

Staphylococcus aureus, Strain M1712

Catalog No. NR-45930

Product Description: *Staphylococcus aureus* (*S. aureus*), strain M1712 was isolated in 2002 from sputum of an 87-year-old male in Tennessee, USA. *S. aureus*, strain M1712 is a linezolid-resistant *S. aureus* (LRSA), methicillin-resistant *S. aureus* (MRSA) strain and was deposited as resistant to linezolid and intermediately susceptible to tedizolid.

Lot¹: 63007587

Manufacturing Date: 17OCT2014

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology ² Motility (wet mount) Hemolysis ² Biochemical characterization Catalase Coagulase ³ VITEK [®] 2 Compact (GP card)	Gram-positive cocci Report results Report results Report results Positive Report results ≥ 90% probability of being <i>S. aureus</i>	Gram-positive cocci Circular, slight peaked, entire, smooth and gray (Figure 1) Non-motile β-hemolytic Positive Positive <i>S. aureus</i> (99% probability) ⁴
Antibiotic Susceptibility Profile VITEK [®] (AST-GP71 card) ⁵ Beta-lactamase ⁶ Cefoxitin screen Benzylpenicillin Oxacillin Gentamicin Ciprofloxacin Levofloxacin Moxifloxacin Clindamycin (inducible resistance) Erythromycin Quinupristin/dalfopristin Linezolid Daptomycin Vancomycin Minocycline Tetracycline Tigecycline Nitrofurantoin Rifampicin Trimethoprim/sulfamethoxazole Etest [®] antibiotic test strips ⁹ Chloramphenicol ¹⁰ Teicoplanin ¹⁰	Report results Report results Report results Resistant Sensitive Resistant Report results Report results Report results Report results Resistant Sensitive Resistant Report results Sensitive Report results Report results Report results Report results Report results Report results Sensitive Report results Sensitive	Positive Positive Resistant (≥ 0.5 µg/mL) Resistant (≥ 4 µg/mL) Sensitive (≤ 0.5 µg/mL) Resistant (≥ 8 µg/mL) Resistant (≥ 8 µg/mL) Resistant (≥ 8 µg/mL) Positive ⁷ Resistant (≥ 8 µg/mL) Sensitive (= 0.5 µg/mL) Resistant (≥ 8 µg/mL) Sensitive (= 0.25-0.5 µg/mL) Sensitive (≤ 0.5-1 µg/mL) Sensitive (≤ 0.5 µg/mL) Resistant (≥ 8 µg/mL) Sensitive (≤ 0.12 µg/mL) ⁸ Sensitive (≤ 16 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 10 µg/mL) Sensitive (= 2 µg/mL) Sensitive (= 1.5 µg/mL)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1500 base pairs)	≥ 99% sequence identity to <i>S. aureus</i> type strain (Genbank: L37597)	100% sequence identity to <i>S. aureus</i> type strain (Genbank: L37597)
Purity (post-freeze)¹¹	Consistent with expected colony morphology	Consistent with expected colony morphology
Viability (post-freeze)²	Growth	Growth

- ¹ *S. aureus*, strain M1712 was deposited to BEI Resources as part of the NARSA collection. NR-45930 was produced by inoculation of the deposited material into Tryptic Soy broth and grown 25 hours at 37°C in an aerobic atmosphere. Broth inoculum was added to Tryptic Soy agar with 5% defibrinated sheep blood kolles which were grown 24 hours at 37°C in an aerobic atmosphere to produce this lot.
- ² 24 hours at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood
- ³ 4 hours at 37°C in rabbit serum with 0.15% EDTA (Coagulase Plasma BBL™ 240827)
- ⁴ Percent probabilities above 90% indicate a close match to the typical biochemical pattern for the given organism, with a percent probability of 99% being a perfect match between the test reaction pattern and the unique biochemical pattern of the given organism or organism group. For additional information, please refer to O'Hara, C.M. and J. M. Miller. "Evaluation of the Vitek 2 ID-GNB Assay for Identification of Members of the Family *Enterobacteriaceae* and Other Nonenteric Gram-Negative Bacilli and Comparison with the Vitek GNI+ Card." *J. Clin. Microbiol.* 41 (2003): 2096-2101. PubMed: 12734254.
- ⁵ Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)
- ⁶ The production of beta-lactamase was detected using a Cefinase™ Paper Disc (BBL™ 231650).
- ⁷ The 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 M1712 was found to be sensitive to clindamycin but had a positive ICR test and therefore is considered resistant to clindamycin
- ⁸ MIC Interpretation Guideline: EUCAST Version 4.0 (2014)
- ⁹ 24 hours at 37°C in an aerobic atmosphere on Mueller Hinton agar
- ¹⁰ 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.
- ¹¹ Purity of this lot was assessed for 7 days on Tryptic Soy agar with 5% defibrinated sheep blood at 37°C in an aerobic atmosphere.

Figure 1: Colony Morphology



Date: 29 MAR 2016

Signature:

BEI Resources Authentication

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