



# ***Bacillus spizizenii*** **(Nakamura et al.)** **Dunlap et al.**

**CRM-6633™**

## **Description**

**Strain designation:** NRS 231

**Deposited As:** *Bacillus subtilis* (Ehrenberg) Cohn

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## **Storage Conditions**

**Product format:** Freeze-dried

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## **Intended Use**

This product is intended for laboratory research use only. It is not intended for any animal or human therapeutic use, any human or animal consumption, or any diagnostic use.

Certified Reference Material produced under an ISO 17034 accredited process.

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## **BSL 1**

ATCC determines the biosafety level of a material based on our risk assessment as guided by the current edition of *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, U.S. Department of Health and Human Services. It is your responsibility to understand the hazards associated with the material per your organization's policies and procedures as well as any other applicable regulations as enforced by your local or national agencies.

ATCC highly recommends that appropriate personal protective equipment is always used when handling vials. For cultures that require storage in liquid nitrogen, it is important to note that some vials may leak when submersed in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vial exploding or blowing off its cap with dangerous force creating flying debris. Unless necessary, ATCC recommends that these cultures be stored in the vapor phase of liquid nitrogen rather than submersed in liquid nitrogen.

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## Certificate of Analysis

For batch-specific test results, refer to the applicable certificate of analysis that can be found at [www.atcc.org](http://www.atcc.org).

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## Growth Conditions

### Medium:

ATCC Medium 3: Nutrient agar or nutrient broth

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## Handling Procedures

1. Open vial according to enclosed instructions.
  2. From a single tube of #3 broth (5 to 6 mL), withdraw approximately 0.5 to 1.0 mL with a Pasteur or 1.0 mL pipette. Rehydrate the entire pellet.
  3. Aseptically transfer this aliquot back into the broth tube. Mix well.
  4. Use several drops of the suspension to inoculate a second tube of broth, a slant, and/or a plate.
  5. Incubate all tubes and plates at 30°C for 24 hours.
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## Notes

Certificates of Analysis are available electronically at [www.atcc.org](http://www.atcc.org), or by hardcopy upon request.

Growth is poor in statically incubated broth, forming a thin pellicle leaving the broth clear. The colonial morphology of this strain varies considerably depending on the temperature of incubation, medium used, and length of time incubated. Colonies on Nutrient Agar may be dull and dry to shiny, irregularly-shaped, opaque, flat, erose, and irregular. As they age they appear to spread and become more uniform. Some colonies are adherent making them difficult to remove from the agar surface. On Tryptic Soy Agar the colonies are creamy, raised, erose, and mildly adherent with a soft sheen.

CA Dunlap et al. reclassified *Bacillus subtilis* subsp. *spizizenii* into the new species *Bacillus spizizenii*. Some platforms and databases may still identify this species by its previous name.

Additional information on this culture is available on the ATCC website at [www.atcc.org](http://www.atcc.org).

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## Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: *Bacillus spizizenii* (Nakamura et al.) Dunlap et al. (ATCC CRM-6633)

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## References

References and other information relating to this material are available at [www.atcc.org](http://www.atcc.org).

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