Product Information Sheet for NR-49260

Mycobacterium canettii, Strain NLA000701671

Catalog No. NR-49260

For research use only. Not for human use.

Contributor:
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Manufacturer:
BEI Resources

Product Description:
Bacteria Classification: *Mycobacteriaceae*, *Mycobacterium*
Species: *Mycobacterium canettii*
Strain: NLA000701671
Original Source: *Mycobacterium canettii* (*M. canettii*), strain NLA000701671 was isolated in October 2007 from human sputum in the Netherlands.[1]

M. canettii is an acid-fast, Gram-positive, non-motile, rod-shaped aerobic bacterium characterized as a smooth-variant subspecies of *Mycobacterium tuberculosis (M. tuberculosis)*.[2-5] The smooth phenotype is associated with increased lipooligosaccharides present in the cell wall, and has been shown to switch irreversibly to the rough colony type, with a loss in cell wall lippooligosaccharide composition.[4,5] *M. canettii* has been effectively published, though not validly published, as its own species within the *M. tuberculosis* complex, consisting of *M. tuberculosis*, *M. africanum*, *M. bovis*, *M. caprae, M. microti* and *M. pinnipedii*, in which *M. canettii* is considered the most phenotypically distinct.[4] *M. canettii* is a human pathogen causing pulmonary and extra-pulmonary tuberculosis, and is typically isolated from patients associated with the Republic of Djibouti and neighboring countries in the Horn of Africa region.[6-10] Transmission of *M. canettii* is thought to occur through aerosols from environmental sources, including water and soil, rather than by human-to-human exposure, though a definitive reservoir is not yet defined.[7-10]

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-49260 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 equivalent
Incubation:
Temperature: 37°C
Atmosphere: Aerobic (with or without 5% CO_2)
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 canettii*, Strain NLA000701671, NR-49260."

Biosafety Level: 3
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/bmbl5/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:

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3. Pfyffer, G. E., et al. "*Mycobacterium canettii*, the Smooth Variant of *M. tuberculosis*, Isolated from a Swiss Patient Exposed in Africa." Emerg. Infect. Dis. 4 (1998): 631-634. PubMed: 9866740.
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7. Blouin, Y., et al. "Progenitor *"Mycobacterium canettii"* Clone Responsible for Lymph Node Tuberculosis Epidemic, Djibouti." Emerg Infect. Dis. 20 (2014): 21-28. PubMed: 24520560.
8. Koeck, J. L., et al. "Clinical Characteristics of the Smooth Tubercle Bacilli *"Mycobacterium canettii"* Infection Suggest the Existence of an Environmental Reservoir." Clin. Microbiol. Infect. 17 (2011): 1013-1019. PubMed: 20831613.
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