b|e|i RESOURCES

SUPPORTING INFECTIOUS DISEASE RESEARCH

Certificate of Analysis for NR-50370

Genomic DNA from *Brucella abortus*, Strain 544

Catalog No. NR-50370

Product Description:

Genomic DNA was isolated from a preparation of *Brucella abortus (B. abortus)*, strain 544 (NCTC 10093, ATCC® 23448™), biovar 1. *B. abortus*, strain 544 was isolated in 1936 from a bovine source in England.

Lot: 64375860[1] **Manufacturing Date: 12AUG2016**

TEST	SPECIFICATIONS	RESULTS
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1430 base pairs)	≥ 99% sequence identity to *B. abortus,* strain 544 (GenBank: AQIS01000009.1)	100% sequence identity to *B. abortus,* strain 544 (GenBank: AQIS01000009.1)[2]
Digital DNA-DNA hybridization (dDDH)[3]	≥ 70% for species identification	99.4% *B. abortus*[4,5]
Agarose Gel Electrophoresis	High molecular weight chromosomal DNA	High molecular weight chromosomal DNA (Figure 1)
Concentration by PicoGreen® Measurement	0.7 to 1.5 µg in 25 to 100 µL per vial	1.1 µg in 47 µL per vial (24 µg/mL)
Amount per vial	0.7 to 1.5 µg	1.1 µg
OD_{260}/OD_{280} Ratio	1.7 to 2.1	1.8
Bacterial Inactivation		
10% of total yield plated on agar for 14 days[6]	No viable bacteria detected	No viable bacteria detected

[1]The bacterial preparation used for extraction of genomic DNA was produced from a culture of ATCC® 23448™ lot 45214. Genomic DNA was extracted using proprietary technology.

[2]Also consistent with other *Brucella* species and *Ochrobactrum* species; For more information, please see Velasco, J., et al. "Evaluation of the Relatedness of *Brucella* spp. and *Ochrobactrum anthropi* and Description of *Ochrobactrum intermedium* sp. nov., a New Species with a Closer Relationship to *Brucella* spp." Int. J. Syst. Bacteriol. 48 (1998): 759-768. PubMed: 9734029.

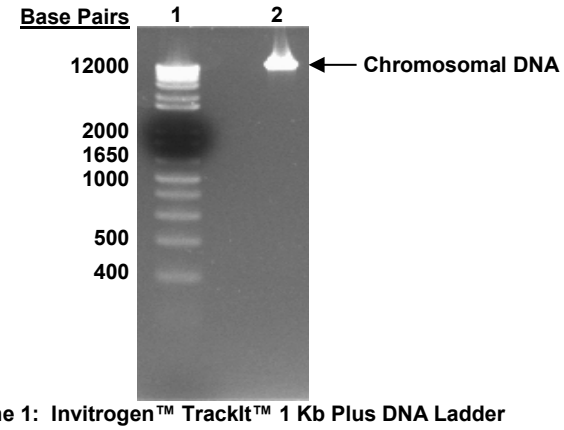
[3]Relatedness between bacterial strains has traditionally been determined using DDH. For additional information, refer to Auch, A. F., et al. "Digital DNA-DNA Hybridization for Microbial Species Delineation by Means of Genome-to-Genome Sequence Comparison." Stand. Genomic Sci. 2 (2010): 117-134. PubMed: 21304684.

[4]The whole genome of *B. abortus,* strain 544 (~ 3.27 megabase pairs) was sequenced using the Illumina® MiSeq® system and was assembled and analyzed using CLC Genomics Workbench Version 7.0.2.

[5]*B. canis*, *B. ceti*, *B. melitensis*, *B. microti*, *B. neotomae*, *B. ovis*, *B. pinnipedialis* and *B. suis* all had dDDH scores over 96% and *B. inopinata* and *B. vulpis* had scores of 81% and 80.3%, respectively, indicating that dDDH analysis cannot differentiate the *Brucella* genus.

[6]An extraction procedure was used that has been shown to consistently inactivate 100% of Gram-negative and Gram-positive bacteria.

Figure 1: Agarose Gel Electrophoresis



Lane 1: Invitrogen™ TrackIt™ 1 Kb Plus DNA Ladder
Lane 2: 200 ng of NR-50370

BEI Resources
www.beiresources.org
E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

Certificate of Analysis for NR-50370

/Heather Couch/
Heather Couch 18 JUL 2019
Program Manager or designee, ATCC Federal Solutions

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.

Support Provided by NIAID

BEI Resources
www.beiresources.org

E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898