

Genomic DNA from *Paenibacillus macerans*, Strain NRS 888

Catalog No. NR-52271

Product Description:

Genomic DNA was extracted from a preparation of *Paenibacillus macerans* (*P. macerans*), strain NRS 888. The bacterial preparation used for extraction of genomic DNA was produced by culture of BEI Resources NR-52258 lot 70033088. Genomic DNA was extracted using proprietary technology and is provided in TE buffer (10 mM Tris-HCl and 1 mM EDTA, pH 8).

Lot: 70033333

Manufacturing Date: 13MAR2020

TEST	SPECIFICATIONS	RESULTS
Genotypic Analysis Digital DNA-DNA hybridization (dDDH) ¹	≥ 70% for species identification	<i>P. thermophilus</i> (95.7%) ^{2,3}
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	1.3 µg in 58 µL per vial (23 µg per mL)
Amount per Vial	0.7 to 1.5 µg	1.3 µg
Functional Activity by PCR Amplification 16S ribosomal RNA gene	~ 1500 base pair amplicon	~ 1500 base pair amplicon
OD₂₆₀/OD₂₈₀ Ratio	1.7 to 2.1	1.8
Bacterial Inactivation 10% of total yield plated on agar for 14 days ^{4,5}	No viable bacteria detected	No viable bacteria detected

¹Relatedness 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.

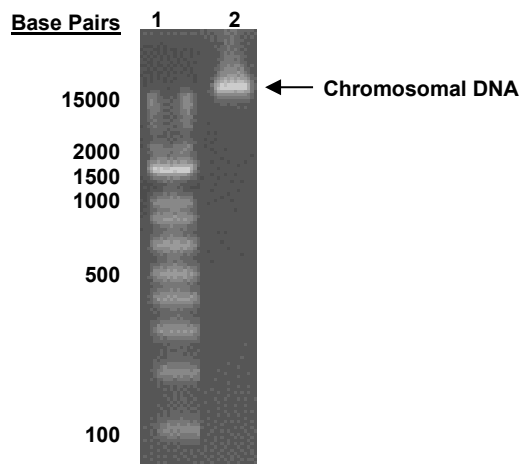
²The whole genome of *P. macerans*, strain NRS 888 was sequenced using the Illumina® MiSeq® system. *De novo* contig sequences were generated using Unicycler v0.4.8-beta.

³*P. thermophilus* is a heterotypic synonym for *P. macerans*. For more information, please see Kobayashi, H., et al. "Reclassification of *Paenibacillus thermophilus* Zhou et al. 2013 as a later heterotypic synonym of *Paenibacillus macerans* (Schardinger 1905) Ash et al. 1994." *Int. J. Syst. Evol. Microbiol.* 69 (2019): 417-421. PubMed: 30540240.

⁴14 days under propagation conditions

⁵An 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-52271

/Heather Couch/
Heather Couch

13 JUL 2021

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