

Bacillus cereus*, Strain E33L*Catalog No. NR-12264****For research use only. Not for human use.****Contributor:**

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Product Description:

Bacteria Classification: *Bacillaceae*, *Bacillus*

Species: *Bacillus cereus*

Strain: E33L (formerly ZK)

Original Source: *Bacillus cereus* (*B. cereus*), strain E33L was isolated from a swab of a dead zebra carcass in Etosha National Park, Namibia in April 1996 by P. C. B. Turnbull.¹

Comments: The complete genome including 5 plasmids (pE33L466, pE33L5, pE33L54, pE33L8 and pE33L9) of *B. cereus*, strain E33L has been sequenced (GenBank: CP00001 and CP000040 to CP000044).¹

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

B. cereus, strain E33L virulence factors show no homology to *B. anthracis* toxin genes on pXO1 (*pag*, *lef* and *cya*) or the *cap* genes on pXO2 but are common to the *B. cereus* group. These virulence factors include nonhemolytic enterotoxin genes, channel-forming type III hemolysins, perfringolysin O, phosphatidyl-inositol and phosphatidyl-choline specific phospholipases, RNA polymerase sigma-B factor and a p60 family extracellular protease.¹

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-12264 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: 37°C

Atmosphere: Aerobic

Propagation:

1. Keep vial frozen until ready for use; 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 tubes and plate at 37°C for 24 hours.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: *Bacillus cereus*, Strain E33L, NR-12264."

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, 2007; see www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm.

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References:

1. Han, C. S., et al. "Pathogenomic Sequence Analysis of *Bacillus cereus* and *Bacillus thuringiensis* Isolates Closely Related to *Bacillus anthracis*." J. Bacteriol. 188 (2006): 3382-3390. PubMed: 16621833.
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3. Drobniowski, F. A. "*Bacillus cereus* and Related Species." Clin. Microbiol. Rev. 6 (1993): 324-338. PubMed: 8269390.
4. Ash, C., et al. "Comparative Analysis of *Bacillus anthracis*, *Bacillus cereus*, and Related Species on the Basis of Reverse Transcriptase Sequencing of 16S rRNA." Int. J. Syst. Bacteriol. 41 (1991): 343-346. PubMed: 1715736.
5. Rasko, D. A., et al. "Genomics of the *Bacillus cereus* Group of Organisms." FEMS Microbiol. Rev. 29 (2005): 303-329. PubMed: 15808746.
6. Priest, F. G., et al. "Population Structure and Evolution of the *Bacillus cereus* Group." J. Bacteriol. 186 (2004): 7959-7970. PubMed: 15547268.

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