

## *Bacillus anthracis*, Strain Sterne ΔGBAA1941

Catalog No. NR-10009

**Product Description:** *Bacillus anthracis* (*B. anthracis*), strain Sterne ΔGBAA1941 is a markerless, nonpolar, 363 bp deletion mutant of the toxigenic acapsulate original Sterne strain (34F2). Nearly the entire open reading frame is replaced by three stop codons followed by two restriction endonuclease recognition sites, *Bam*HI and *Sma*I (to facilitate screening of the correct mutation). The first and last ten codons of the putative transcriptional regulator (GBAA1941) gene retain the wild type sequence.

Lot<sup>1</sup>: 58441530

Manufacturing Date: 18DEC2008

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology <sup>2</sup>  Sporulation Motility β-hemolysis Capsule (India ink staining) Tenacious Analytical profile index (API <sup>®</sup> 50 CHB including API <sup>®</sup> 20E; ONPG to GEL only) Nitrate reduction	Gram-positive rod Report results  Positive Non-motile Non-hemolytic Negative Positive Consistent with <i>B. anthracis</i>  Positive	Gram-positive rod Circular, flat, entire, ground-glass, grey, opaque (Figure 1) Positive Non-motile Non-hemolytic Negative Positive Consistent with <i>B. anthracis</i>  Positive
<b>Genotypic Analysis<sup>3</sup></b> Sequencing of 16S ribosomal RNA gene (~ 1410 base pairs)	Consistent with <i>Bacillus cereus</i> group	Consistent with <i>Bacillus cereus</i> group <sup>4,5</sup>
<b>PCR Assay of Extracted DNA<sup>3</sup></b> 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
<b>Viability (post-vialing)<sup>6</sup></b>	Growth	Growth

<sup>1</sup>*B. anthracis*, strain Sterne ΔGBAA1941 was deposited by Philip C. Hanna, Associate Professor, Department of Microbiology and Immunology, University of Michigan Medical School, Ann Arbor, Michigan. NR-10009 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.

<sup>2</sup>24 hours at 37°C on Tryptic Soy Agar with 5% sheep blood

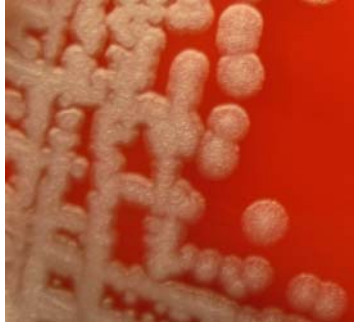
<sup>3</sup>DNA was extracted from a broth culture produced from NR-10009, lot 58441530.

<sup>4</sup>*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).

<sup>5</sup>Also consistent with *Bacillus coagulans* and *Bacillus subtilis*

<sup>6</sup>24 hours at 37°C in Tryptic Soy Broth

**Figure 1**



**Date:** 19 NOV 2009

**Signature:** Signature on File

**Title:** Technical Manager, BEI Authentication or designee

ATCC<sup>®</sup>, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC<sup>®</sup>'s knowledge.

ATCC<sup>®</sup> is a trademark of the American Type Culture Collection.

You are authorized to use this product for research use only. It is not intended for human use.

