

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

Catalog No. NR-9713

Product Description: *Francisella tularensis* (*F. tularensis*) subsp. *novicida*, strain ΔIglD is a transposon mutant of the wild-type strain U112, in which the *igID* gene region has been replaced with a mini-Tn5 insert, rendering it resistant to kanamycin.

Lot¹: 58893070

Manufacturing Date: 26FEB2010

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology ² Growth in the absence of cysteine Motility β-hemolysis X- and V-factor requirements CO ₂ requirement Biochemical tests Catalase Oxidase Urease Nitrate Indole Hydrogen sulfide production Glucose Maltose Sucrose Glycerol	Gram-negative coccobacillus Report results Growth Non-motile Non-hemolytic Negative Negative Positive Negative Negative Negative Negative Report results Positive Report results Report results Positive	Gram-negative coccobacillus Circular, convex, entire and gray (Figure 1) Growth Non-motile Non-hemolytic Negative Negative Positive Negative Negative Negative Negative Positive Positive Negative Negative Positive
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1330 base pairs)	Consistent with <i>F. tularensis</i>	Consistent with <i>F. tularensis</i>
Molecular Subtyping by PCR Amplification of Subspecies-Specific Sequence from Extracted DNA³	~ 1500 bp amplicon (subsp. <i>tularensis</i>) ~ 900 bp amplicon (subsp. <i>holarctica</i>) ~ 3300 bp amplicon (subsp. <i>novicida</i>)	~ 3300 bp amplicon (subsp. <i>novicida</i>)
Viability (post-freeze)²	Growth	Growth

¹*F. tularensis* subsp. *novicida*, strain ΔIglD was deposited by Francis E. Nano, Ph.D., Department of Biochemistry and Microbiology, University of Victoria, Victoria, British Columbia, Canada. NR-9713 was produced by inoculation of the deposited material into Brain Heart Infusion Broth and grown 24 hours at 37°C. Broth inoculum was added to Chocolate agar Kolles which were grown 24 hours at 37°C to produce this lot.

²48 hours at 37°C on chocolate agar (GC agar)

³Broekhuijsen, M., et al. "Genome-Wide DNA Microarray Analysis of *Francisella tularensis* Strains Demonstrates Extensive Genetic Conservation within the Species but Identifies Regions that are Unique to the Highly Virulent *F. tularensis* subsp. *tularensis*." *J. Clin. Microbiol.* 41 (2003): 2924-2931. PubMed: 12843022.

Figure 1



Certificate of Analysis for NR-9713

Date: 14 FEB 2011

Signature: 

Title: Technical Manager, BEI Authentication or designee

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