

**Bacillus coagulans, Strain NRS 609**

**Catalog No. NR-52257**

(Derived from ATCC® 7050™)

**Product Description:**

*Bacillus coagulans* (*B. coagulans*), strain NRS 609 was deposited to ATCC® in 1961 by Dr. N. R. Smith. The strain was originally isolated by B. W. Hammer in 1915. NR-52257 lot 70033086 was produced by inoculation of ATCC® 7050™ lot 70025814 into Nutrient broth and grown for 1 day at 37°C in an aerobic atmosphere. Broth inoculum was added to Nutrient agar kolles, which were grown for 1 day at 37°C in an aerobic atmosphere to produce this lot. Quality control testing was completed under propagation conditions unless otherwise noted.

**Lot: 70033086**

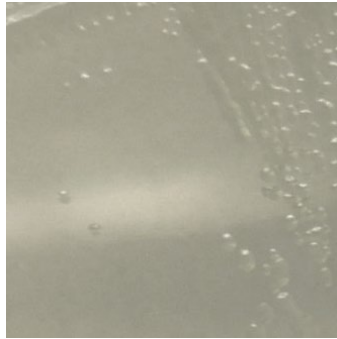
**Manufacturing Date: 12FEB2020**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Hemolysis 1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood  Motility (wet mount) Biochemical tests Catalase VITEK® MS (MALDI-TOF)	Gram-positive rods Report results  Report results  Report results  Report results <i>B. coagulans</i>	Gram-positive rods Circular, low convex, entire, smooth and cream (Figure 1) Non-hemolytic  Motile  Positive <i>B. coagulans</i> (99.9%)
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (~ 1290 base pairs)  Digital DNA-DNA hybridization (dDDH) <sup>1</sup>	≥ 99% sequence identity to <i>B. coagulans</i> , strain NRS 609 (GenBank: NR_115727.1) ≥ 70% for species identification	99.9% sequence identity to <i>B. coagulans</i> , strain NRS 609 (GenBank: NR_115727.1) <i>B. coagulans</i> (99.9%) <sup>2</sup>
<b>Purity (post-freeze)</b> 7 days at 37°C in an aerobic atmosphere with 5% CO <sub>2</sub> on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability (post-freeze)</b>	Growth	Growth

<sup>1</sup>Relatedness between bacterial strains has traditionally been determined using DDH. For additional information, refer to Auch, A. F., et al. "Digital DNA-DNA Hybridization for Microbial Species Delineation by Means of Genome-to-Genome Sequence Comparison." *Stand. Genomic Sci.* 2 (2010): 117-134. PubMed: 21304684. *B. coagulans*, strain ATCC 7050 (GenBank: ATUM00000000.1) was used for dDDH analysis.

<sup>2</sup>The whole genome of *B. coagulans*, strain NRS 609 (3.32 megabase pairs) was sequenced using the Illumina® MiSeq® system. *De novo* contig sequences were generated using Unicycler v0.4.8-beta.

Figure 1: Colony Morphology



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