

***Leptospira interrogans*, Strain M874, LA0615 Mutant (Serovar Manilae)**

Catalog No. NR-19819

For research use only. Not for human use.

Contributor:

Ben Adler, Professor of Microbiology, Monash University, Clayton, Victoria, Australia

Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Leptospiraceae*, *Leptospira*

Species: *Leptospira interrogans*

Serovar: Manilae

Strain: M874

Original Source: *Leptospira interrogans* (*L. interrogans*), strain M874 (serovar Manilae) is a transposon mutant of wild-type strain L495 created by disruption of the gene encoding conserved hypothetical protein LA0615, which is located downstream of the gene encoding LipL41 in strain L495.^{1,2}

Comments: *L. interrogans*, strain M874 (serovar Manilae) is avirulent in the hamster model of infection with all hamsters surviving infection and exhibiting no lung or kidney pathology or signs of disease.² LA0615 is unique to pathogenic species of *Leptospira*.² The whole genome shotgun sequence of *L. interrogans*, strain M874 (serovar Manilae) is available (GenBank: [AHPU000000000](http://www.ncbi.nlm.nih.gov/nuccore/AHPU000000000)).

L. interrogans is a thin, motile, slow-growing obligate aerobic spirochete with distinctive hooked ends and two axial flagella that causes the acute zoonotic-disease leptospirosis.^{3,4} Rats are the reservoir hosts of pathogenic *L. interrogans* serovars and shed leptospire from their kidneys where the bacteria colonize in renal tubules.⁴ Humans are incidentally-infected by direct contact with their urine or indirectly through contaminated water or soil in areas of heavy rainfall in urban areas with poor sanitation and flood control infrastructure in developing countries.^{2,5} Leptospirosis is an emerging global disease due to exposure through tourism in highly-endemic areas.³

L. interrogans virulence is not fully understood, however interactions between surface protein virulence factors (including lipopolysaccharide, flagella, heme oxygenase, adhesion molecules, and outer membrane proteins) and extra-cellular matrix components of host tissues have been demonstrated.^{3,4} Serovar Manilae has been shown to be resistant to complement-mediated killing⁶ and is known to express the virulence-determinant surface-exposed lipoprotein, *LigA* (leptospirocal immunoglobulin-like protein A).^{5,7,8}

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in Ellinghausen-McCullough-Johnson-Harrison (EMJH) Medium supplemented with 2.5% DMSO.

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

Packaging/Storage:

NR-19819 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:

EMJH Semisolid Agar (0.15%) ([ATCC medium 2653](http://www.atcc.org/Products/ATCC%202653)) or equivalent

Incubation:

Temperature: 30°C

Atmosphere: Aerobic

Propagation:

1. Keep vial frozen until ready for use; thaw slowly.
2. Transfer the entire thawed aliquot into a single tube or jar of semisolid agar.
4. Incubate the tube or jar at 30°C for 10 to 18 days until an opaque disk of growth is visible several millimeters below the surface of the medium (Dinger's disk).

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Leptospira interrogans*, Strain M874, LA0615 Mutant (Serovar Manilae), NR-19819."

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/bmbl5/index.htm.

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