Product Information Sheet for NR-52262

Bacillus licheniformis, Strain Gibson 46

Catalog No. NR-52262
(Derived from ATCC® 14580™)

For research use only. Not for human use.

Contributor:
ATCC®

Manufacturer:
BEI Resources

Product Description:
Bacteria Classification: *Bacillaceae, Bacillus*
Species: *Bacillus licheniformis*
Strain: Gibson 46 (Also known as NCIB 9375, DSM 13, NCTC 10341, NRS 1264)
Original Source: *Bacillus licheniformis (B. licheniformis)*, strain Gibson 46 was originally isolated by Dr. T. Gibson, College of Agriculture, Edinburgh, United Kingdom.[1,2]
Comments: *B. licheniformis*, strain Gibson 46 was deposited at ATCC® in 1962 by Dr. Ruth E. Gordon, Institute of Microbiology, Rutgers University, New Brunswick, New Jersey, USA. The complete genome of *B. licheniformis*, strain Gibson 46 has been sequenced (GenBank: CP000002).[3]

B. licheniformis is a Gram-positive, spore-forming, facultative anaerobic bacilli that is widely distributed as a saprophytic organism in the environment.[3] It is a common contaminant in raw milk and its spores are highly resistant to pasteurization treatments.[4,5] *B. licheniformis* is used to manufacture enzymes, antibiotics and biochemicals.[6,7]

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-52262 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: 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 tube, slant and/or plate at 3°C for 1 day.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Bacillus licheniformis*, Strain Gibson 46, NR-52262."

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. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

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2. Gibson, T. "A Study of *Bacillus subtilis* and Related Organisms." J. Dairy Research 13 (1944): 248-260.
3. Rey, M. W., et al. "Complete Genome Sequence of the Industrial Bacterium *Bacillus licheniformis* and Comparisons with Closely Related *Bacillus* Species." Genome Biol. 5 (2004): R77.1-R77.12. PubMed: 15461803.
4. Salkinoja-Salonen, M. S., et al. "Toxigenic Strains of *Bacillus licheniformis* Related to Food Poisoning." Appl. Environ. Microbiol. 65 (1999): 4637-4645. PubMed: 10508100.
5. Mansour, M., et al. "Inhibition of *Bacillus licheniformis* Spore Growth in Milk by Nisin, Monolaurin, and pH Combinations." J. Appl. Microbiol. 86 (1999): 311-324. PubMed: 10063630.
6. Li, L., et al. "Efficient Simultaneous Saccharification and Fermentation of Inulin to 2,3-Butanediol by Thermophilic *Bacillus licheniformis* ATCC 14580." Appl. Environ. Microbiol. 80 (2014): 6458-6464. PubMed: 25107977.
7. Potter, M., et al. "Cultivation of Bacteria Producing Polyamino Acids with Liquid Manure as Carbon and Nitrogen Source." Appl. Environ. Microbiol. 67 (2001): 617-622. PubMed: 11157224.

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