

**Staphylococcus aureus, Strain 71080**

**Catalog No. NR-46418**

**Product Description:** *Staphylococcus aureus* (*S. aureus*), strain 71080 was isolated in 2007 in Michigan, USA from a toe wound of a 48-year-old female who had recently received a 7-month course of vancomycin and ceftriaxone to treat osteomyelitis of the right metatarsals. *S. aureus*, strain 71080 is a vancomycin-resistant *S. aureus* strain.

**Lot<sup>1</sup>: 62436161**

**Manufacturing Date: 13MAR2014**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology <sup>2</sup>  Motility (wet mount) Hemolysis <sup>3</sup> Biochemical Characterization Catalase Coagulase <sup>4</sup> VITEK <sup>®</sup> 2 Compact (GP card)	Gram-positive cocci Report results  Report results Report results  Positive Report results Consistent with <i>S. aureus</i>	Gram-positive cocci Circular, convex, entire, smooth and yellow (Figure 1) Non-motile β-hemolytic  Positive Positive Consistent with <i>S. aureus</i>
<b>Antibiotic Susceptibility Profile</b> VITEK <sup>®</sup> (AST-GP71 card) <sup>5</sup> Beta-lactamase <sup>6</sup> Cefoxitin screen Benzylpenicillin Oxacillin Gentamicin Ciprofloxacin Levofloxacin Moxifloxacin Clindamycin (inducible resistance) Erythromycin Clindamycin Quinupristin/dalfopristin Linezolid Daptomycin Vancomycin Minocycline Tetracycline Tigecycline Nitrofurantoin Rifampicin Etest <sup>®</sup> antibiotic test strips <sup>7</sup> Chloramphenicol <sup>8</sup> Teicoplanin <sup>8</sup> Trimethoprim/sulfamethoxazole <sup>8</sup>	Report results Report results Report results Resistant Resistant Resistant Resistant Report results Report results Report results Resistant Resistant Sensitive Sensitive Report results Resistant Report results Sensitive Report results Report results Sensitive  Sensitive Resistant Sensitive	Positive Positive Resistant (= 0.25 µg/mL) Resistant (≥ 4 µg/mL) Resistant (≥ 16 µg/mL) Resistant (≥ 8 µg/mL) Resistant (≥ 8 µg/mL) Resistant (= 4 µg/mL) Negative Resistant (≥ 8 µg/mL) Resistant (≥ 8 µg/mL) Sensitive (≤ 0.25 µg/mL) Sensitive (= 2 µg/mL) Sensitive (≤ 0.12 µg/mL) Resistant (≥ 32 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 1 µg/mL) Sensitive (≤ 0.12 µg/mL) Sensitive (≤ 16 µg/mL) Sensitive (≤ 0.5 µg/mL)  Sensitive (= 3 µg/mL) Resistant (= 32 µg/mL) Resistant (= 8 µg/mL) <sup>9,10</sup>
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (~ 1500 base pairs)	Consistent with <i>S. aureus</i>	Consistent with <i>S. aureus</i>
<b>Viability (post-freeze)<sup>2</sup></b>	Growth	Growth

<sup>1</sup>*S. aureus*, strain 71080 was deposited to BEI Resources as part of the NARSA collection. NR-46418 was produced by inoculation of the deposited material into Brain Heart Infusion broth with 6 µg/mL vancomycin and grown 24 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 22 hours at 37°C in an aerobic atmosphere to produce this lot. Purity of this lot was assessed for 7 days under propagation conditions.
- <sup>2</sup>24 hours at 37°C and aerobic atmosphere on Brain Heart Infusion agar with 6 µg/mL vancomycin
- <sup>3</sup>24 hours at 37°C and aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood
- <sup>4</sup>4 hours at 37°C in rabbit serum with 0.15% EDTA (Coagulase Plasma BBL™ 240827)
- <sup>5</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)
- <sup>6</sup>The production of beta-lactamase was detected using a Cefinase™ Paper Disc (BBL™ 231650)
- <sup>7</sup>24 hours at 37°C and aerobic atmosphere on Mueller Hinton agar
- <sup>8</sup>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.
- <sup>9</sup>*S. aureus*, strain 71080 was deposited as being sensitive to trimethoprim/sulfamethoxazole. ATCC® quality control determined that *S. aureus*, strain 71080 is resistant to trimethoprim/sulfamethoxazole. Repeat testing confirmed ATCC®'s initial results.
- <sup>10</sup>The susceptibility to trimethoprim/sulfamethoxazole was interpreted using three methods: individual MICs for trimethoprim and sulfamethoxazole (NARSA); combined MIC for trimethoprim/sulfamethoxazole (VITEK®); MIC for trimethoprim (Etest®).

Figure 1



Date: 09 MAY 2014

Signature: 

Title: Technical Manager, BEI Authentication or designee

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