

# Product Information Sheet for NR-13671

## ***Bacillus anthracis*, Strain Sterne 34F<sub>2</sub>, Derivative KDC7 ( $\Delta$ *bacACEBF*)**

**Catalog No. NR-13671**

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

### **Contributor:**

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### **Manufacturer:**

BEI Resources

### **Product Description:**

**Bacteria Classification:** *Bacillaceae*, *Bacillus*

**Species:** *Bacillus anthracis*

**Strain:** Sterne 34F<sub>2</sub>, derivative KDC7 ( $\Delta$ *bacACEBF*)

**Original Source:** *Bacillus anthracis* (*B. anthracis*), strain Sterne 34F<sub>2</sub>, derivative KDC7, is a deletion mutant of the bacillibactin biosynthetic pathway genes ( $\Delta$ *bacACEBF*).<sup>1-4</sup>

**Comments:** *B. anthracis*, strain Sterne 34F<sub>2</sub>, derivative KDC7 ( $\Delta$ *bacACEBF*) is reported to contain the pXO1 plasmid and lack the pXO2 plasmid.<sup>1</sup> The complete genome of *B. anthracis*, strain Sterne has been sequenced (GenBank: [AE017225](#)).<sup>5</sup>

*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.<sup>6</sup>

The presence of pXO1 and the absence of pXO2 in NR-13671 have been confirmed by PCR amplification of plasmid-specific sequences from extracted DNA.

### **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-13671 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% defibrinated 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 for 24 to 48 hours.

### **Citation:**

Acknowledgment for publications should read "The following reagent was contributed by P. Hanna, University of Michigan for distribution by BEI Resources, NIAID, NIH: *Bacillus anthracis*, Strain Sterne 34F<sub>2</sub>, Derivative KDC7 ( $\Delta$ *bacACEBF*), NR-13671."

### **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/bmbl5/index.htm](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

This publication recommends that all persons working in or entering laboratory or animal care areas where frequent activities with clinical specimens or diagnostic cultures of *B. anthracis* are being conducted should have documented evidence of satisfactory vaccination.

### **Disclaimers:**

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#### References:

1. Hanna, P., Personal Communication.
2. Passalacqua, K. D., et al. "The Global Transcriptional Responses of *Bacillus anthracis* Sterne (34F2) and a Delta *sodA1* Mutant to Paraquat Reveal Metal Ion Homeostasis Imbalances during Endogenous Superoxide Stress." *J. Bacteriol.* 189 (2007): 3996-4013. PubMed: 17384197.
3. Lee, J. Y., et al. "Regulation of Petrobactin and Bacillibactin Biosynthesis in *Bacillus anthracis* under Iron and Oxygen Variation." *PLoS One* 6 (2011): e20777. PubMed: 21673962.
4. Sterne, M. "The Immunization of Laboratory Animals against Anthrax." *Onderstepoort J. Vet. Sci. Anim. Ind.* 13 (1939): 313-317.
5. Rasko, D. A., et al. "Genomics of the *Bacillus cereus* Group of Organisms." *FEMS Microbiol. Rev.* 29 (2005): 303-329. PubMed: 15808746.
6. Oncü, S., S. Oncü and S. Sakarya. "Anthrax-An Overview." *Med. Sci. Monit.* 9 (2003): RA276-RA283. PubMed: 14586293.
7. Spencer, R. C. "*Bacillus anthracis*." *J. Clin. Pathol.* 56 (2003): 182-187. PubMed: 12610093.
8. Janes, B. K. and S. Stibitz. "Routine Markerless Gene Replacement in *Bacillus anthracis*." *Infect. Immun.* 74 (2006): 1949-1953. PubMed: 16495572.

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