

Certificate of Analysis for NR-584

Francisella tularensis subsp. novicida, Strain NZ304-2

Catalog No. NR-584

Product Description: Francisella tularensis (F. tularensis) subsp. novicida is a Gram-negative, facultative intracellular bacterium which displays a moderate degree of human virulence. F. tularensis subsp. novicida, strain NZ304-2 is a transposon mutant of the wild-type strain U112, in which the pdpA gene region has been replaced with a TnMax2 transposon

Lot¹: 4067739 Manufacturing Date: 18MAR2005

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative coccobacillus	Gram-negative coccobacillus
Colony morphology ²	Report results	Circular, convex, entire and gray
Hemolysis	Non-hemolytic	Non-hemolytic
X- and V-factor requirements	Negative	Negative
Biochemical tests		
Catalase	Positive	Positive
Oxidase	Negative	Pending
Urease	Negative	Negative
Sucrose	Positive	Positive
Indole	Report results	Negative
Hydrogen sulfide production	Report results	Positive
Nitrate	Report results	Negative
Glucose	Report results	Positive
Maltose	Report results	Positive
Glycerol	Report results	Positive
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 480 bp)	Consistent with <i>F. tularensis</i> subsp. <i>novicida</i>	Consistent with <i>F. tularensis</i> subsp. novicida ³
Viability (post-freeze) ²	Growth on agar	Growth on agar

¹F. tularensis subsp. novicida, strain NZ304-2 was deposited by Francis E. Nano, Ph.D., Department of Biochemistry and Microbiology, University of Victoria, Victoria, British Columbia, Canada. NR-584 was prepared by broth/agar culture of the deposited material.

Date: 02 JAN 2009 **Signature:** Signature on File

Title: Technical Manager, BEI Authentication or designee

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²24 hours at 37°C and aerobic atmosphere with 5% CO₂ on Difco™ Cystine Heart Agar (BD 247100) plus 5% defibrinated rabbit blood

³Also consistent with other *F. tularensis* subspecies