

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.

Lot¹: 70017408

Manufacturing Date: 20JUL2018

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis² Cellular morphology Colony morphology Motility Hemolysis ⁴ VITEK [®] MS (MALDI-TOF)	Gram-positive rods Report results Report results Report results <i>B. subtilis</i>	Gram-positive rods Circular, low convex, undulate, smooth and cream (Figure 1) Motile ³ Non-hemolytic <i>B. subtilis</i> (50%) ⁵ and <i>B. amyloliquefaciens</i> (50%) ⁵
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1480 base pairs)	≥ 99% sequence identity to <i>B. subtilis</i> type strain (GenBank: AL009126)	99.9% sequence identity to <i>B. subtilis</i> type strain (GenBank: AL009126) ⁶
Purity (post-freeze)⁷	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze)²	Growth	Growth

¹NR-51333 was produced by inoculation of BEI Resources HMC-616 lot 60339796 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.

²1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar

³Motility test performed in Remel™ Motility Test Medium w/TTC Indicator for 1 day at 37°C in an aerobic atmosphere.

⁴1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood

⁵MALDI-TOF MS is inadequate in distinguishing *B. subtilis* from *B. amyloliquefaciens*. *B. amyloliquefaciens* is a member 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.

⁶Also consistent with other *Bacillus* species

⁷Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with 5% CO₂ on Tryptic Soy agar.

Figure 1: Colony Morphology



/Heather Couch/

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20 DEC 2018

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