

***Francisella tularensis* subsp. *novicida*, Strain SC92**

Catalog No. NR-578

For research use only. Not for human use.

Contributor:

Francis E. Nano, Ph.D., Department of Biochemistry and Microbiology, University of Victoria, Victoria, British Columbia, Canada

Product Description:

Bacteria Classification: *Francisellaceae*, *Francisella*

Species: *Francisella tularensis* subsp. *novicida*

Strain: SC92

Comments: *Francisella tularensis* subsp. *novicida*, strain SC92 is a transposon mutant of the wild-type strain U112, with a distinct lipopolysaccharide (LPS) phenotype profile.¹ This LPS mutant displayed a diminished ability to grow in mouse macrophages and was sensitive to the detergent deoxycholate.

Francisella tularensis subsp. *novicida*, strain SC92 is excluded from Select Agent status. Please see <http://www.cdc.gov/od/sap/sap/exclusion.htm#background>.

Francisella tularensis (*F. tularensis*) is one of the most infectious bacterial pathogens known and is the causative agent of the febrile zoonotic disease tularemia. The natural reservoir of the bacterium is thought to be rodents, although most human cases result from the bite of a blood-feeding arthropod vector.²

F. tularensis subsp. *novicida* is a Gram-negative, facultative bacterium, which grows predominantly in macrophages when living in mammalian hosts.³ It is commonly used for studying *F. tularensis* pathogenesis since it is highly virulent in mice but has minor effects on humans.²

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-578 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:

Tryptic Soy Agar or Broth with 0.1% cysteine
Cystine Heart Agar with 5% defibrinated rabbit blood

Incubation:

Temperature: 37°C

Atmosphere: Aerobic with 5% CO₂

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. *novicida*, Strain SC92, NR-578."

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.

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References:

1. Cowley, S. C., C. J. Gray, and F. E. Nano. "Isolation and Characterization of *Francisella novicida* Mutants Defective in Lipopolysaccharide Biosynthesis." FEMS Microbiol. Lett. 182 (2000): 63-67. PubMed: 10612732.
2. de Bruin, O. M., J. S. Ludu, and F. E. Nano. "The *Francisella* Pathogenicity Island Protein IglA Localizes to the Bacterial Cytoplasm and Is Needed for Intracellular Growth." BMC Microbiol. 7 (2007): 1-10. PubMed: 17233889.
3. McLendon, M. K., M. A. Apicella, and L. A. Allen. "*Francisella tularensis*: Taxonomy, Genetics, and Immunopathogenesis of a Potential Agent of Biowarfare." Annu. Rev. Microbiol. 60 (2006): 167-185. PubMed: 16704343.

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