

Mycobacterium intracellulare, Strain 1956

Catalog No. NR-44267

For research use only. Not for human use.

Contributor:

Diane Ordway, Ph.D., Assistant Professor, Department of Microbiology, Immunology and Pathology, Colorado State University, Fort Collins, Colorado, USA and National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), Bethesda, Maryland, USA

Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Mycobacteriaceae*, *Mycobacterium*

Species: *Mycobacterium intracellulare*

Strain: 1956

Original Source: *Mycobacterium intracellulare* (*M. intracellulare*), strain 1956 was isolated in 2011 from human sputum at NIAID, NIH, Bethesda, Maryland, USA.¹

Comments: *M. intracellulare*, strain 1956 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 sequence of *M. intracellulare*, strain 1956 is available (GenBank: [CP009499](#)).

M. intracellulare is an acid-fast, Gram-positive, non-motile, non-pigmenting, slow-growing bacillus ubiquitous in the environment and typically found in water, soil, and hospital wards.² It is frequently associated with human pulmonary infections in immunocompromised (often HIV) patients. Along with *Mycobacterium avium* (*M. avium*), *M. intracellulare* is a member of the *M. avium* complex (MAC), the nontuberculous mycobacteria most often isolated in clinical settings.² Differentiating between *M. intracellulare* and *M. avium* is often challenging, as few distinct disparities exist between them.³⁻⁶ Given the difficulty and time to identify these two similar species, clinical reports commonly cite them together as *M. avium-intracellulare* (MAI) or MAC infections.⁷

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-44267 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% 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 1 to 6 weeks.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Mycobacterium intracellulare*, Strain 1956, NR-44267."

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. Inderlied, C. B., C. A. Kemper and L. E. Bermudez. "The *Mycobacterium avium* Complex." *Clin. Microbiol. Rev.* 6 (1993): 266-310. PubMed: 8358707.
3. Renvoisé, A., et al. "Significant Difference in Drug Susceptibility Distribution between *Mycobacterium avium* and *Mycobacterium intracellulare*." *J. Clin. Microbiol.* 52 (2014): 4439-4440. PubMed: 25274991.
4. Beggs, M. L., R. Stevanova and K. D. Eisenach. "Species Identification of *Mycobacterium avium* Complex Isolates by a Variety of Molecular Techniques." *J. Clin. Microbiol.* 38 (2000): 508-512. PubMed: 10655336.
5. Devallois, A., et al. "Molecular Characterization of *Mycobacterium avium* Complex Isolates Giving Discordant Results in AccuProbe Tests by PCR-Restriction Enzyme Analysis, 16S rRNA Gene Sequencing, and DT1-DT6 PCR." *J. Clin. Microbiol.* 35 (1997): 2767-2772. PubMed: 9350730.
6. Wayne, L. G., et al. "Serovar Determination and Molecular Taxonomic Correlation in *Mycobacterium avium*, *Mycobacterium intracellulare*, and *Mycobacterium scrofulaceum*: A Cooperative Study of the International Working Group on Mycobacterial Taxonomy." *Int. J. Syst. Bacteriol.* 43 (1993): 482-489. PubMed: 8347508.
7. Koh, W. J., et al. "Clinical Significance of the Differentiation between *Mycobacterium avium* and *Mycobacterium intracellulare* in *M. avium* Complex Lung Disease." *Chest* 142 (2012): 1482-1488. PubMed: 22628488.
8. DeGroot, M. A. "Whole Genome Sequencing of Top Priority Nontuberculous Mycobacteria Used in Preclinical Compound Testing at Colorado State University." (2012) <http://qscid.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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