

***Mycobacterium pinnipedii*, Strain  
NLA000018152**

**Catalog No. NR-49253**

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

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

Bacteria Classification: *Mycobacteriaceae*, *Mycobacterium*

Species: *Mycobacterium pinnipedii*

Strain: NLA000018152

Original Source: *Mycobacterium pinnipedii* (*M. pinnipedii*), strain NLA000018152 was isolated between 1992 and 1993 from a seal.<sup>1</sup>

*M. pinnipedii* is an acid-fast, Gram-positive, non-motile, rod-shaped bacterium belonging to the *Mycobacterium tuberculosis* complex.<sup>2</sup> 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, *Phocartos hookeri*; Australian sea lion, *Neophoca cinerea*; Southern sea lion, *Otaria flavescens*), as well as a Bactrian camel (*Camelus bactrianus*), a 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.<sup>2-7</sup> 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.<sup>3-6</sup> *M. pinnipedii* has also been isolated from domestic beef cattle in New Zealand, with potential contact occurring between the animals and wandering seals.<sup>8</sup>

Early isolates of *M. pinnipedii* were initially identified as *M. bovis* based on a characteristic insertion sequence 6110 restriction fragment length polymorphism (RFLP) pattern.<sup>2,9,10</sup> 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<sup>seal</sup>)<sup>11</sup>, encompassing genes Rv1977 and Rv1978.<sup>12,13</sup>

**Material Provided:**

Each vial contains approximately 0.7 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-49253 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% 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 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 NLA000018152, NR-49253."

**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](http://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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