

**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 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 is incorrect. The correct strain designation is Strain 880 (BR-VRSA).

**Lot<sup>1</sup>: 70015551**

**Manufacturing Date: 07JUN2018**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology <sup>2</sup>  Motility (wet mount) Hemolysis <sup>3</sup> Biochemical Characterization Catalase VITEK <sup>®</sup> 2 Compact (GP card)	Gram-positive cocci Report results  Report results β-hemolytic  Positive <i>S. aureus</i> (≥ 89%)	Gram-positive cocci Circular, convex, entire, smooth and cream (Figure 1) Non-motile β-hemolytic  Positive <i>S. aureus</i> (91%)
<b>Antibiotic Susceptibility Profile<sup>4</sup></b> Oxacillin <sup>5</sup> VITEK <sup>®</sup> (AST-GP78 card) Beta-lactamase <sup>6</sup> Cefoxitin screen Benzylpenicillin Oxacillin Ceftaroline Ciprofloxacin Levofloxacin Moxifloxacin Clindamycin (inducible resistance) Erythromycin Clindamycin Linezolid Daptomycin Minocycline Tetracycline Tigecycline Nitrofurantoin Rifampicin Trimethoprim/sulfamethoxazole Etest <sup>®</sup> antibiotic test strips <sup>8</sup> Quinupristin/dalfopristin	Resistant  Positive Positive Resistant Resistant Report results Resistant Resistant Resistant Resistant Negative Resistant Resistant Sensitive Susceptible Sensitive Sensitive Sensitive Sensitive Sensitive Sensitive Sensitive Sensitive Resistant  Sensitive	Resistant  Positive Positive Resistant (≥ 0.5 µg/mL) Resistant (≥ 4 µg/mL) Sensitive (= 0.5 µg/mL) Resistant (≥ 8 µg/mL) Resistant (= 4 µg/mL) Resistant (= 2 µg/mL) Negative Resistant (≥ 8 µg/mL) Resistant (≥ 4 µg/mL) Sensitive (= 2 µg/mL) Susceptible (= 1 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 1 µg/mL) Sensitive (≤ 0.12 µg/mL) <sup>7</sup> Sensitive (≤ 16 µg/mL) Sensitive (≤ 0.5 µg/mL) Resistant (≥ 320 µg/mL)  Sensitive (= 0.38 µg/mL)
<b>Confirmation of Plasmid<sup>9</sup></b>	Resistant to Gentamicin Resistant to Vancomycin	Resistant to Gentamicin Resistant to Vancomycin

TEST	SPECIFICATIONS	RESULTS
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (~1040 base pairs)	≥ 99% sequence identity to <i>S. aureus</i> , strain 880 (BR-VRSA) (GenBank: JICL01000036)	99.9% sequence identity to <i>S. aureus</i> , strain 880 (BR-VRSA) (GenBank: JICL01000036)
<b>Purity (post-freeze)<sup>10</sup></b>	Consistent with expected colony morphology	Consistent with expected colony morphology
<b>Viability (post-freeze)<sup>2</sup></b>	Growth	Growth

<sup>1</sup>NR-49120 lot 70015551 was produced by inoculation of BEI Resources NRS-49120 lot 63885492 into Brain Heart Infusion broth with 6 µg/mL vancomycin and grown for 1 day 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 1 day at 37°C in an aerobic atmosphere to produce this lot.

<sup>2</sup>1 day at 37°C in an aerobic atmosphere on Brain Heart Infusion agar with 6 µg/mL vancomycin

<sup>3</sup>1 day at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub> on Tryptic Soy agar with 5% defibrinated sheep blood

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

<sup>5</sup>1 day at 30°C in an aerobic atmosphere on Mueller Hinton agar containing 6 µg/mL oxacillin and 4% NaCl (Oxacillin Screen Agar BBL™ 221952)

<sup>6</sup>The production of beta-lactamase was detected using a Cefinase™ Paper Disc (BBL™ 231650).

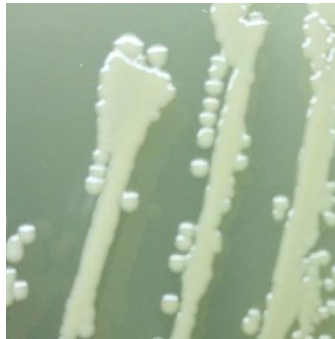
<sup>7</sup>MIC Interpretation Guideline: EUCAST Version 4.0 (2014)

<sup>8</sup>1 day at 37°C in an aerobic atmosphere on Mueller Hinton agar

<sup>9</sup>Susceptibility was tested on a VITEK® AST-GP78 card and interpreted using CLSI M100-S22 (2012) MIC interpretation guidelines.

<sup>10</sup>The purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub> on Tryptic Soy agar with 5% defibrinated sheep blood.

Figure 1: Colony Morphology



/Heather Couch/  
Heather Couch

12 SEP 2018

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