

***Bacillus cereus*, Strain BAG4X2-1**

Catalog No. NR-28599

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Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Bacillaceae*, *Bacillus*

Species: *Bacillus cereus*

Strain: BAG4X2-1

Original Source: *Bacillus cereus* (*B. cereus*), strain BAG4X2-1 was isolated in 2008 from a soil sample collected in Boston, Massachusetts, USA.¹

Comments: *B. cereus*, strain BAG4X2-1 is reported to contain a pXO2-like plasmid¹ and is part of the [Bacillus cereus Database Sequencing Project](#) at the Broad Institute. The complete genome sequence of *B. cereus*, strain BAG4X2-1 is available (GenBank: [AHDH00000000](#)).

B. cereus is a Gram-positive, spore-forming, facultative aerobe. This organism is a ubiquitous opportunistic pathogen that can cause food poisoning in infected individuals. There are two forms of food poisoning that occur. The early onset (emetic) disease is caused by a small, stable dodecadepsipeptide cerulide² whereas the late onset (diarrheal) disease is caused by heat-labile enterotoxins.³ Genetic and genomic analyses have revealed that the chromosome of *B. cereus* is very similar to *B. anthracis*.⁴

Clinical and environmental isolates of *B. cereus* containing large plasmids that share a common backbone with *B. anthracis* pXO1 and pXO2, have been identified.^{5,6} The pXO1-like plasmid has demonstrated significant homology to *B. anthracis* pXO1 and harbors the entire anthrax toxin biosynthetic complex.⁶ The pXO2-like plasmid contains genes capable of capsule production, however, they are not homologous to the *B. anthracis* capsule genes found on pXO2.⁷

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-28599 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 Nutrient broth or equivalent
Tryptic Soy agar or Tryptic Soy agar with 5% sheep blood or Nutrient agar or equivalent

Incubation:

Temperature: 28°C to 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 37°C for 24 to 48 hours.

Citation:

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Bacillus cereus*, Strain BAG4X2-1, NR-28599.”

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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7. Sue, D., et al. "Capsule Production in *Bacillus cereus* Strains Associated with Severe Pneumonia." J. Clin. Microbiol. 44 (2006): 3426-3428. PubMed: 16954292.
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