

***Bacillus anthracis*, Strain Sterne 34F₂, Derivative KDC8 (Δ sodA1/ Δ sodA2)**

Catalog No. NR-13672

Product Description: *Bacillus anthracis* (*B. anthracis*), strain Sterne 34F₂, derivative KDC8, is a double deletion mutant of two superoxide dismutase genes (Δ sodA1/ Δ sodA2) where *sodA1* was replaced with a kanamycin resistance (Km^r) cassette.

Lot¹: 62707560

Manufacturing Date: 25JUL2014

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology ² Hemolysis ³ Motility ⁴ Biochemical characterization: Nitrate reduction Arginine dihydrolase Production of acid from trehalose Production of acid from salicin Production of acid from glycerol	Gram-positive rods Report results Non-hemolytic Non-motile Positive Report results Positive Negative Negative	Gram-positive rods Circular, flat, entire, opaque and gray (Figure 1) Non-hemolytic Non-motile Positive Negative Positive Negative Negative
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1170 base pairs)	Consistent with <i>Bacillus cereus</i> group	Consistent with <i>Bacillus cereus</i> group ⁵
PCR Assay of Extracted DNA 16S ribosomal RNA gene Specific chromosomal marker ⁶ Presence of virulence plasmids ⁷ pXO1 (four targets) pXO2 (three targets)	~ 560 base pair amplicon Amplicon present Amplicons present No amplicons	~ 560 base pair amplicon Amplicon present Amplicons present No amplicons
Purity (post-freeze)⁸	Growth consistent with <i>B. anthracis</i>	Growth consistent with <i>B. anthracis</i>
Viability (post-freeze)²	Growth	Growth

¹NR-13672 was produced by inoculation of the deposited material into Tryptic Soy broth and grown 24 hours at 37°C in an aerobic atmosphere. Broth inoculum was added to Tryptic Soy agar with 5% defibrinated sheep blood kolles which were grown 24 hours at 37°C in an aerobic atmosphere to produce this lot.

²22 hours at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood

³48 hours at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood

⁴48 hours at 37°C in an aerobic atmosphere on motility test media with triphenyltetrazolium chloride (TTC). In the *B. cereus* group, *B. cereus* and *B. thuringiensis* are motile, whereas *B. anthracis* and *B. mycoides* are non-motile.

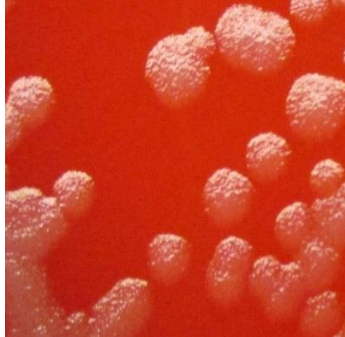
⁵*Bacillus cereus* group species (*B. cereus*, *B. thuringiensis*, *B. mycoides*, and *B. anthracis*) cannot be classified based on 16S sequence (Spencer, R. C. "Bacillus anthracis." *J. Clin. Pathol.* 56 (2003): 182-187. PubMed: 12610093).

⁶This product was verified to a species level using a proprietary (Patent Pending) PCR-based assay to *Bacillus anthracis*-specific genetic mutation capable of differentiating *B. anthracis* from the remainder of the *B. cereus* group.

⁷Plasmids were verified using a proprietary (Patent Pending) PCR-based assay to *Bacillus anthracis*-plasmids pXO1 and pXO2.

⁸Purity of this lot was assessed for 8 days under propagation conditions on Tryptic Soy agar with 5% defibrinated sheep blood.

Figure 1: Colony Morphology



Date: 20 JAN 2017

Signature:



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