

### ***Francisella tularensis* subsp. *holarctica*, Strain LVSR**

**Catalog No. NR-597**

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

#### **Contributor:**

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#### **Product Description:**

Bacteria Classification: *Francisellaceae*, *Francisella*

Agent: *Francisella tularensis* subsp. *holarctica*

Biotype/Biovar: Type B

Strain: LVSR (Live Vaccine Strain Rough)

Source: *Francisella tularensis* (*F. tularensis*) subsp. *holarctica*, strain LVSR is a capsule negative variant that was obtained from acridine orange treatment of *F. tularensis* subsp. *holarctica*, strain LVS.<sup>1</sup>

*F. tularensis* is one of the most infectious bacterial pathogens known and is the causative agent of the febrile zoonotic disease tularemia. The environmental reservoir of the bacterium is unknown, although most human cases result from the bite of a blood-feeding arthropod vector.

*F. tularensis* subsp. *holarctica* is a small, non-motile, aerobic, pleomorphic, Gram-negative coccobacillus which displays a moderate degree of human virulence. Very little is known about the virulence mechanisms of *F. tularensis*, but growth in macrophages is central to the bacterium's ability to cause disease.<sup>2</sup>

#### **Material Provided:**

Each vial contains approximately 0.5 mL of bacterial culture in 0.5X Tryptic Soy Broth supplemented with 10% glycerol.

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

#### **Packaging/Storage:**

NR-597 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:

Brain Heart Infusion Broth or Tryptic Soy Broth

Cystine Heart Agar with 5% defibrinated rabbit blood

Incubation:

Temperature: 37°C

Atmosphere: Aerobic with 5% CO<sub>2</sub>

Propagation:

1. Keep vial frozen until ready for use; thaw slowly.
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 24 to 48 hours.

#### **Citation:**

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: *Francisella tularensis* subsp. *holarctica*, Strain LVSR, NR-597."

#### **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, 2007; see [www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm](http://www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm).

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### References:

1. Sandström, G., S. Löfgren and A. Tärnvik. "A Capsule-Deficient Mutant of *Francisella tularensis* LVS Exhibits Enhanced Sensitivity to Killing by Serum but Diminished Sensitivity to Killing by Polymorphonuclear Leukocytes." Infect. Immun. 56 (1988): 1194-1202. PubMed: 3356465.
2. Larsson, P., et al. "The Complete Genome Sequence of *Francisella tularensis*, the Causative Agent of Tularemia." Nat. Genet. 37 (2005): 153-159. PubMed: 15640799.

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