Bacillus anthracis, Strain Sterne BA723 (Δ*lef243*)

Catalog No. NR-9397

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For research use only. Not for human use.

Contributor:

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Manufacturer:

NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH

Product Description:

Bacteria Classification: *Bacillaceae, Bacillus, Bacillus cereus* group
Species: *Bacillus anthracis*
Strain: Sterne BA723 (Δ*lef243*) Note: The designation BA723 refers to the numbering system used in the Stibitz laboratory.
Original Source: *Bacillus anthracis* (*B. anthracis*), strain Sterne BA723 (Δ*lef243*) and the other mutant strains listed in the table below are derivatives of *B. anthracis*, strain Sterne 7702. The Sterne BA723 (Δ*lef243*) strain is a 2,424 base pair deletion mutant.[1]
Comment: The complete genome of *B. anthracis*, strain Sterne has been sequenced (GenBank: AE017225).[2]

BEI Resources #	Sterne Strain	Stibitz Lab Number
NR-9397	*lef* mutant	BA723
NR-9398	*cya* mutant	BA695
NR-9399	*pag* mutant	BA690
NR-9400	*lef/cya* mutant	BA721
NR-9401	*lef/cya/pag* mutant	BA781

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.[3]

The presence of pXO1 (but absence of the *lef* gene) and the absence of pXO2 in NR-9397 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 0.5X 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-9397 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 with 5% sheep blood, or equivalent
Incubation:
Temperature: 35 to 37°C
Atmosphere: Aerobic with 5% CO_2
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 35 to 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 anthracis*, Strain Sterne BA723 (Δ*lef243*), NR-9397."

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. 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 *Bacillus anthracis* are being conducted should have documented evidence of satisfactory vaccination.

Disclaimers:

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References:

1. Janes, B. K. and S. Stibitz. "Routine Markerless Gene Replacement in *Bacillus anthracis*." Infect. Immun. 74 (2006): 1949-1953. PubMed: 16495572.
2. Rasko, D. A., et al. "Genomics of the *Bacillus cereus* Group of Organisms." FEMS Microbiol. Rev. 29 (2005): 303-329. PubMed: 15808746.
3. Oncü, S., S. Oncü and S. Sakarya. "Anthrax-An Overview." Med. Sci. Monit. 9 (2003): RA276-RA283. PubMed: 14586293.
4. Spencer, R. C. "*Bacillus anthracis*." J. Clin. Pathol. 56 (2003): 182-187. PubMed: 12610093.

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