b|e|i RESOURCES

SUPPORTING INFECTIOUS DISEASE RESEARCH

Certificate of Analysis for NR-14

Francisella tularensis subsp. *holarctica*, Strain 15 (Gaisky Live Vaccine Strain)

Catalog No. NR-14
(Derived from ATCC® 29684™)

Product Description: *Francisella tularensis* (*F. tularensis*) subsp. *holarctica* is a small, non-motile, aerobic, pleomorphic, Gram-negative coccobacillus which displays a moderate degree of human virulence. *F. tularensis* subsp. *holarctica,* strain 15 was isolated from a water vole (*Arvicola terrestris*) by Gaisky in Russia (1936), where it was used as a live vaccine.

Lot[1]: 3670414 **Manufacturing Date: 22APR2004**

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative coccobacillus	Gram-negative coccobacillus
Colony morphology[2]	Report results	Circular, convex, entire, gray-white, glistening
Hemolysis	Non-hemolytic	Non-hemolytic
X- and V-factor requirements	Negative	Negative
Biochemical tests		
Catalase	Positive	Positive
Oxidase	Negative	Negative
Urease	Negative	Negative
Indole	Report results	Negative
Hydrogen sulfide production	Report results	Negative
Nitrate	Report results	Negative
Glucose	Report results	Positive
Maltose	Report results	Positive
FAME analysis	Consistent with *F. tularensis*	Consistent with *F. tularensis*
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1300 bp)	Consistent with *F. tularensis* subsp. *holarctica*	Consistent with *F. tularensis* subsp. *holarctica* [3]
Molecular Subtyping[4] by PCR Amplification of Subspecies-Specific Sequence from Extracted DNA	~ 1250 bp amplicon (Type B)	~ 1250 bp amplicon (Type B)
Viability (post-freeze)[5]	Growth on agar	Growth on agar

[1]NR-14 was produced by inoculation of ATCC® 29684™ into Tryptic Soy Broth.
[2]48 hours at 37°C and aerobic atmosphere with 5% CO_2 on Cystine Heart Agar plus 5% defibrinated rabbit blood.
[3]Also consistent other *F. tularensis* subspecies.
[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]24 hours at 37°C and aerobic atmosphere with 5% CO_2 on Cystine Heart Agar plus 5% defibrinated rabbit blood.

Date: 04 MAR 2010 **Signature:** Signature on File

Title: Technical Manager, BEI Authentication or designee

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

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