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SUPPORTING INFECTIOUS DISEASE RESEARCH

Mycobacterium pinnipedii, Strain NLA000601757

Catalog No. NR-49257

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

<u>Bacteria Classification</u>: *Mycobacteriaceae, Mycobacterium* <u>Species</u>: *Mycobacterium pinnipedii*

Strain: NLA000601757

<u>Original Source</u>: *Mycobacterium pinnipedii* (*M. pinnipedii*), strain NLA000601757 was isolated in 2006 from a sea lion in a zoo.¹

M. pinnipedii is an acid-fast, Gram-positive, non-motile, rodshaped bacterium belonging to the Mycobacterium tuberculosis complex.² It is the causative agent of tuberculosis in both wild and captive pinnipeds, as well as other mammals, and has been isolated from both captive and wild fur seals (Australian fur seal, Arctocephalus pusillus doriferus; New Zealand fur seal, Arctocephalus forsteri; South American fur seal. Arctocephalus australis: Subantarctic fur seal. Arctocephalus tropicalis) and sea lions (New Zealand sea lion, Phocarctos hookeri; Australian sea lion, Neophoca cinerea; Southern sea lion, Otaria flavescens), as well as a Bactrian bactrianus), camel (Camelus а Malayan tapir (Tapirus indicus), a Brazilian tapir (Tapirus terrestris), a llama (Lama glama), and snow leopards (Panthera uncia), Amur leopards (Panthera pardus orientalis), and lowland gorillas (Gorilla gorilla gorilla) in zoological parks, as well as a human who worked with the infected animal.2-7 Transmission to humans and other captive animals is suspected to occur through the generation of aerosols during high-pressure steam cleaning of the pinniped habitats.³⁻⁶ M. pinnipedii has also been isolated from domestic beef cattle in New Zealand, with potential contact occurring between the animals and wandering seals.8

Early isolates of *M. pinnipedii* were initially identified as *M. bovis* based on a characteristic insertion sequence 6110 restriction fragment length polymorphism (RFLP) pattern.^{2,9,10} *Two* genomic deletions that differentiate *M. pinnipedii* from the *M. tuberculosis* complex have been identified: PiD1, which removes Rv3531c, which encodes a hypothetical protein, and Rv3530c, which encodes a possible oxidoreductase involved in cellular metabolism, and PiD2 (also referred to as RD2^{seal})¹¹, encompassing genes Rv1977 and Rv1978.^{12,13}

Material Provided:

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

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

Packaging/Storage:

NR-49257 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 Middlebrook ADC enrichment or equivalent
- Middlebrook 7H10 agar with Middlebrook OADC enrichment or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Aerobic (with or without 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 tubes and 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 pinnipedii*, Strain NLA000601757, NR-49257."

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. <u>Biosafety in Microbiological and Biomedical Laboratories</u>. 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.

Disclaimers:

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