

***Mycobacterium abscessus*, Strain MC1518**

**Catalog No. NR-44266**

**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: MC1518 (also referred to as strain 1518)<sup>1</sup>

Original Source: *Mycobacterium abscessus* (*M. abscessus*), strain MC1518 was isolated between 2009 and 2013 from a human leg abscess in the United States and deposited to BEI Resources as *Mycobacterium chelonae*.<sup>1</sup> Whole genome sequencing performed at ATCC<sup>®</sup> identified strain MC1518 as *M. abscessus* subspecies *bolletii*.

Comment: *M. abscessus*, strain MC1518 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 MC1518 is available (GenBank: [CP009613](#)).

*M. abscessus* is an acid-fast, Gram-positive, non-motile, non-pigmenting, rod-shaped, rapidly growing nontuberculous mycobacterium.<sup>2,3</sup> It is highly resistant to a number of antimicrobials, as well as commonly used disinfectants, particularly chlorine.<sup>2-4</sup> *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.<sup>4</sup> *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*.<sup>5,6</sup>

**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-44266 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% CO<sub>2</sub>

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 1 to 6 weeks.

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Mycobacterium abscessus*, Strain MC1518, NR-44266."

**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](http://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 Groote, 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](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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