

***Mycobacterium abscessus*, Strain 103**

Catalog No. NR-44261

For research use only. Not for use in humans.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Mycobacteriaceae*, *Mycobacterium*
Species: *Mycobacterium abscessus* (also referred to as *Mycobacteroides abscessus*)^{1,2,3}

Strain: 103

Original Source: *Mycobacterium abscessus* (*M. abscessus*), strain 103 was isolated between 2009 and 2013 from human sputum in Denver, Colorado, USA.⁴

Comment: The complete genome of *M. abscessus*, strain 103 has been sequenced (GenBank: [JAOK000000000](https://www.ncbi.nlm.nih.gov/nuccore/JAOK000000000)).

M. abscessus is an acid-fast, Gram-positive, non-motile, non-pigmenting, rod-shaped, rapidly growing mycobacterium.^{5,6} It is highly resistant to a number of antimicrobials, as well as commonly used disinfectants, particularly chlorine.^{5,6,7} *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.⁷ *M. abscessus* is subspeciated 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*.^{8,9}

Reclassification of *M. abscessus* to the novel genera *Mycobacteroides* has been proposed following a comprehensive phylogenomic analysis of the genus *Mycobacterium*, and is currently under debate.^{1,2,3} This analysis identified 51 highly specific molecular signatures, in the form of conserved signature indels and conserved signature proteins, unique to the *Abscessus-Chelonae* clade.¹

Material Provided:

Each vial contains approximately 0.7 mL of bacterial culture in Middlebrook 7H9 broth with ADC enrichment with 10% glycerol.

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

Packaging/Storage:

NR-44261 was packaged aseptically in screw-capped plastic 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 ADC enrichment or equivalent
Middlebrook 7H10 agar with OADC enrichment or Lowenstein-Jensen agar 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 3 to 7 days.

Citation:

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Mycobacterium abscessus*, Strain 103, NR-44261.”

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 (BMBL). Current Edition. Washington, DC: U.S. Government Printing Office.

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7. 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.
8. Nessar, R., et al. "*Mycobacterium abscessus*: A New Antibiotic Nightmare." J. Antimicrob. Chemother. 67 (2012): 810-818. PubMed: 22290346.
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