Product Information Sheet for NR-1151

Bacillus anthracis, Strain V770-NP1-R (A0267)

Catalog No. NR-1151

For research use only. Not for use in humans.

Contributor:
Lawrence Livermore National Laboratory, California, USA

Manufacturer:
BEI Resources

Product Description:
Bacteria Classification: *Bacillaceae*, *Bacillus*, *Bacillus cereus* group
Species: *Bacillus anthracis*
Strain: V770-NP1-R (A0267)
Original Source: *Bacillus anthracis (B. anthracis)*, strain V770-NP1-R (A0267) is a laboratory-derived non-proteolytic, non-encapsulated mutant of the Vollum strain.[1,2] It was obtained by the Lawrence Livermore National Laboratory from USAMRIID.[3]

B. anthracis is an aerobic, Gram-positive, spore-forming, rod-shaped bacillus that causes the acute infectious disease anthrax. Herbivores are the natural hosts and become infected by consuming soil. Humans are incidentally infected by coming into contact with infected animals or their products. *B. anthracis* virulence is dependent on the possession of two large plasmids, pXO1 and pXO2, which are responsible for the expression of an extracellular toxin and a polysaccharide capsule, respectively. The extracellular toxin is composed of three proteins: lethal factor, edema factor, and protective antigen.[4]

The presence of pXO1 and absence of pXO2 in NR-1151 has been confirmed by PCR amplification of plasmid-specific sequences from extracted DNA.[5]

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-1151 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:
Tryptic Soy broth or equivalent
Tryptic Soy agar with 5% defibrinated sheep blood or equivalent
Incubation:
Temperature: 37°C
Atmosphere: Aerobic with 5% CO_2
Propagation:
1. Keep vial frozen until ready for use, then thaw slowly.
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 37°C for 1 day.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Bacillus anthracis*, Strain V770-NP1-R (A0267), NR-1151."

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. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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www.beiresources.org

E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

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References:

1. Wright, G. G., et al. "Studies on Immunity in Anthrax II. *in vitro* Elaboration of Protective Antigen by Non-Proteolytic Mutants of *Bacillus anthracis*." J. Exp. Med. 93 (1951): 523-527. PubMed: 14832399.
2. Wright, G. G., et al. "Studies on Immunity in Anthrax VII. Carbohydrate Metabolism of *Bacillus anthracis* in Relation to Elaboration of Protective Antigen." J. Bacteriol. 78 (1959): 137-145. PubMed: 13672927
3. Lawrence Livermore National Laboratory, Personal Communication.
4. Oncü, S., S. Oncü and S. Sakarya. "Anthrax-An Overview." Med. Sci. Monit. 9 (2003): RA276-RA283. PubMed: 14586293.
5. Riojas, M. A., et al. "Multiplex PCR for Species-Level Identification of *Bacillus anthracis* and Detection of pXO1, pXO2, and Related Plasmids." Health Security 13 (2015): 122-129. PubMed: 25813976.

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