

# **Certificate of Analysis for NR-46543**

## Staphylococcus aureus subsp. aureus, Strain JE2

#### Catalog No. NR-46543

### **Product Description:**

Staphylococcus aureus (S. aureus) subsp. aureus, strain JE2 is a plasmid-cured derivative of strain LAC that was isolated in 2002 from a skin and soft tissue infection of an inmate in the Los Angeles County Jail in California, USA. It is the parental strain of the Nebraska Transposon Mutant Library from which the collection of transposon mutants was generated from. Strain JE2 is a methicillin-resistant S. aureus (MRSA) strain. NR-46543 lot 70050462 was produced by the inoculation of seed lot 63043216 into Tryptic Soy broth and incubated for 1 day at 37°C in an aerobic atmosphere. Broth inoculum was added to Tryptic Soy agar with 5% defibrinated sheep blood kolles which were grown 1 day at 37°C in an aerobic atmosphere. Quality control testing was completed under propagation conditions unless otherwise noted.

Lot: 70050462 Manufacturing Date: 18FEB2022

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-positive cocci	Gram-positive cocci
Colony morphology	Report results	Circular, low convex, entire, smooth and gray (Figure 1)
Motility (wet mount)	Report results	Non-motile
Hemolysis	β-hemolytic	β-hemolytic
Biochemical characterization		
Catalase	Positive	Positive
Coagulase	Positive	Positive
VITEK® 2 Compact (GP card)	S. aureus (≥ 89%)	S. aureus (99%)
Antibiotic Susceptibility Profile <sup>1</sup> VITEK® (AST-GP78 card)		
Beta-lactamase	Positive	Positive
Cefoxitin screen	Positive	Positive
Benzylpenicillin	Resistant	Resistant (≥ 0.5 µg/mL)
Oxacillin	Resistant	Resistant (≥ 4 µg/mL)
Ceftaroline	Sensitive	Sensitive (= 0.25 µg/mL)
Gentamicin	Sensitive	Sensitive (≤ 0.5 µg/mL)
Ciprofloxacin	Resistant	Resistant (≥ 8 µg/mL)
Levofloxacin	Resistant	Resistant (= 4 µg/mL)
Clindamycin (inducible resistance)	Negative	Negative
Erythromycin	Sensitive	Sensitive (≤ 0.25 µg/mL)
Clindamycin	Sensitive	Sensitive (= 0.25 µg/mL)
Linezolid	Sensitive	Sensitive (= 2 µg/mL)
Daptomycin	Sensitive	Sensitive (= 0.5 μg/mL)
Vancomycin	Sensitive	Sensitive (= 1 µg/mL)
Minocycline	Sensitive	Sensitive (≤ 0.5 μg/mL)
Tetracycline	Sensitive	Sensitive (≤ 1 μg/mL)
Tigecycline	Sensitive	Sensitive (≤ 0.12 μg/mL) <sup>2</sup>
Nitrofurantoin	Sensitive	Sensitive (≤ 16 μg/mL)
Rifampicin	Sensitive	Sensitive (≤ 0.5 µg/mL)
Trimethoprim/sulfamethoxazole	Sensitive	Sensitive (≤ 10 μg/mL)
Etest <sup>®</sup> antibiotic test strips		
Chloramphenicol	Sensitive	Sensitive (= 3 μg/mL)

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TEST	SPECIFICATIONS	RESULTS
Teicoplanin	Sensitive	Sensitive (= 1 µg/mL)
Moxifloxacin	Intermediate	Intermediate (= 1.5 µg/mL)
Quinupristin-dalfopristin	Report results	Sensitive (= 0.38 µg/mL)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1490 base pairs)	≥ 99% sequence identity to S. aureus, strain JE2 (GenBank: CP020619.1)	100% sequence identity to S. aureus, strain JE2 (GenBank: CP020619.1)
Purity (post-freeze) 7 days at 37°C in an aerobic atmosphere with 5% CO <sub>2</sub> on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze)	Growth	Growth

<sup>&</sup>lt;sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

Figure 1: Colony Morphology



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Program Manager or designee, ATCC Federal Solutions

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<sup>&</sup>lt;sup>2</sup>MIC Interpretation Guideline: EUCAST Version 12.0 (2022)