

Certificate of Analysis for NR-46080

Staphylococcus aureus, Strain AIS 2006061

Catalog No. NR-46080

Product Description: Staphylococcus aureus (S. aureus), strain AIS 2006061 was isolated from a wound during a 1993-1994 methicillin-resistant S. aureus (MRSA) outbreak among high school wrestlers and the surrounding community in Vermont, USA. S. aureus, strain AIS 2006061 is a MRSA strain.

Lot¹: 62280965 Manufacturing Date: 15JAN2014

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-positive cocci	Gram-positive cocci
Colony morphology ²	Report results	Circular, low convex, entire, smooth and yellow (Figure 1)
Motility (wet mount)	Report results	Non-motile
Hemolysis ²	Report results	β-hemolytic
Biochemical characterization		
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	Positive
Benzylpenicillin	Report results	Resistant (≥ 0.5 µg/mL)
Oxacillin	Resistant	Resistant (≥ 4 μg/mL)
Gentamicin	Sensitive	Sensitive (≤ 0.5 μg/mL)
Ciprofloxacin	Sensitive	Sensitive (= 1 µg/mL)
Levofloxacin	Report results	Sensitive (= 0.25 µg/mL)
Moxifloxacin	Report results	Sensitive (≤ 0.25 μg/mL)
Clindamycin (inducible resistance) ⁶	Report results	Positive
Erythromycin	Resistant	Resistant (≥ 8 µg/mL)
Quinupristin/dalfopristin	Sensitive	Sensitive (≤ 0.25 μg/mL)
Linezolid	Report results	Sensitive (= 2 µg/mL)
Daptomycin	Report results	Sensitive (= 0.5 µg/mL)
Vancomycin	Report results	Sensitive (≤ 0.5 μg/mL)
Minocycline	Report results	Sensitive (≤ 0.5 μg/mL)
Tetracycline	Report results	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 ⁷		
Chloramphenicol ⁸	Report results	Sensitive (= 3 µg/mL)
Teicoplanin ⁸	Sensitive	Sensitive (= 0.75 μg/mL)
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1490 base pairs)	Consistent with S. aureus	Consistent with S. aureus
Riboprinter® Microbial Characterization System	Consistent with S. aureus	Consistent with S. aureus
Viability (post-freeze) ²	Growth	Growth

S. aureus, strain AIS 2006061 was deposited to BEI Resources as part of the NARSA collection. NR-46080 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

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with 5% defibrinated sheep blood kolles which were grown 24 hours at 37°C in an aerobic atmosphere to produce this lot. Purity of this lot was assessed for 7 days under propagation conditions.

²22 hours at 37°C and 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).

⁶The VITEK[®] AST-GP71 card tests for both clindamycin resistance and inducible clindamycin resistance (ICR). A positive ICR test is indicative of inducible MLS_b resistance, which confers resistance to macrolides, lincosamides, and type B streptogramin and the isolate should be considered resistant to clindamycin. *S. aureus*, strain AIS 2006061 was found to be sensitive to clindamycin but had a positive ICR test and therefore is considered resistant to clindamycin.

⁷24 hours at 37°C and aerobic atmosphere on Mueller Hinton agar

⁸For 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.

Figure 1



Date: 11 APR 2014

Signature:

Title: Technical Manager, BEI Authentication or designee

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