

### ***Bacillus atrophaeus*, Strain NRS 1221A**

#### **Catalog No. NR-687**

(Derived from ATCC® 9372™)

**For research only. Not for human use.**

#### **Contributor:**

ATCC®

#### **Product Description:**

Bacteria Classification: *Bacillaceae*, *Bacillus*

Species: *Bacillus atrophaeus*

Strain: NRS 1221A

Comment: Formerly *Bacillus subtilis*<sup>1,2</sup>. Deposited as *Bacillus subtilis* var. *niger*.

#### **Material Provided:**

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

#### **Packaging/Storage:**

NR-687 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: 30°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 Tryptic Soy Broth.
3. Use several drops of the suspension to inoculate a Tryptic Soy Agar slant and/or plate.
4. Incubate the slant and/or plate at 30°C for 24 hours.

##### Note:

Colonies on Tryptic Soy Agar are predominantly circular, entire, glistening, white, raised, and opaque. Some colonies are orange and a few are rough.

#### **Citation:**

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: *Bacillus atrophaeus*, Strain NRS 1221A, NR-687."

#### **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, 2007; see [www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm](http://www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm)

#### **Disclaimers:**

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at [www.beiresources.org](http://www.beiresources.org).

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government make any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

#### **Use Restrictions:**

**This material is distributed for internal research, non-commercial purposes only.** This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

#### **References:**

1. Nakamura, L. K. "Taxonomic Relationship of Black-Pigmented *Bacillus subtilis* Strains and a proposal for *Bacillus atrophaeus* sp. nov." Int. J. Syst. Bacteriol. 39 (1989): 295–300.
2. Fritze, D. and R. Pukall. "Reclassification of Bioindicator Strains *Bacillus subtilis* DSM 675 and *Bacillus subtilis* DSM 2277 as *Bacillus atrophaeus*." Int. J. Syst. Evol. Microbiol. 51 (2001): 35–37. PubMed: 11211269.

3. Nelson, C. L. and T. J. Berger. "Inactivation of Microorganisms by Oxygen Gas Plasma." Curr. Microbiol. 18 (1989): 275-276.
4. Pisano, M. A., M. G. Boucher., and I. E. Alcamo. "Sterilizing Effects of High-Intensity Airborne Sonic and Ultrasonic Waves." Appl. Microbiol. 14 (1966): 732-736. PubMed: 4961527.
5. British Pharmacopoeia Commission. Methods of sterilisation. British Pharmacopoeia 1993. vol. 2 London (UK):British Pharmacopoeia Commission; 1993. Appendix XVIII, pp. A197-A199.
6. European Pharmacopoeia Commission. Biological indicators of sterilisation. European Pharmacopoeia. 3rd ed. Strasbourg, France: European Pharmacopoeia Commission; 1997. EP 5.1.2.
7. U.S. Department of Defense. Sterilization test strip set, bacterial spore. Washington, DC: US Department of Defense; Military Specification S-36586A.
8. U.S. Pharmacopeia. Biological indicator for dry-heat sterilization, paper strip. U.S. Pharmacopeia. 23rd rev. Rockville, MD: U.S. Pharmacopeia; 1995. pp. 200-202.
9. U.S. Pharmacopeia. Biological indicator for ethylene oxide sterilization, paper strip. U.S. Pharmacopeia. 23rd rev. Rockville, MD:U.S. Pharmacopeia; 1995. pp. 202-204.
10. U.S. Pharmacopeia. Sterilization and sterility assurance of compendial articles. U.S. Pharmacopeia. 23rd rev. Rockville, MD: U.S. Pharmacopeia; 1995. <1211>, pp. 1976-1981.

ATCC® is a trademark of the American Type Culture Collection.