Certificate of Analysis for NR-49120

Staphylococcus aureus, Strain 880 (BR-VRSA)

Catalog No. NR-49120

Product Description: *Staphylococcus aureus* (*S. aureus*), strain 880 (BR-VRSA) was isolated in 2012 in Sao Paulo, Brazil, from the blood of a 35-year-old male patient with recurrent skin and soft tissue infections (SSTI), which were treated with numerous antibiotics, including vancomycin and teicoplanin. The patient had a history of mycosis fungoides, cocaine addiction and diabetes mellitus. Strain 880 (BR-VRSA) was co-isolated with vancomycin-sensitive strain *S. aureus* (VSSA), strain 917 (BR-VSSA) and vancomycin-resistant *Enterococcus faecalis* (VREF), strain 918. *S. aureus*, strain 880 (BR-VRSA) is a methicillin-resistant *S. aureus* (MRSA), vancomycin-resistant *S. aureus* (VRSA) strain. Note: The strain designation on the vial label for lot 63885491 is incorrect. The correct strain designation is Strain 880 (BR-VRSA).

Lot[1]: 63885491 **Manufacturing Date: 08JAN2016**

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
VITEK® MS (MALDI-TOF)	*S. aureus*	*S. aureus* (99.9%)
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)
Ciprofloxacin	Report results	Resistant (≥ 8 µg/mL)
Levofloxacin	Report results	Resistant (= 4 µg/mL)
Moxifloxacin	Report results	Resistant (= 2 µg/mL)
Clindamycin (inducible resistance)	Report results	Negative
Erythromycin	Report results	Resistant (≥ 8 µg/mL)
Clindamycin	Report results	Resistant (≥ 8 µg/mL)
Quinupristin/dalfopristin	Report results	Sensitive (≤ 0.25 µg/mL)
Linezolid	Report results	Sensitive (= 2 µg/mL)
Daptomycin	Report results	Susceptible (= 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)[6]
Nitrofurantoin	Report results	Sensitive (≤ 16 µg/mL)
Rifampicin	Report results	Sensitive (≤ 0.5 µg/mL)
Trimethoprim/sulfamethoxazole	Report results	Resistant (≥ 320 µg/mL)
Confirmation of Plasmid[7]	Resistant to Gentamicin Resistant to Vancomycin	Resistant to Gentamicin Resistant to Vancomycin
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~1500 base pairs)	≥ 99% sequence identity to *S. aureus* strain 880 (BR-VRSA) (GenBank: JICL01000036)	99.9% sequence identity to *S. aureus* strain 880 (BR-VRSA) (GenBank: JICL01000036)

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Certificate of Analysis for NR-49120

TEST	SPECIFICATIONS	RESULTS
Purity (post-freeze)[8]	Consistent with expected colony morphology	Consistent with expected colony morphology
Viability (post-freeze)[2]	Growth	Growth

[1]The deposited material was inoculated into Brain Heart Infusion broth with 6 µg/mL vancomycin and grown 1 day in an aerobic atmosphere at 37°C and preserved in 10% glycerol. NR-49120 was produced by inoculation of the preserved material into Brain Heart Infusion broth with 6 µg/mL vancomycin. Broth inoculum was added to a Brain Heart Infusion agar with 6 µg/mL vancomycin plate, which was grown for 1 day at 37°C in an aerobic atmosphere. The growth material was passaged once on Brain Heart Infusion agar with 6 µg/mL vancomycin for 1 day at 37°C in an aerobic atmosphere. Colonies were then suspended in Brain Heart Infusion broth with 6 µg/mL vancomycin and used to inoculate Brain Heart Infusion agar with 6 µg/mL vancomycin kolles, which were grown 1 days at 37°C in an aerobic atmosphere produce this lot.
[2]1 day at 37°C in an aerobic atmosphere on Brain Heart Infusion agar with 6 µg/mL vancomycin
[3]1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood
[4]Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)
[5]The production of beta-lactamase was detected using a Cefinase™ Paper Disc (BBL™ 231650).
[6]MIC Interpretation Guideline: EUCAST Version 4.0 (2014)
[7]Susceptibility was tested on a VITEK® AST-GP71 card and interpreted using CLSI M100-S22 (2012) MIC interpretation guidelines.
[8]The purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood.

Figure 1: Colony Morphology

Date: 15 JUN 2016 **Signature:**

BEI Resources Authentication

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

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