

Bacillus sp., Strain 1180

Catalog No. NR-52266

(Derived from ATCC® 39152™)

Product Description:

Bacillus sp., strain 1180 was originally isolated by P. Fitz-James and deposited at ATCC® by University of Western Ontario as *B. cereus* subsp. *israelensis*. NR-52266 lot 70033120 was produced by inoculation of ATCC® 39152™ lot 59466599 into Nutrient broth and grown for 1 day at 30°C in an aerobic atmosphere. Broth inoculum was added to Nutrient agar kolles, which were grown for 1 day at 30°C in an aerobic atmosphere to produce this lot. Quality control testing was completed under propagation conditions unless otherwise noted.

Lot: 70033120

Manufacturing Date: 28FEB2020

BEI Resources is committed to ensuring digital accessibility for people with disabilities. This Certificate of Analysis contains complex tables and may not be fully accessible. Please let us know if you encounter accessibility barriers and a fully accessible document will be provided: E-mail: Contact@BEIResources.org. We try to respond to feedback within 24 hours.

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology Hemolysis 1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood Motility (wet mount) Biochemical tests Catalase VITEK® MS (MALDI-TOF)	Gram-positive rods Report results Report results Report results Report results <i>Bacillus cereus</i> group	Gram-positive rods Irregular, flat, undulate, rough and cream (Figure 1) β-hemolytic Motile Negative <i>Bacillus cereus</i> group (99.9%) ¹
Genotypic Analysis Digital DNA-DNA hybridization (dDDH) ² Presence of <i>B. anthracis</i> virulence plasmids pXO1 pXO2	> 70% dDDH value for identity to <i>Bacillus</i> type species Absence of sequence confirmed Absence of sequence confirmed	< 70% dDDH value for identity to any <i>Bacillus</i> type species ^{3,4} Absence of sequence confirmed Absence of sequence confirmed
Purity (post-freeze) 7 days at 37°C in an aerobic atmosphere with 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 (post-freeze)	Growth	Growth

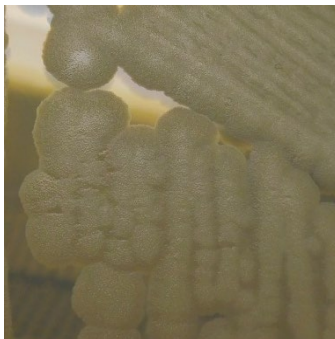
¹VITEK® MS (MALDI-TOF) was used to confirm to genus. Due to high protein sequence similarities between members of the *B. cereus* group, identification of a single species can not be confirmed using standard MALDI-TOF databases. For additional information, refer to Ha, M., et al. "Reliable Identification of *Bacillus cereus* Group Species Using Low Mass Biomarkers by MALDI-TOF MS." *J. Microbiol. Biotechnol.* 29 (2019): 887-896. PubMed: 31216842.

²Relatedness 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.

³The whole genome of *Bacillus* sp., strain 1180 was sequenced using the Illumina® MiSeq® system. *De novo* contig sequences were generated using Unicycler v0.4.8-beta.

⁴The closest matching type strain is *B. thuringiensis* ATCC 10792 with a dDDH value of 69.2%. This result suggests that NR-52266 may represent a new *Bacillus* species.

Figure 1: Colony Morphology



/Heather Couch/
Heather Couch

05 MAY 2021

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 by ATCC® 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.

ATCC® is a trademark of the American Type Culture Collection.

You are authorized to use this product for research use only. It is not intended for human use.

