Product Information Sheet for NR-69

Brucella abortus, Strain 544

Catalog No. NR-69

(Derived from ATCC® 23448™)

For research use only. Not for human use.

Contributor:
ATCC®

Manufacturer:
BEI Resources

Product Description:
Bacteria Classification: *Brucellaceae, Brucella*
Species: *Brucella abortus*
Strain: 544 (also referred to as NCTC 10093)
Biotype: 1
Original Source: *Brucella abortus* (*B. abortus*), strain 544 was isolated in 1936 from a bovine in England and deposited to ATCC® by W. J. Brinley Morgan from The Central Veterinary Laboratory, Ministry of Agriculture, Fisheries and Food, in Weybridge, Surrey, England.
Comment: The complete genome sequence of *B. abortus*, strain 544 is available (GenBank: AQIS00000000).

Brucella species are the etiological agents of brucellosis, a zoonotic disease endemic in many areas of the world, and characterized by chronic infections in animals leading to abortion and infertility. The host-pathogen associations between the classical *Brucella* species are: *Brucella abortus* (*B. abortus*), cattle; *B. suis*, swine; *B. melitensis*, goats; *B. ovis*, sheep; *B. canis*, dogs and *B. neotomae*, desert wood rats. Transmission from animal to human via contact with infected animal products or through the air may lead to Malta (or undulant) fever, a long debilitating disease treatable by a prolonged course of antibiotics. *Brucella* species are recognized as potential agricultural, civilian, and military bioterrorism agents.[1]

B. abortus is a non-motile, aerobic, Gram-negative coccobacillus which displays a moderate degree of human virulence. Very little is known about the genetics of *Brucella* virulence, largely due to a lack of classical virulence factors. A type IV secretion system has been identified as essential for intracellular survival and multiplication of *Brucella*.[2]

Material Provided:
Each vial of lot 64364103 contains approximately 0.7 mL of bacterial culture in Tryptic Soy broth supplemented with 10% glycerol. Each vial of lot 3721785 contains approximately 0.5 mL of bacterial culture in 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-69 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 broth or equivalent
Tryptic Soy agar or equivalent
Incubation:
Temperature: 37°C
Atmosphere: Aerobic
Propagation:
1. Keep vial frozen until ready for use; thaw slowly.
2. Transfer the entire thawed aliquot into a single tube of Tryptic Soy broth.
3. Use several drops of the suspension to inoculate a Tryptic Soy agar slant and/or plate.
4. Incubate the tube, slant and/or plate at 37°C for 1 to 3 days.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Brucella abortus*, Strain 544, NR-69."

Biosafety Level: 3
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, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Halling, S. M., et al. "Completion of the Genome Sequence of *Brucella abortus* and Comparison to the Highly Similar Genomes of *Brucella melitensis* and *Brucella suis*." J. Bacteriol. 187 (2005): 2715-2726. PubMed: 15805518.
2. Boschiroli, M. L., et al. "Type IV Secretion and *Brucella* Virulence." Vet. Microbiol. 90 (2002): 341-348. PubMed: 12414154.
3. Chain, P. S. G., et al. "Whole-Genome Analyses of Speciation Events in Pathogenic Brucellae." Infect. Immun. 73 (2005): 8353-8361. PubMed: 16299333.
4. Ratushna, V. G., et al. "Molecular Targets for Rapid Identification of *Brucella* spp." BMC Microbiol. 6 (2006): 13. PubMed: 16504063.
5. Ciocchini, A. E., et al. "Identification of Active Site Residues of the Inverting Glycosyltransferase Cgs Required for the Synthesis of Cyclic β-1,2-Glucan, A *Brucella abortus* Virulence Factor." Glycobiology 16 (2006): 679-691. PubMed: 16603625.

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