

***Bacillus subtilis*, Strain 1S28**

Catalog No. NR-51333

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Bacillaceae*, *Bacillus*

Species: *Bacillus subtilis*

Strain: 1S28 (also referred to as Z31)¹

Original Source: *Bacillus subtilis* (*B. subtilis*), strain 1S28 is a sporulation mutant of *B. subtilis*, strain Marburg 168.¹

Comments: *B. subtilis*, strain 1S28 was deposited as the host strain for bacteriophage PMB12.² Bacteriophage PMB12 is a pseudotemperate virus that infects *B. subtilis* and *B. pumilus*.²⁻⁴ It belongs to the unclassified *Myoviridae* family of viruses, which are non-enveloped and display contractile, filamentous tails, linear dsDNA and hexagonal capsids. The complete genome of bacteriophage PMB12 is currently being sequenced at the [J. Craig Venter Institute](http://www.jcvi.org).

B. subtilis is a Gram-positive, sporulating bacillus commonly found in the soil. It has also been isolated from the gastrointestinal tract of humans and animals.^{5,6} *B. subtilis* is generally regarded as non-pathogenic, but has been reported to cause human infections.⁷ *B. subtilis* is considered to be the model organism for Gram-positive bacteria, and is known as a hardy organism due its capabilities of sporulation, biofilm formation, motility and uptake of exogenous DNA.^{8,9} Its potential use as a probiotic and vaccine delivery method, as well as its ability to produce antibiotics and other useful enzymes, make it an important organism in the biotechnology industry.^{6,9-11}

Material Provided:

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

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

Packaging/Storage:

NR-51333 was packaged aseptically in screw-capped plastic 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:

Tryptic Soy broth or equivalent

Tryptic Soy agar or equivalent

Incubation:

Temperature: 37°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 tubes and plate at 37°C for 1 day.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Bacillus subtilis*, Strain 1S28, NR-51333."

Biosafety Level: 2

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. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

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