

***Francisella tularensis* subsp. *novicida*, Strain KM14S**

Catalog No. NR-573

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*

Agent: *Francisella tularensis* subsp. *novicida*

Strain: KM14S

Comments: *Francisella tularensis* subsp. *novicida*, strain KM14S is a derivative of the KM14 strain. KIM14S is unable to grow in macrophages and has no antibiotic resistance markers. KM14 is a derivative of the wild-type strain U112.¹

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.

Packaging/Storage:

NR-573 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:

Trypticase 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 24–48 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 KM14S, NR-573."

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/bmb15/bmb15toc.htm.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government make any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals

contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

References:

1. Mdluli, K. E., et al. "Serum-Sensitive Mutation of *Francisella novicida*: Association with an ABC Transporter Gene." *Microbiology* 140 (1994): 3309–3318. PubMed: 7881549.
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. H. Allen. "*Francisella tularensis*: Taxonomy, Genetics, and Immunopathogenesis of a Potential Agent of Biowarfare." *Annu. Rev. Microbiol.* 60 (2006): 167–185. PubMed: 16704343.
4. Petersen, J. M., et al. "Laboratory Analysis of Tularemia in Wild-Trapped, Commercially Traded Prairie Dogs, Texas, 2002." *Emerg. Infect. Dis.* 10 (2004): 419–425. PubMed: 15109407.
5. Kugeler, K. J., et al. "Real-time PCR for *Francisella tularensis* Types A and B." *Emerg. Infect. Dis.* 12 (2006): 1799–1801. PubMed: 17283646.

ATCC® is a trademark of the American Type Culture Collection.