

## **Certificate of Analysis for NR-46388**

## Staphylococcus aureus, Strain VCU089

Catalog No. NR-46388

Product Description: Staphylococcus aureus (S. aureus), strain VCU089 is of unknown origin.

Lot<sup>1</sup>: 63025326 Manufacturing Date: 29OCT2014

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-positive cocci	Gram-positive cocci
Colony morphology <sup>2</sup>	Report results	Circular, low convex, entire, smooth,
3, 3, 4, 4, 3,		opaque and gray (Figure 1)
Motility (wet mount)	Report results	Non-motile
Hemolysis <sup>2</sup>	Report results	β-hemolytic
Biochemical characterization	Troport rooding	p
Catalase	Positive	Positive
Coagulase <sup>3</sup>	Report results	Positive
VITEK® 2 Compact (GP card)	≥ 90% probability of being <i>S. aureus</i>	S. aureus (99% probability) <sup>4</sup>
Antibiotic Susceptibility Profile	= conspication, or some or dereas	e. dareas (ee/s presasmity)
VITEK® (AST-GP71 card) <sup>5</sup>		
Cefoxitin screen	Report results	Negative
Benzylpenicillin	Report results	Inconclusive <sup>6</sup>
Oxacillin	Report results	Sensitive (≤ 0.25 µg/mL)
Gentamicin	Report results	Sensitive (≤ 0.5 µg/mL)
Ciprofloxacin	Report results	Resistant (≥ 8 µg/mL)
Levofloxacin	Report results	Resistant (= 4 µg/mL)
Moxifloxacin	Report results	Intermediate (= 1 µg/mL)
Clindamycin (inducible resistance)	Report results	Negative
Erythromycin Clindamycin	Report results	Resistant (≥ 8 µg/mL) Resistant (≥ 8 µg/mL)
	Report results	
Quinupristin/dalfopristin Linezolid	Report results	Sensitive (≤ 0.25 µg/mL)
	Report results	Sensitive (= 2 µg/mL)
Daptomycin	Report results	Sensitive (= 0.5 µg/mL)
Vancomycin	Report results	Sensitive (≤ 0.5 µg/mL)
Minocycline	Report results	Sensitive (≤ 0.5 µg/mL)
Tetracycline	Report results	Sensitive (≤ 1 µg/mL)
Tigecycline	Report results	Sensitive (≤ 0.12 μg/mL) <sup>7</sup>
Nitrofurantoin	Report results	Sensitive (≤ 16 μg/mL)
Rifampicin	Report results	Sensitive (≤ 0.5 μg/mL)
Trimethoprim/sulfamethoxazole	Report results	Sensitive (≤ 10 µg/mL)
Etest® antibiotic test strips8		
Chloramphenicol <sup>9</sup>	Report results	Resistant (= 48 μg/mL)
Teicoplanin <sup>9</sup>	Report results	Sensitive (= 1.5 µg/mL)
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene	≥ 99% sequence identity to	100% sequence identity to
(~ 1490 base pairs)	S. aureus type strain	S. aureus type strain
	(GenBank: L37597)	(GenBank: L37597)
Purity (post-freeze) <sup>10</sup>	Consistent with expected colony	Consistent with expected colony
	morphology	morphology
NO. 1 194 ( 4 C		,
Viability (post-freeze) <sup>2</sup>	Growth	Growth

<sup>&</sup>lt;sup>1</sup>S. aureus, strain VCU089 was deposited to BEI Resources as part of the NARSA collection. NR-46388 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.

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<sup>&</sup>lt;sup>2</sup>1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood

<sup>&</sup>lt;sup>3</sup>4 hours at 37°C in rabbit serum with 0.15% EDTA (Coagulase Plasma BBL™ 240827)



SUPPORTING INFECTIOUS DISEASE RESEARCH

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<sup>4</sup>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.

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

<sup>6</sup>Antibiotic susceptibility testing performed in duplicate determined the penicillin MIC for *S. aureus*, strain VCU006 as ≤ 0.12 μg/ml, which is considered susceptible; however, this strain tested positive for beta-lactamase production (Cefinase™ Paper Disc BBL™ 231650). While rare, other beta-lactamase producing, penicillin-sensitive *S. aureus* strains have been reported. For addition information, refer to Gill, V. J., C. B. Manning and C. M. Ingalls. "Correlation of Penicillin Minimum Inhibitory Concentrations and Penicillin Zone Edge Appearance with Staphylococcal Beta-Lactamase Production." J. Clin. Microbiol. 14 (1981): 437-440. PubMed: 6974738.

<sup>7</sup>MIC Interpretation Guideline: EUCAST Version 4.0 (2014)

81 day at 37°C in an aerobic atmosphere on Mueller Hinton agar

<sup>9</sup>For both chloramphenicol (bioMérieux Etest<sup>®</sup> 412308) and teicoplanin (bioMérieux Etest<sup>®</sup> 412459), a MIC ≤ 8 μg/mL is sensitive, a MIC = 16 μg/mL is intermediate and a MIC ≥ 32 μg/mL is resistant.

<sup>10</sup>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.





Date: 08 FEB 2017 Signature:

**BEI Resources Authentication** 

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