

***Bacillus anthracis*, Strain Sterne ΔGBAA0650-51**

Catalog No. NR-10005

Product Description: *Bacillus anthracis* (*B. anthracis*), strain Sterne ΔGBAA0650-51 is a markerless, nonpolar, double deletion mutant of the response regulator/histidine kinase genes from the toxigenic acapsulate original Sterne strain (34F2). This mutant retains the first 100 codons of the histidine kinase gene (GBAA0651) followed by two stop codons and the restriction endonuclease recognition site for *SmaI* followed by the last 100 codons of the response regulator gene (GBAA0650).

Lot¹: 58441526

Manufacturing Date: 19DEC2008

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology ² Sporulation Motility β-hemolysis Capsule (India ink staining) Tenacious Analytical profile index (API [®] 50 CHB including API [®] 20E; ONPG to GEL only) Nitrate reduction FAME analysis Bioterrorism bacteria library (BTR3 3.00) Clinical bacteria library (CLIN6 6.00)	Gram-positive rod Report results Positive Non-motile Non-hemolytic Negative Positive Consistent with <i>B. anthracis</i> Positive Consistent with <i>B. anthracis</i> Consistent with <i>B. cereus</i> group	Gram-positive rod Circular, flat, entire, ground-glass, opaque and grey (Figure 1) Positive Non-motile Non-hemolytic Negative Positive Consistent with <i>B. anthracis</i> Positive Consistent with <i>B. anthracis</i> Consistent with <i>B. cereus</i> group ³
Genotypic Analysis⁴ Sequencing of 16S ribosomal RNA gene (~ 1350 base pairs)	Consistent with <i>B. anthracis</i> and <i>B. cereus</i> group	Consistent with <i>B. anthracis</i> and <i>B. cereus</i> group ⁵
PCR Assay of Extracted DNA⁴ 16S ribosomal RNA gene Presence of virulence plasmids pXO1 (<i>aat</i>) pXO2 (<i>at</i> , <i>capA</i> , <i>capB</i> , <i>capC</i>)	~ 1500 bp amplicon ~ 125 bp amplicon No amplicons	~ 1500 bp amplicon ~ 125 bp amplicon No amplicons
Viability (post-vialing)⁶	Growth	Growth

¹*B. anthracis*, strain Sterne ΔGBAA0650-51 was deposited by Philip C. Hanna, Associate Professor, Department of Microbiology and Immunology, University of Michigan Medical School, Ann Arbor, Michigan. NR-10005 was produced by inoculation of the deposited material into Tryptic Soy Broth and grown 24 hours at 37°C. Broth inoculum was added to Kolles which were grown 24 hours at 37°C to produce this lot.

²24 hours at 37°C on Tryptic Soy Agar with 5% sheep blood

³FAME “*Bacillus cereus* group” includes the species *B. anthracis*, *B. cereus*, *B. mycoides*, *B. pseudomycoides*, *B. thuringiensis*, and *B. weihenstephanensis* (Slabbinck, B., et al. “Genus-wide *Bacillus* Species Identification through Proper Artificial Neural Network Experiments on Fatty Acid Profiles.” *Antonie Van Leeuwenhoek* 94 (2008): 187-198. PubMed: 18322819).

⁴DNA was extracted from a broth culture produced from NR-10005 (Lot: 58441526).

⁵*Bacillus cereus* group species (*B. cereus*, *B. thuringiensis*, *B. mycoides*, and *B. anthracis*) cannot be classified based on 16S sequence (Spencer, R. C. “*Bacillus anthracis*.” *J. Clin. Pathol.* 56 (2003): 182-187. PubMed: 12610093).

⁶24 hours at 37°C in Tryptic Soy Broth

Figure 1



Date: 28 AUG 2009

Signature: Signature on File

Title: Technical Manager, BEI Authentication or designee

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