother.* 67 (2012): 810-818. PubMed: 22290346.
6. Griffith, D. E. “*Mycobacterium abscessus* subsp *abscessus* Lung Disease: 'Trouble Ahead, Trouble Behind...!'” *F1000Prime Rep.* 6 (2014): 107. PubMed: 25580261.
7. De Groot, M. A. “Whole Genome Sequencing of Top Priority Nontuberculous Mycobacteria Used in Preclinical Compound Testing at Colorado State University.” (2012) <http://gscid.igs.umaryland.edu/doc/whitepapers/whole_genome_sequencing_of_top_priority_nontuberculous_mycobacteria_used_in_preclinical_compound_testing_at_colorado_state_university.pdf>

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