b|e|i RESOURCES
SUPPORTING INFECTIOUS DISEASE RESEARCH

Certificate of Analysis for NR-46419

Staphylococcus aureus, Strain AIS 080003

Catalog No. NR-46419

Product Description: *Staphylococcus aureus* (*S. aureus*), strain AIS 080003 was isolated in 2007 in Michigan, USA from a left plantar foot wound of a 54-year-old female who recently received a 4-week course of vancomycin and levofloxacin to treat osteomyelitis of the left metatarsals. *S. aureus*, strain AIS 080003 is a vancomycin-resistant *S. aureus* strain.

Lot[1]: 62363102 **Manufacturing Date: 07FEB2014**

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-positive cocci	Gram-positive cocci
Colony morphology[2]	Report results	Circular, convex, entire, smooth and cream (Figure 1)
Motility (wet mount)	Report results	Non-motile
Hemolysis[3]	Report results	β-hemolytic
Biochemical Characterization		
Catalase	Positive	Positive
Coagulase[4]	Report results	Positive
VITEK® 2 Compact (GP card)	Consistent with *S. aureus*	Consistent with *S. aureus*
Antibiotic Susceptibility Profile		
VITEK® (AST-GP71 card)[5]		
Beta-lactamase[6]	Report results	Positive
Cefoxitin screen	Report results	Positive
Benzylpenicillin	Report results	Resistant (≥ 0.5 µg/mL)
Oxacillin	Resistant	Resistant (≥ 4 µg/mL)
Gentamicin	Resistant	Resistant (≥ 16 µg/mL)
Levofloxacin	Report results	Resistant (≥ 8 µg/mL)
Moxifloxacin	Report results	Resistant (≥ 8 µg/mL)
Clindamycin (inducible resistance)	Report results	Negative
Erythromycin	Resistant	Resistant (≥ 8 µg/mL)
Clindamycin	Resistant	Resistant (≥ 8 µg/mL)
Quinupristin/dalfopristin	Sensitive	Sensitive (≤ 0.25 µg/mL)
Linezolid	Sensitive	Sensitive (= 1 µg/mL)
Daptomycin	Report results	Sensitive (= 0.25 µg/mL)
Vancomycin	Resistant	Resistant (≥ 32 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	Sensitive	Sensitive (≤ 0.5µg/mL)
Etest® antibiotic test strips[7]		
Chloramphenicol[8]	Sensitive	Sensitive (= 3 µg/mL)
Teicoplanin[8]	Resistant	Resistant (= 256 µg/mL)
Trimethoprim/sulfamethoxazole[8]	Sensitive	Sensitive (= 0.125 µg/mL)
Ciprofloxacin[8]	Sensitive	Resistant (≥ 32 µg/mL)[9]
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1500 base pairs)	Consistent with *S. aureus*	Consistent with *S. aureus*
Viability (post-freeze)[2]	Growth	Growth

[1]*S. aureus*, strain AIS 080003 was deposited to BEI Resources as part of the NARSA collection. NR-46419 was produced by inoculation of the deposited material into Brain Heart Infusion broth with 6 µg/mL vancomycin and grown 25 hours at 37°C in an aerobic atmosphere. Broth inoculum was added to Brain Heart Infusion agar with 6 µg/mL vancomycin kolles which were grown 24 hours at 37°C in an aerobic atmosphere

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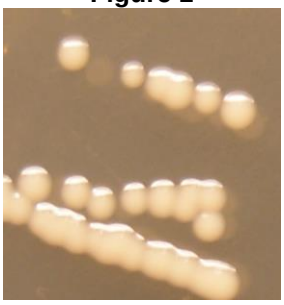
to produce this lot. Purity of this lot was assessed for 8 days under propagation conditions.
[2]20 hours at 37°C and aerobic atmosphere on Brain Heart Infusion agar with 6 µg/mL vancomycin
[3]20 hours at 37°C and aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood
[4]4 hours at 37°C in rabbit serum with 0.15% EDTA (Coagulase Plasma BBL™ 240827)
[5]Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)
[6]The production of beta-lacamase was detected using a Cefinase™ Paper Disc (BBL™ 231650)
[7]24 hours at 37°C and aerobic atmosphere on Mueller Hinton agar
[8]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 trimethoprim/sulfamethoxazole (bioMérieux Etest® 412480) a MIC ≤ 2 µg/mL is sensitive and a MIC ≥ 4 µg/mL is resistant. For ciprofloxacin (bioMérieux Etest® 412310) a MIC ≤ 1 µg/mL is sensitive, a MIC = 2 µg/mL is intermediate and a MIC ≥ 4 µg/mL is resistant.
[9]*S. aureus*, strain AIS 080003 was deposited as being sensitive to ciprofloxacin. ATCC® quality control determined that *S. aureus*, strain AIS 080003 is resistant to ciprofloxacin. Repeat testing confirmed ATCC®'s initial results.

Figure 1



Date: 09 MAY 2014 **Signature:**

Title: Technical Manager, BEI Authentication or designee

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