

**Staphylococcus aureus, Strain CA-78**

**Catalog No. NR-46188**

**Product Description:** *Staphylococcus aureus* (*S. aureus*), strain CA-78 was isolated in 2005 from lung fluid of a 1-year-old female ICU patient with empyema and pneumonia in California, USA. *S. aureus*, strain CA-78 is a clinically-associated methicillin-resistant *S. aureus* (MRSA) strain.

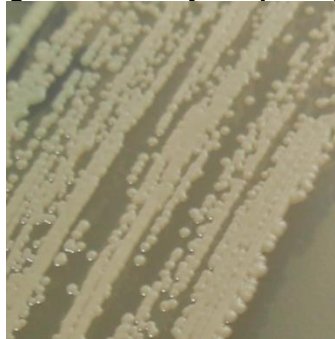
**Lot<sup>1</sup>: 63957122**

**Manufacturing Date: 15JAN2016**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology <sup>2</sup>  Motility (wet mount) Hemolysis <sup>3</sup> Biochemical characterization: Catalase Coagulase <sup>4</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 cream (Figure 1) Non-motile β-hemolytic  Positive Positive <i>S. aureus</i> (99% probability) <sup>5</sup>
<b>Antibiotic Susceptibility Profile</b> VITEK <sup>®</sup> (AST-GP71 card): <sup>6</sup> Beta-lactamase <sup>7</sup> Cefoxitin screen Benzylpenicillin Oxacillin Gentamicin Ciprofloxacin Levofloxacin Moxifloxacin Clindamycin (inducible resistance) Erythromycin Clindamycin 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 Sensitive Report results Report results Resistant Sensitive Report results Sensitive Susceptible Sensitive Report results Resistant Report results Report results Sensitive Sensitive  Sensitive Report results	Positive Positive Resistant (≥ 0.5 µg/mL) Resistant (≥ 4 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (= 0.25 µg/mL) Sensitive (≤ 0.25 µg/mL) Negative Resistant (≥ 8 µg/mL) Sensitive (≤ 0.25 µg/mL) Sensitive (≤ 0.25 µg/mL) Sensitive (= 2 µg/mL) Susceptible (= 0.5 µg/mL) Sensitive (= 1 µg/mL) Sensitive (≤ 0.5 µg/mL) Resistant (≥ 16 µg/mL) Sensitive (≤ 0.12 µg/mL) <sup>8</sup> Sensitive (≤ 16 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 10 µg/mL)  Sensitive (= 2 µg/mL) Sensitive (= 1 to 1.5 µg/mL)
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs)	≥ 99% sequence identity to <i>S. aureus</i> type strain	99.8% sequence identity to L37597
<b>Purity (post-freeze)<sup>11</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 CA-78 was deposited to BEI Resources as part of the NARSA collection. NR-46188 was produced by inoculation of the deposited material into Brain Heart Infusion broth and grown 1 day at 37°C in an aerobic atmosphere. Broth inoculum was added to Brain Heart infusion 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 Brain Heart Infusion agar
- <sup>3</sup> 1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood
- <sup>4</sup> 4 hours at 37°C in rabbit serum with 0.85% sodium citrate and 0.85% sodium chloride (BBL™ Coagulase Plasma 240658)
- <sup>5</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>6</sup> Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)
- <sup>7</sup> The production of beta-lactamase was detected using a DrySlide™ Nitrocefin (BBL™ 231749).
- <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> Purity of this lot was assessed for 9 days on Brain Heart Infusion agar at 37°C in an aerobic atmosphere.

Figure 1: Colony Morphology



Date: 19 FEB 2016

Signature:

BEI Resources Authentication

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