SUPPORTING INFECTIOUS DISEASE RESEARCH

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.

Lot¹: 62990872

Manufacturing Date: 08OCT2014

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-positive cocci	Gram-positive cocci
Colony morphology ²	Report results	Circular, convex, entire, smooth and
		gray (Figure 1)
Motility (wet mount)	Report results	Non-motile
Hemolysis ²	Report results	β-hemolytic
Biochemical Characterization		[P
Catalase	Positive	Positive
Coagulase ³	Report results	Positive
VITEK [®] 2 Compact (GP card)	Consistent with S. aureus	Consistent with S. aureus
Antibiotic Susceptibility Profile		
VITEK [®] (AST-GP71 card) ⁴		
Beta-lactamase ⁵	Report results	Positive
Cefoxitin screen	Report results	Negative
Benzylpenicillin	Resistant	Resistant (≥ 0.5 µg/mL)
Oxacillin	Sensitive	Sensitive (≤ 0.25 µg/mL)
Gentamicin	Sensitive	Sensitive (≤ 0.5 µg/mL)
Ciprofloxacin	Sensitive	Sensitive (≤ 0.5 µg/mL)
Levofloxacin	Report results	Sensitive (= $0.25 \mu g/mL$)
Moxifloxacin	Report results	Sensitive (≤ 0.25 µg/mL)
Clindamycin (inducible resistance)	Report results	Negative
Erythromycin	Report results	Sensitive (≤ 0.25 µg/mL)
Clindamycin	Report results	Sensitive (≤ 0.25 µg/mL)
Quinupristin/dalfopristin	Sensitive	Sensitive (≤ 0.25 µg/mL
Linezolid	Report results	Sensitive (= $2 \mu g/mL$)
Daptomycin	Non-susceptible	Non-susceptible (= 2 µg/mL)
Minocycline	Report results	Sensitive (≤ 0.5 µg/mL)
Tetracycline	Sensitive	Sensitive (≤ 1 µg/mL)
Tigecycline	Report results	Sensitive (≤ 0.12 µg/mL)
Nitrofurantoin	Report results	Sensitive (≤ 16 µg/mL)
Rifampicin	Report results	Sensitive (≤ 0.5 µg/mL)
Trimethoprim/sulfamethoxazole	Sensitive	Sensitive (≤ 10 µg/mL)
Etest [®] antibiotic test strips ⁶		
Chloramphenicol ⁷	Report results	Sensitive (= 3-4 µg/ml)
Teicoplanin ⁷ _	Resistant	Resistant (= 32 µg/ml)
Vancomycin ⁷	Report results	Sensitive (= $2 \mu g/mL$) ⁸
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene	Consistent with S. aureus	Consistent with S. aureus
(~ 890 base pairs)		

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Certificate of Analysis for NR-45866

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TEST	SPECIFICATIONS	RESULTS
Purity (post-freeze) ⁹	Growth consistent with S. aureus	Growth consistent with S. aureus
Viability (post-freeze) ²	Growth	Growth

¹S. 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.

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

³4 hours at 37°C in rabbit serum with 0.15% EDTA (Coagulase Plasma BBL™ 240827)

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

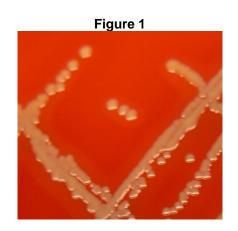
⁵The production of beta-lactamase was detected using a Cefinase™ Paper Disc (BBL™ 231650).

⁶24 hours at 37°C in an aerobic atmosphere on Mueller Hinton agar

⁷For 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.

⁸S. 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.

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



Date: 12 DEC 2014

Signature:

Title:

Technical Manager, BEI Authentication or designee

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