

**Staphylococcus aureus, Strain SA MER-S12**

**Catalog No. NR-45866**

**Product Description:** *Staphylococcus aureus* (*S. aureus*), strain SA MER-S12 is a derivative strain of strain SA MER (NRS11). Strain SA MER was isolated in December 1998 in France from the eye of a 35-year-old female with spontaneous conjunctivitis who had no history of treatment with antimicrobial agents, including glycopeptides, in the preceding three months. *S. aureus*, strain SA MER-S12 is a heterogeneous vancomycin-intermediate *S. aureus* (hVISA) strain and was deposited as resistant to benzylpenicillin but susceptible to methicillin.

**Lot<sup>1</sup>: 62990872**

**Manufacturing Date: 08OCT2014**

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 Consistent with <i>S. aureus</i>	Gram-positive cocci Circular, convex, entire, smooth and gray (Figure 1) Non-motile β-hemolytic  Positive Positive Consistent with <i>S. aureus</i>
<b>Antibiotic Susceptibility Profile</b> VITEK <sup>®</sup> (AST-GP71 card) <sup>4</sup> Beta-lactamase <sup>5</sup> Cefoxitin screen Benzylpenicillin Oxacillin Gentamicin Ciprofloxacin Levofloxacin Moxifloxacin Clindamycin (inducible resistance) Erythromycin Clindamycin Quinupristin/dalfopristin Linezolid Daptomycin Minocycline Tetracycline Tigecycline Nitrofurantoin Rifampicin Trimethoprim/sulfamethoxazole Estest <sup>®</sup> antibiotic test strips <sup>6</sup> Chloramphenicol <sup>7</sup> Teicoplanin <sup>7</sup> Vancomycin <sup>7</sup>	Report results Report results Resistant Sensitive Sensitive Sensitive Report results Report results Report results Report results Sensitive Report results Non-susceptible Report results Sensitive Report results Report results Report results Sensitive  Report results Resistant Report results	Positive Negative Resistant (≥ 0.5 µg/mL) Sensitive (≤ 0.25 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (= 0.25 µg/mL) Sensitive (≤ 0.25 µg/mL) Negative Sensitive (≤ 0.25 µg/mL) Sensitive (≤ 0.25 µg/mL) Sensitive (≤ 0.25 µg/mL) Sensitive (= 2 µg/mL) Non-susceptible (= 2 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 1 µg/mL) Sensitive (≤ 0.12 µg/mL) Sensitive (≤ 16 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 10 µg/mL)  Sensitive (= 3-4 µg/ml) Resistant (= 32 µg/ml) Sensitive (= 2 µg/mL) <sup>8</sup>
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (~ 890 base pairs)	Consistent with <i>S. aureus</i>	Consistent with <i>S. aureus</i>

TEST	SPECIFICATIONS	RESULTS
Purity (post-freeze) <sup>9</sup>	Growth consistent with <i>S. aureus</i>	Growth consistent with <i>S. aureus</i>
Viability (post-freeze) <sup>2</sup>	Growth	Growth

<sup>1</sup>*S. aureus*, strain SA MER-S12 was deposited to BEI Resources as part of the NARSA collection. NR-45866 was produced by inoculation of the deposited material into Tryptic Soy broth and grown 23 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.

<sup>2</sup>24 hours 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 0.15% EDTA (Coagulase Plasma BBL™ 240827)

<sup>4</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)

<sup>5</sup>The production of beta-lactamase was detected using a Cefinase™ Paper Disc (BBL™ 231650).

<sup>6</sup>24 hours at 37°C in an aerobic atmosphere on Mueller Hinton agar

<sup>7</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. For vancomycin (bioMérieux Etest® 412486), a MIC ≤ 2 µg/mL is sensitive, a MIC = 4-8 µg/mL is intermediate, and a MIC ≥ 16 µg/mL is resistant.

<sup>8</sup>*S. aureus*, strain SA MER-S12 was deposited as a hVISA strain in which subpopulations of cells of this strain are resistant to vancomycin (MIC ≥ 16 µg/mL). Antibiotic susceptibility testing using bioMérieux Etest® antibiotic test strips and performed in duplicate failed to detect these vancomycin-resistant subpopulations. For additional information on susceptibility testing of hVISA strains, please refer to Wootton, M., et al. "A Modified Population Analysis Profile (PAP) Method to Detect Hetero-Resistance to Vancomycin in *Staphylococcus aureus* in a UK Hospital." *J. Antimicrob. Chemother.* 47 (2001): 399-403. PubMed: 11266410.

<sup>9</sup>Purity of this lot was assessed for 7 days on Tryptic Soy agar with 5% defibrinated sheep blood at 37°C in an aerobic atmosphere.

Figure 1



Date: 12 DEC 2014

Signature:

Title:

Technical Manager, BEI Authentication or designee

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