

Certificate of Analysis for NR-45883

Staphylococcus aureus, Strain 99.3795.V

Catalog No. NR-45883

Product Description: Staphylococcus aureus (S. aureus), strain 99.3795.V was isolated in May 1999 from urine of an ICU inpatient in Scotland. S. aureus, strain 99.3795.V is a glycopeptide-intermediate S. aureus (GISA) strain.

Lot¹: 70011108 Manufacturing Date: 28DEC2017

TEST	SPECIFICATIONS	RESULTS
	SPECIFICATIONS	RESULIS
Phenotypic Analysis		
Cellular morphology	Gram-positive cocci	Gram-positive cocci
Colony morphology ²	Report results	Circular, low convex, entire, smooth
	1	and white (Figure 1)
Motility (wet mount)	Report results	Non-motile
Hemolysis ²	Report results	β-hemolytic ³
Biochemical characterization		
Catalase	Positive	Positive
Coagulase ⁴	Report results	Positive
VITEK® 2 Compact (GP card)	S. aureus (≥ 89%)	S. aureus (98%)
VITEK® MS (MALDI-TOF)	S. aureus	S. aureus (99.9%)
Antibiotic Susceptibility Profile ⁵ VITEK® (AST-GP71 card)		
Beta-lactamase ⁶	Report results	Positive
Cefoxitin screen	Report results	Positive
Benzylpenicillin	Report results	Resistant (≥ 0.5 µg/mL)
Oxacillin	Resistant	Resistant (≥ 4 µg/mL)
Gentamicin	Resistant	Resistant (≥ 16 µg/mL)
Ciprofloxacin	Resistant	Resistant (≥ 8 µg/mL)
Levofloxacin	Report results	Resistant (≥ 8 µg/mL)
Moxifloxacin	Report results	Resistant (= 2 µg/mL)
Clindamycin (inducible resistance)	Report results	Negative
Erythromycin	Report results	Resistant (≥ 8 µg/mL)
Clindamycin	Report results	Resistant (≥ 8 µg/mL)
Quinupristin/dalfopristin	Sensitive	Sensitive (≤ 0.5 µg/mL)
Linezolid	Report results	Sensitive (= 2 µg/mL)
Daptomycin	Non-susceptible	Susceptible (= 1 μ g/mL) ⁷
Vancomycin	Intermediate	Intermediate (= 8 µg/mL)
Minocycline	Report results	Intermediate (= 8 µg/mL)
Tetracycline	Resistant	Resistant (≥ 16 µg/mL)
Tigecycline	Report results	Sensitive (= 0.25 µg/mL) ⁸
Nitrofurantoin	Report results	Sensitive (≤ 16 µg/mL)
Rifampicin	Report results	Resistant (≥ 32 µg/mL)
Trimethoprim/sulfamethoxazole Etest® antibiotic test strips9	Sensitive	Sensitive (≤ 10 μg/mL)
Chloramphenicol	Report results	Sensitive (= 8 µg/mL)
Teicoplanin	Intermediate	Intermediate (= 12 µg/mL)
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Genotypic Analysis	> 000/	1000/
Sequencing of 16S ribosomal RNA gene (~ 720 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) ¹⁰
Purity (post-freeze) ¹¹	Consistent with expected colony morphology	Consistent with expected colony morphology
Viability (post-freeze) ²	Growth	Growth

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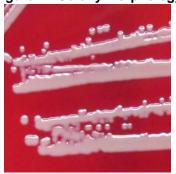


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SUPPORTING INFECTIOUS DISEASE RESEARCH

- ¹S. aureus, strain 99.3795.V was deposited to BEI Resources as part of the NARSA collection. NR-45883 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
- ³β-hemolysis was observed after 2 days
- ⁴4 hours at 37°C in rabbit plasma with 0.15% EDTA (Coagulase Plasma BBL™ 240827)
- 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).
- 7S. aureus, strain 99.3795.V was deposited as susceptible to non-daptomycin. Antibiotic susceptibility testing performed in duplicate identified strain 99.3795.V as susceptible to daptomycin. Studies have demonstrated a correlation between reduced daptomycin susceptibility and vancomycin resistance in GISA strains. 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
- ¹⁰Also consistent with other Staphylococcus species
- 11 Purity of this lot was assessed for 7 days at $^{\dot{3}}$ 7°C in an aerobic atmosphere with 5% CO₂ on Tryptic Soy agar with 5% defibrinated sheep blood.

Figure 1: Colony Morphology



25 MAY 2018

Program Manager or designee, ATCC Federal Solutions

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