

***Paenibacillus macerans*, Strain NRS 888**

**Catalog No. NR-52258**

(Derived from ATCC® 8244™)

**For research use only. Not for use in humans.**

**Contributor:**

ATCC®

**Manufacturer:**

BEI Resources

**Product Description:**

Bacteria Classification: *Paenibacillaceae*, *Paenibacillus*

Species: *Paenibacillus macerans* (formerly *Bacillus macerans*)<sup>1</sup>

Strain: NRS 888 (NCTC 6355; NCIB 9368)

Original Source: *Paenibacillus macerans* (*P. macerans*), strain NRS 888 was originally isolated by B. W. Hammer in 1915 and deposited at ATCC® in 1961 by Dr. N. R. Smith.<sup>2</sup>

Comments: The complete genome of *P. macerans*, strain NRS 888 has been sequenced (GenBank: [JMQA00000000](https://www.ncbi.nlm.nih.gov/nuclseq/JMQA00000000)).

*P. macerans* are Gram-positive, dinitrogen-fixing, spore-forming rods belonging to a class of bacilli of the phylum *Firmicutes*.<sup>1</sup> These bacteria have been isolated from a variety of sources including soil, water, plants, food, diseased insect larvae and clinical specimens.<sup>2,3,4,5</sup> *P. macerans*' ability to ferment a large number of metabolites, in particular glycerol, makes it of interest to the biotechnology industry.<sup>4,5</sup>

**Material Provided:**

Each vial contains approximately 0.5 mL of bacterial culture in Nutrient broth supplemented with 10% glycerol.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

**Packaging/Storage:**

NR-52258 was packaged aseptically in 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:

Nutrient broth or Tryptic Soy broth or equivalent

Nutrient agar or Tryptic Soy agar or equivalent

Incubation:

Temperature: 30°C

Atmosphere: Aerobic

Propagation:

1. Keep vial frozen until ready for use, then thaw.

2. Transfer the entire thawed aliquot into a single tube of broth.
3. Use several drops of the suspension to inoculate an agar slant and/or plate.
4. Incubate the tube, slant and/or plate at 30°C for 1 day.

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Paenibacillus macerans*, Strain NRS 888, NR-52258."

**Biosafety Level: 1**

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. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see [www.cdc.gov/biosafety/publications/bmbI5/index.htm](http://www.cdc.gov/biosafety/publications/bmbI5/index.htm).

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**References:**

1. Ash, C., F. G. Priest and M. D. Collins. "Molecular Identification of rRNA Group 3 Bacilli (Ash, Farrow, Wallbanks and Collins) Using a PCR Probe Test. Proposal for the Creation of a New Genus *Paenibacillus*." Antonie Van Leeuwenhoek 64 (1993): 253-260. PubMed: 8085788.
2. Olajide, A. M. and G. LaPointe. "Detection of Spore Forming *Paenibacillus macerans* in Raw Milk." J. Microbiol. Methods 177 (2020): 106048. PubMed: 32890571.
3. Fangio, M. F., S. Ines Roura and R. Fritz. "Isolation and Identification of *Bacillus* spp. and Related Genera from Different Starchy Foods." J. Food Sci. 75 (2010): M218-M221. PubMed: 20546413.
4. 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.
5. Gupta, A., et al. "Anaerobic Fermentation of Glycerol in *Paenibacillus macerans*: Metabolic Pathways and Environmental Determinants." Appl. Environ. Microbiol. 75 (2009): 5871-5883. PubMed: 19617389.

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