

Staphylococcus aureus, Strain H2138 (Isolate 10)

Catalog No. NR-46062

Product Description: *Staphylococcus aureus* (*S. aureus*), strain H2138 (Isolate 10) was isolated in 2002 from a wound drain site of 52-year-old male in the United Kingdom. *S. aureus*, strain H2138 (Isolate 10) is a linezolid-resistant *S. aureus* (LRSA), methicillin-resistant *S. aureus* (MRSA) strain. It was deposited as being resistant to linezolid, tedizolid, ciprofloxacin, oxacillin and penicillin and having an intermediate resistance to erythromycin. *S. aureus*, strain H2138 (Isolate 10) is the second clinically isolated linezolid-resistant MRSA strain.

Lot¹: 62401823

Manufacturing Date: 27FEB2014

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) VITEK [®] MS (MALDI-TOF)	Gram-positive cocci Report results Report results Report results Positive Report results ≥ 90% probability of being <i>S. aureus</i> Consistent with <i>S. aureus</i>	Gram-positive cocci Circular, low convex, entire, smooth and gray (Figure 1) Non-motile β-hemolytic Positive Positive <i>S. aureus</i> (99% probability) ⁴ <i>S. aureus</i> (99.9%)
Antibiotic Susceptibility Profile VITEK [®] (AST-GP71 card) ⁵ Beta-lactamase ⁶ Cefoxitin screen Benzylpenicillin Oxacillin Gentamicin Ciprofloxacin Levofloxacin Moxifloxacin Clindamycin (inducible resistance) Clindamycin Quinupristin/dalfopristin Linezolid Daptomycin Vancomycin Minocycline Tetracycline Tigecycline Nitrofurantoin Rifampicin Trimethoprim/sulfamethoxazole Etest [®] antibiotic test strips ⁸ Chloramphenicol ⁹ Teicoplanin ⁹ Erythromycin ⁹	Report results Report results Report results Resistant Sensitive Resistant Report results Report results Report results Report results Sensitive Sensitive Resistant Report results Sensitive Report results Report results Report results Report results Report results Sensitive Report results Sensitive Intermediate	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) Negative Sensitive (≤ 0.25 µg/mL) Sensitive (≤ 0.25 µg/mL) Resistant (≥ 8 µg/mL) Sensitive (= 0.5 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 1 µg/mL) Sensitive (≤ 0.12 µg/mL) ⁷ Sensitive (≤ 16 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 10 µg/mL) Sensitive (= 6 µg/mL) Sensitive (= 1 µg/mL) Sensitive (= 0.39 µg/mL) ¹⁰
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1460 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)

TEST	SPECIFICATIONS	RESULTS
Purity (post-freeze) ¹¹	Consistent with expected colony morphology	Consistent with expected colony morphology
Viability (post-freeze) ²	Growth	Growth

¹*S. aureus*, strain H2138 (Isolate 10) was deposited to BEI Resources as part of the NARSA collection. NR-46062 was produced by inoculation of the deposited material into Tryptic Soy broth and grown 27 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 23 hours at 37°C in an aerobic atmosphere to produce this lot.

²20 hours at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood

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

⁴Percent 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.

⁵Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)

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

⁷MIC Interpretation Guideline: EUCAST Version 4.0 (2014)

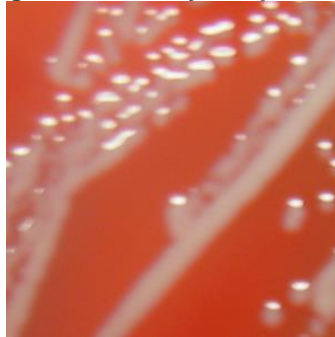
⁸24 hours at 37°C in an aerobic atmosphere on Mueller Hinton agar

⁹For 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 erythromycin (bioMérieux Etest® 412333), a MIC ≤ 0.5 µg/mL is sensitive, a MIC between 1 and 4 µg/mL is intermediate and a MIC ≥ 8 µg/mL is resistant.

¹⁰*S. aureus*, strain H2138 (Isolate 10) was deposited as having an intermediate susceptibility to erythromycin. Antibiotic susceptibility testing performed in duplicate determined that strain H2138 (Isolate 10) is susceptible to erythromycin.

¹¹Purity 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: 28 MAR 2016

Signature:

BEI Resources Authentication

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