Certificate of Analysis for NR-34818

Streptococcus sp., Strain SPAR10

Catalog No. NR-34818

Product Description:

Streptococcus sp., strain SPAR10 was isolated in 1996 from human blood in Atlanta, Georgia, USA. NR-34818 was produced by inoculation of BEI Resources seed lot 61805521 into Tryptic Soy broth and grown for 1 day at 37°C in an aerobic atmosphere with 5% CO_2. Broth inoculum was added to Tryptic Soy agar with 5% defibrinated sheep blood kolles, which were grown for 1 day at 37°C in an aerobic atmosphere with 5% CO_2 to produce this lot. Quality control testing was completed under propagation conditions unless otherwise noted.

Lot: 70039947 **Manufacturing Date: 11NOV2020**

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-positive cocci	Gram-positive cocci
Colony morphology	Report results	Circular, low convex, entire, smooth and gray (Figure 1)
Motility (wet mount)	Report results	Non-motile
Hemolysis on blood agar	Alpha-hemolytic	Alpha-hemolytic
Biochemical tests		
Catalase	Negative	Negative
Genotypic Analysis		
Digital DNA-DNA hybridization (dDDH)[1]	> 70% dDDH value for identity to *Streptococcus infantis*	< 70% dDDH value for identity to any *Streptococcus* type species[2]
Sequencing of 16S ribosomal RNA (rRNA) gene (~ 1420 base pairs)	≥ 99% sequence identity to *S. infantis*, strain SPAR10 (GenBank: ALCH01000010.1)	99.9% sequence identity to *S. infantis*, strain SPAR10 (GenBank: ALCH01000010.1)[3]
Purity 7 days at 37°C in an aerobic atmosphere with and without 5% CO_2 on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability	Growth	Growth

[1]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. dDDH analysis was performed using the Type (Strain) Genome Server using GenBank: ALCH01000010.1 (*S. infantis*, strain SPAR10) as the query sequence.

[2]The closest matching type strain is *S. infantis,* ATCC 700779 with a dDDH value of 57.0%.

[3]Also consistent with members of the *S. mitis* group, which can not be differentiated based on 16S rRNA sequencing (Jensen, A., C. F. P. Scholz and M. Kilian. "Re-evaluation of the Taxonomy of the *Mitis* Group of Genus *Streptococcus* Based on Whole Genome Phylogenetic Analyses, and Proposed Reclassification of *Streptococcus dentisani* as *Streptococcus oralis* subsp. *dentisani* comb. nov., *Streptococcus tigurinus* as *Streptococcus oralis* subsp. *tigurinus* comb. nov., and *Streptococcus oligofermentans* as a Later Synonym of *Streptococcus cristatus*." Int. J. Syst. Evol. Microbiol. 66 (2016): 4803-4820. PubMed: 27534397.).

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Figure 1: Colony Morphology

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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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