

Staphylococcus haemolyticus, Strain Shae 2

Catalog No. NR-45897

Product Description: *Staphylococcus haemolyticus* (*S. haemolyticus*), strain Shae 2 was isolated in October 2000 from the bone marrow of a 22-year-old male inpatient in Kentucky, USA. *S. haemolyticus*, strain Shae 2 was deposited as a glycopeptide intermediate *S. haemolyticus* strain.

Lot¹: 70011772

Manufacturing Date: 12JAN2018

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 Negative <i>S. haemolyticus</i> (≥ 89%) <i>S. haemolyticus</i>	Gram-positive cocci Circular, low convex, entire, smooth and white (Figure 1) Non-motile β-hemolytic Positive Negative <i>S. haemolyticus</i> (97%) <i>S. haemolyticus</i> (99.9%)
Antibiotic Susceptibility Profile⁴ VITEK [®] (AST-GP71 card) Beta-lactamase ⁵ Cefoxitin screen Benzylpenicillin Oxacillin Gentamicin Ciprofloxacin Levofloxacin Moxifloxacin Clindamycin (inducible resistance) Erythromycin Clindamycin Quinupristin/dalfopristin Linezolid Daptomycin Vancomycin Minocycline Tetracycline Tigecycline Nitrofurantoin Rifampicin Trimethoprim/sulfamethoxazole Etest [®] antibiotic test strips ⁹ Teicoplanin	Report results Report results Report results Resistant Resistant Resistant Resistant Report results Report results Report results Resistant Sensitive Sensitive Sensitive Non-susceptible Report results Report results Report results Report results Report results Report results Report results Resistant Resistant	Positive Positive Resistant (≥ 0.5 µg/mL) Resistant (≥ 4 µg/mL) Sensitive (= 4 µg/mL) ⁶ Resistant (≥ 8 µg/mL) Resistant (= 4 µg/mL) Intermediate (= 1 µg/mL) Negative Resistant (≥ 8 µg/mL) Sensitive (≤ 0.25 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (= 2 µg/mL) Non-susceptible (= 2 µg/mL) Sensitive (= 4 µg/mL) ⁷ Sensitive (≤ 0.5 µg/mL) Sensitive (= 2-4 µg/mL) Sensitive (= 0.25 µg/mL) ⁸ Sensitive (≤ 16 µg/mL) Sensitive (≤ 0.5 µg/mL) Resistant (= 160 µg/mL) Intermediate (= 24 µg/mL) ¹⁰
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 910 base pairs)	≥ 99% sequence identity to <i>S. haemolyticus</i> type strain (GenBank: D83367.1)	100% sequence identity to <i>S. haemolyticus</i> type strain (GenBank: D83367.1) ¹¹
Purity (post-freeze)¹²	Consistent with expected colony morphology	Consistent with expected colony morphology
Viability (post-freeze)²	Growth	Growth

¹ *S. haemolyticus*, strain Shae 2 was deposited to BEI Resources as part of the NARSA collection. NR-45897 was produced by inoculation of the deposited material into Tryptic Soy broth and grown 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 to produce this lot.

- ²1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood
- ³1 day at 37°C in rabbit serum with 0.15% EDTA (Coagulase Plasma BBL™ 240827)
- ⁴Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)
- ⁵The production of beta-lactamase was detected using a Cefinase™ Paper Disc (BBL™ 231650).
- ⁶*S. haemolyticus*, strain Shae 2 was deposited as resistant to gentamicin. Antibiotic susceptibility testing performed in duplicate determined that strain Shae 2 is sensitive to gentamicin.
- ⁷*S. haemolyticus*, strain Shae 2 was deposited as having an intermediate susceptibility to vancomycin. Antibiotic susceptibility testing performed in duplicate identified strain Shae 2 as sensitive to vancomycin and non-susceptible to daptomycin. Studies have demonstrated a correlation between reduced daptomycin susceptibility and vancomycin resistance in vancomycin hetero-intermediate and intermediate staphylococcal species. Reduced sensitivity to these antibiotics is believed to be due to a thickening of the cell wall. For additional information, please refer to Tran, T.T., J. M. Munita and C. A. Arias. "Mechanisms of Drug Resistance: Daptomycin Resistance." *Ann. N. Y. Acad. Sci.* 1354 (2015): 32-53. PubMed: 26495887.
- ⁸MIC Interpretation Guideline: EUCAST Version 4.0 (2014)
- ⁹1 day at 37°C in an aerobic atmosphere on Mueller Hinton agar
- ¹⁰*S. haemolyticus*, strain Shae 2 was deposited as resistant to teicoplanin. Antibiotic susceptibility testing using bioMérieux Etest® antibiotic test strips and performed in duplicate determined that strain Shae 2 has intermediate susceptibility to teicoplanin. For additional information on susceptibility testing of glycopeptide intermediate staphylococcal species, please refer to Walsh, T. R., et al. "Evaluation of Current Methods for Detection of *Staphylococci* with Reduced Susceptibility to Glycopeptides." *J. Clin. Microbiol.* 39 (2001): 2439-2444. PubMed: 11427551.
- ¹¹Also consistent with other *Staphylococcus* species
- ¹²Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with 5% CO₂ on Tryptic Soy agar with 5% defibrinated sheep blood.

Figure 1: Colony Morphology



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