

***Mycobacterium simiae*, Strain MO-323**

**Catalog No. NR-4434**

**For research use only. Not for human use.**

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

Bacteria Classification: *Mycobacteriaceae*, *Mycobacterium*

Species: *Mycobacterium simiae*

Strain: MO-323

Original Source: *Mycobacterium simiae* (*M. simiae*), strain MO-323 was isolated in June 1989 from bronchial washings of a human patient diagnosed with progressive cavitory lung disease at the Southwest Texas Methodist Hospital in San Antonio, Texas, USA.<sup>1</sup>

Comments: *M. simiae*, strain MO-323 was deposited as a multi-drug resistant (MDR) strain, reported by the depositor as resistant to amikacin, ethambutol, isoniazid, rifabutin and rifampin.<sup>1</sup> The whole genome sequence for *M. simiae*, strain MO-323 is in progress (GenBank: [PRJNA276839](https://www.ncbi.nlm.nih.gov/nuccore/PRJNA276839)).

*M. simiae* is an acid-fast, Gram-positive, non-motile, usually photochromogenic<sup>2</sup>, rod-shaped and slow-growing nontuberculous mycobacterium, first isolated in 1965 from monkeys.<sup>3</sup> *M. simiae* has since been implicated in several cases of human pulmonary disease.<sup>4,5</sup> This species is less environmentally ubiquitous than other nontuberculous mycobacteria, with epidemiological data suggesting its environmental niche is aquatic.<sup>6</sup> *M. simiae* has demonstrated resistance to a number of antimicrobial agents and most treatments with conventional antituberculous drugs have not been successful.<sup>4,5,7</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-4434 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 ADC enrichment or equivalent

Middlebrook 7H10 agar with OADC enrichment or Lowenstein-Jensen agar 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 2 to 6 weeks.

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Mycobacterium simiae*, Strain MO-323, NR-4434."

**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. Wallace, Jr., R. J., Personal Communication.
2. Rhodes, M. W., et al. "*Mycobacterium shottsii* sp. nov., a Slowly Growing Species Isolated from Chesapeake Bay Striped Bass (*Morone saxatilis*)."  
Int. J. Syst. Evol. Microbiol. 53 (2003): 421-424. PubMed: 12710607.
3. Karassova, V., J. Weissfeiler and E. Krasznay. "Occurrence of Atypical Mycobacteria in *Macacus rhesus*." Acta Microbiol. Acad. Sci. Hung. 12 (1965): 275-282. PubMed: 4955460.
4. van Ingen, J., et al. "Clinical Relevance of *Mycobacterium simiae* in Pulmonary Samples." Eur. Respir. J. 31 (2008): 106-109. PubMed: 18166593.
5. Koeck, J. L., et al. "Disseminated *Mycobacterium simiae* Infection in a Patient with AIDS: Clinical Features and Treatment." Clin. Infect. Dis. 23 (1996): 832-833. PubMed: 8909856.
6. Makovcova, J., et al. "The Water Environment as a Source of Potentially Pathogenic Mycobacteria." J. Water Health 12 (2014): 254-263. PubMed: 24937219.
7. Philley, J. V. and D. E. Griffith. "Treatment of Slowly Growing Mycobacteria." Clin. Chest Med. 36 (2015): 79-90. PubMed: 25676521.

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