

Staphylococcus aureus, Strain HT 20020444

Catalog No. NR-46058

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Product Description:

Staphylococcus aureus (*S. aureus*), strain HT 20020444 was isolated in 2002 from a wound specimen from a human in Switzerland. *S. aureus*, strain HT 20020444 (NRS265) was deposited to BEI Resources as part of the NARSA collection, sensitive to ciprofloxacin, clindamycin, gentamicin, linezolid, quinupristin/dalfopristin, teicoplanin and vancomycin and resistant to erythromycin, oxacillin, penicillin and trimethoprim/sulfamethoxazole. NR-46058 was produced by inoculation of the deposited material into Tryptic Soy broth and grown 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 for 1 day at 37°C in an aerobic atmosphere to produce this lot. Quality control testing was completed under propagation conditions unless otherwise noted.

Lot: 70062933

Manufacturing Date: 25AUG2023

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology Motility (wet mount) Hemolysis 1 day at 37°C in an aerobic atmosphere with 5% CO ₂ on Tryptic Soy agar with 5% defibrinated sheep blood Biochemical characterization Catalase Coagulase ¹ VITEK® 2 (GP card) VITEK® MS (MALDI-TOF)	Gram-positive cocci Report results Report results Report results Positive Report results <i>S. aureus</i> (≥ 95%) <i>S. aureus</i>	Gram-positive cocci Circular, low convex, entire, smooth and cream Non-motile β-hemolytic Positive Positive <i>S. aureus</i> (99%) <i>S. aureus</i> (99.9%)
Antibiotic Susceptibility Profile² VITEK® (AST-GP78 card) Beta-lactamase Cefoxitin screen Benzylpenicillin Ceftaroline Ciprofloxacin Clindamycin Clindamycin (inducible resistance) Daptomycin Erythromycin Gentamicin Levofloxacin Linezolid Minocycline Moxifloxacin Nitrofurantoin Oxacillin Rifampicin	Report results Report results Resistant Report results Sensitive Sensitive Report results Report results Resistant Sensitive Report results Sensitive Report results Report results Report results Resistant Report results	Positive Positive Resistant (≥ 0.5 µg/mL) Sensitive (0.25 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (0.25 µg/mL) Positive ³ Sensitive (0.5 µg/mL) Resistant (≥ 8 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 0.12 µg/mL) Sensitive (2 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 0.25 µg/mL) Sensitive (≤ 16 µg/mL) Resistant (≥ 4 µg/mL) Sensitive (≤ 0.5 µg/mL)

Certificate of Analysis for NR-46058

TEST	SPECIFICATIONS	RESULTS
Tetracycline Tigecycline Trimethoprim/sulfamethoxazole Vancomycin Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Chloramphenicol Quinupristin/dalfopristin Teicoplanin	Report results Report results Resistant Sensitive Report results Sensitive Sensitive	Sensitive ($\leq 1 \mu\text{g/mL}$) Sensitive ($\leq 0.12 \mu\text{g/mL}$) ⁴ Resistant (80 $\mu\text{g/mL}$) Sensitive (1 $\mu\text{g/mL}$) Sensitive (1.5 to 2 $\mu\text{g/mL}$) Sensitive (0.125 $\mu\text{g/mL}$) Sensitive (0.5 $\mu\text{g/mL}$)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1440 base pairs)	$\geq 99\%$ sequence identity to <i>S. aureus</i> , strain HT 20020444 (GenBank: CAIHCJ010000004.1)	99.7% sequence identity to <i>S. aureus</i> , strain HT 20020444 (GenBank: CAIHCJ010000004.1)
Purity (post-freeze) 8 days at 37°C in an aerobic atmosphere with and without 5% CO ₂ 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

¹4 hours at 37°C in rabbit serum with 0.15% EDTA (Coagulase Plasma BBL™ 240827)

²Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

³The VITEK® AST-GP71 card tests for both clindamycin resistance and inducible clindamycin resistance (ICR). A positive ICR test is indicative of inducible MLS_B resistance, which confers resistance to macrolides, lincosamides, and type B streptogramin and the isolate should be considered resistant to clindamycin. *S. aureus*, strain HT 20020444 was found to be sensitive to clindamycin but had a positive ICR test and therefore is considered resistant to clindamycin. For additional information, please refer to Mahesh, C. B., B. K. Ramakant and V. S. Jagadeesh. "The Prevalence of Inducible and Constitutive Clindamycin Resistance Among the Nasal Isolates of Staphylococci." *J. Clin. Diagn. Res.* 7 (2013): 1620-1622. PubMed: 24086856.

⁴MIC Interpretation Guideline: EUCAST Version 4.0 (2014)

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