

**Staphylococcus aureus, Strain GA-210**

**Catalog No. NR-46210**

**Product Description:** *Staphylococcus aureus* (*S. aureus*), strain GA-210 was isolated in 2005 from the blood of a 57-year-old male with thrombophlebitis and/or a bloodstream infection in Georgia, USA. *S. aureus*, strain GA-210 is a clinically-associated methicillin-resistant *S. aureus* (MRSA) strain.

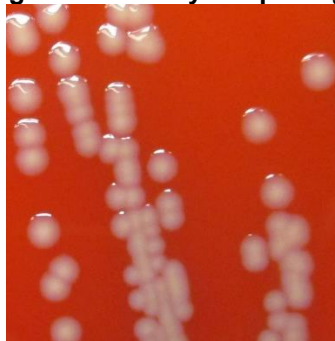
**Lot<sup>1</sup>: 64044897**

**Manufacturing Date: 18FEB2016**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology <sup>2</sup>  Motility (wet mount) Hemolysis <sup>2</sup> Biochemical characterization Catalase Coagulase <sup>3</sup> VITEK <sup>®</sup> 2 Compact (GP card)	Gram-positive cocci Report results  Report results Report results  Positive Report results ≥ 90% probability of being <i>S. aureus</i>	Gram-positive cocci Circular, low convex, entire, smooth and white (Figure 1) Non-motile Non-hemolytic  Positive Positive <i>S. aureus</i> (99% probability) <sup>4</sup>
<b>Antibiotic Susceptibility Profile</b> VITEK <sup>®</sup> (AST-GP71 card) <sup>5</sup> Beta-lactamase <sup>6</sup> Cefoxitin screen Benzylpenicillin Oxacillin Gentamicin Ciprofloxacin Levofloxacin Moxifloxacin Clindamycin (inducible resistance) Quinupristin/dalfopristin Linezolid Daptomycin Vancomycin Minocycline Tetracycline Tigecycline Nitrofurantoin Rifampicin Trimethoprim/sulfamethoxazole Etest <sup>®</sup> antibiotic test strips <sup>9</sup> Chloramphenicol <sup>10</sup> Teicoplanin <sup>10</sup>	Report results Report results Report results Resistant Sensitive Report results Resistant Resistant Report results Report results Report results Sensitive Sensitive Sensitive Sensitive Report results Sensitive Report results Report results Sensitive Sensitive  Report results Report results	Negative Positive Resistant (≥ 0.5 µg/mL) Resistant (≥ 4 µg/mL) Sensitive (≤ 0.5 µg/mL) Resistant (≥ 8 µg/mL) Resistant (≥ 8 µg/mL) Resistant (= 4 µg/mL) Positive <sup>7</sup> Sensitive (≤ 0.25 µg/mL) Sensitive (= 2 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (= 1 µg/mL) Sensitive (≤ 0.25 µg/mL) Sensitive (≤ 1 µg/mL) Sensitive (≤ 0.12 µg/mL) <sup>8</sup> Sensitive (≤ 16 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 10 µg/mL)  Sensitive (= 3-4 µg/mL) <sup>11</sup> Sensitive (= 1 µg/mL)
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (820 base pairs)	≥ 99% sequence identity to <i>S. aureus</i> type strain (GenBank: L37597)	100% sequence identity to <i>S. aureus</i> type strain (GenBank: L37597)
<b>Purity (post-freeze)<sup>12</sup></b>	Consistent with expected colony morphology	Consistent with expected colony morphology
<b>Viability (post-freeze)<sup>2</sup></b>	Growth	Growth

- <sup>1</sup>*S. aureus*, strain GA-210 was deposited to BEI Resources as part of the NARSA collection. NR-46210 was produced by inoculation of the deposited material into Tryptic Soy broth and grown 1 day at 37°C in an aerobic atmosphere. Broth inoculum was added to Tryptic Soy agar with 5% defibrinated sheep blood kolles which were grown 1 day at 37°C in an aerobic atmosphere to produce this lot.
- <sup>2</sup>1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood
- <sup>3</sup>4 hours at 37°C in rabbit serum with 0.85% sodium citrate and 0.85% sodium chloride (BBL™ Coagulase Plasma 240658)
- <sup>4</sup>Percent probabilities above 90% indicate a close match to the typical biochemical pattern for the given organism, with a percent probability of 99% being a perfect match between the test reaction pattern and the unique biochemical pattern of the given organism or organism group. For additional information, please refer to O'Hara, C.M. and J. M. Miller. "Evaluation of the Vitek 2 ID-GNB Assay for Identification of Members of the Family Enterobacteriaceae and Other Nonenteric Gram-Negative Bacilli and Comparison with the Vitek GNI+ Card." J. Clin. Microbiol. 41 (2003): 2096-2101. PubMed: 12734254.
- <sup>5</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)
- <sup>6</sup>The production of beta-lactamase was detected using a Cefinase™ Paper Disc (BBL™ 231650).
- <sup>7</sup>*S. aureus*, strain GA-210 was deposited as being resistant to erythromycin and clindamycin. Antibiotic susceptibility testing performed in duplicate determined the erythromycin and clindamycin MICs for *S. aureus*, strain GA-210 as 4 µg/ml and ≤ 0.25 µg/ml, respectively, which are considered susceptible; however, this strain tested positive for inducible clindamycin resistance (ICR). A positive ICR test is indicative of inducible MLS<sub>B</sub> resistance, which confers resistance to macrolides, lincosamides, and type B streptogramin, suggesting that this strain is resistant to erythromycin and clindamycin. Confirmatory antibiotic susceptibility testing is recommended.
- <sup>8</sup>MIC Interpretation Guideline: EUCAST Version 4.0 (2014)
- <sup>9</sup>1 day at 37°C in an aerobic atmosphere on Mueller Hinton agar
- <sup>10</sup>For both chloramphenicol (bioMérieux Etest® 412308) and teicoplanin (bioMérieux Etest® 412459), a MIC ≤ 8 µg/mL is sensitive, a MIC = 16 µg/mL is intermediate and a MIC ≥ 32 µg/mL is resistant.
- <sup>11</sup>*S. aureus*, strain GA-210 was deposited as being resistant to chloramphenicol. Antibiotic susceptibility testing performed in duplicate determined that *S. aureus*, strain GA-210 is susceptible to chloramphenicol.
- <sup>12</sup>Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood.

Figure 1: Colony Morphology



Date: 27 MAY 2016

Signature:

BEI Resources Authentication

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