

Bacillus subtilis, Strain 1S28

Catalog No. NR-51333

Product Description:

Bacillus subtilis (*B. subtilis*), strain 1S28 is a sporulation mutant of *B. subtilis*, strain Marburg 168. *B. subtilis*, strain 1S28 was deposited as the host strain for bacteriophage PMB12. Bacteriophage PMB12 is a pseudotemperate virus that infects *B. subtilis* and *B. pumilus*. NR-51333 was produced by inoculation of the BEI Resources seed lot 70017409 into Tryptic Soy broth and grown for 1 day at 37°C in an aerobic atmosphere. Broth inoculum was added to Tryptic Soy agar kolles, which were grown for 1 day at 37°C in an aerobic atmosphere to produce this lot. Quality control testing was completed under propagation conditions unless otherwise noted.

Lot: 70081515

Manufacturing Date: 04MAR2026

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology Motility Hardy Diagnostics™ Motility Test Medium with TTC Indicator for 1 day at 37°C in an aerobic atmosphere Hemolysis Biochemical tests Catalase VITEK® MS (MALDI-TOF)	Gram-positive rods Report results Motile Non-hemolytic Positive <i>B. subtilis</i>	Gram-positive rods Circular, low convex, undulate, smooth and cream (Figure 1) Motile Non-hemolytic Positive <i>B. subtilis/amyloliquefaciens/vallismortis</i> (99.9%) ¹
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs)	≥ 99% sequence identity to <i>B. subtilis</i> type strain (GenBank: AL009126.3)	100% sequence identity to <i>B. subtilis</i> type strain (GenBank: AL009126.3) ²
Purity 7 days at 37°C in an aerobic atmosphere with and without 5% CO ₂ on Tryptic Soy agar	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability	Growth	Growth

¹MALDI-TOF MS is inadequate in distinguishing *B. subtilis* from *B. amyloliquefaciens* and *B. vallismortis*. *B. amyloliquefaciens* and *B. vallismortis* are members of the *Bacillus subtilis* group comprised of closely related species that cannot be easily distinguished based on phenotypic differences or sequencing of the 16S ribosomal RNA gene. For additional information, please refer to Shu, L. J. and Y. L. Yang. "Bacillus Classification Based on Matrix-Assisted Laser Desorption Ionization Time-of-Flight Mass Spectrometry-Effects of Culture Conditions." *Sci. Rep.* 7 (2017): 15546. PubMed: 29138467.

²Also consistent with other *Bacillus* species.

Figure 1: Colony Morphology



/Sonia Bjorum Brower/

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26 MAY 2026

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