

***Bacillus anthracis*, Strain Sterne 34F2 (LLNL A0517)**

Catalog No. NR-1400

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Contributor:

Lawrence Livermore National Laboratory (LLNL), Livermore, California

Product Description:

Bacteria Classification: *Bacillaceae*, *Bacillus*, *Bacillus cereus* group

Species: *Bacillus anthracis*

Strain: Sterne 34F2 (LLNL A0517)

Original Source: The *Bacillus anthracis* (*B. anthracis*) Sterne 34F2 vaccine strain (LLNL A0517) was manufactured by the Colorado Serum Company, Denver, Colorado. It is a derivative of the live vaccine formulated by Sterne in 1937 and was deposited to BEI Resources by Lawrence Livermore National Laboratory.

Comment: Genome sequence information is available at [Pathema Bioinformatics Resource Center](#).

Note: This preparation contains two different colony types that are individually characterized on the Certificate of Analysis. The plasmid pX01 has been shown to be present in only one of the colony types by PCR amplification of a pX01-specific sequence. The plasmid pX02 was not detected in either of the colony types by PCR amplification of multiple loci on the pX02 plasmid.

Bacillus anthracis (*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, pX01 and pX02, 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.¹

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-1400 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

Tryptic Soy Agar with 5% sheep blood, or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Aerobic with 5% CO₂

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 anthracis*, Strain Sterne 34F2 (LLNL A0517), NR-1400."

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. Jackson, P. J., et al. "PCR Analysis of Tissue Samples from the 1979 Sverdlovsk Anthrax Victims: The Presence of Multiple *Bacillus anthracis* Strains in Different Victims." Proc. Natl. Acad. Sci. USA 95 (1998) 1224–1229. PubMed: 9448313.
2. Oncü, S., S. Oncü, and S. Sakarya. "Anthrax-An Overview." Med. Sci. Monit. 9 (2003): RA276–RA283. PubMed: 14586293.
3. Spencer, R. C. "*Bacillus anthracis*." J. Clin. Pathol. 56 (2003): 182–187. PubMed: 12610093.

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