

Staphylococcus epidermidis, Strain 12333

Catalog No. NR-45861

Product Description: *Staphylococcus epidermidis* (*S. epidermidis*), strain 12333 was isolated in November 1999 in California, USA. Strain 12333 is a vancomycin-intermediate *S. epidermidis* strain and was deposited as resistant to penicillin, oxacillin, clindamycin, erythromycin and gentamicin and sensitive to quinupristin/dalfopristin, chloramphenicol, rifampin and tetracycline.

Lot¹: 63652477

Manufacturing Date: 24JUL2015

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) Oxidase Urease Raffinose Voges Proskauer (VP) VITEK [®] MS (MALDI-TOF)	Gram-positive cocci Report results Report results Report results Positive Report results ≥ 90% probability of being <i>S. epidermidis</i> Negative Positive Negative Positive <i>S. epidermidis</i>	Gram-positive cocci Circular, convex, entire, smooth and white (Figure 1) Non-motile Non-hemolytic Positive Negative <i>S. lentus</i> (95%) ⁴ Negative ^{4,5} Positive ^{4,5} Negative ^{4,5} Positive ⁴ <i>S. epidermidis</i> (99.9%)
Antibiotic Susceptibility Profile VITEK [®] (AST-GP71 card) ⁶ Beta-lactamase ⁷ 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 ¹⁰	Report results Report results Report results Resistant Resistant Report results Report results Report results Report results Report results Resistant Resistant Sensitive Report results Report results Intermediate Report results Sensitive Report results Report results Sensitive Report results Intermediate	Positive Negative ⁸ Resistant (= 0.25 µg/mL) Resistant (= 0.5 µg/mL) Resistant (≥ 16 µg/mL) Resistant (= 4 µg/mL) Resistant (= 4 µg/mL) Intermediate (= 1 µg/mL) Negative Resistant (≥ 8 µg/mL) Resistant (≥ 8 µg/mL) Sensitive (≤ 0.25 µg/mL) Sensitive (= 2 µg/mL) Non-susceptible (= 2 µg/mL) Intermediate (= 8 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (≤ 1 µg/mL) Sensitive (≤ 0.12 µg/mL) Sensitive (≤ 16 µg/mL) Sensitive (≤ 0.5 µg/mL) Resistant (= 80 µg/mL)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1480 base pairs)	≥ 99% sequence identity to <i>S. epidermidis</i> type strain (GenBank: L37605)	99.9% sequence identity to <i>S. epidermidis</i> type strain (GenBank: L37605)

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. epidermidis*, strain 12333 was deposited to BEI Resources as part of the NARSA collection. NR-45861 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)

⁴The VITEK® 2 Compact (GP card) identified NR-45861 as *S. lentus*. Additional individual biochemical testing was completed and was consistent with *S. epidermidis*. For additional information on the differentiating characteristics of *S. epidermidis* and *S. lentus*, please refer to Schleifer, K. H. and J. A. Bell. "Family VIII. *Staphylococcaceae* fam. nov." In De Vos, P., et al. (Ed.) *Bergey's® Manual of Systematic Bacteriology, 2nd Edition, Volume 3*, (2009) New York: Springer-Verlag.

⁵*S. epidermidis* is expected to be positive for urease and negative for oxidase and raffinose utilization. *S. lentus* is expected to be negative for urease and positive for oxidase and raffinose utilization.

⁶Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)

⁷The production of beta-lactamase was detected using a Cefinase™ Paper Disc (BBL™ 231650).

⁸The VITEK® AST-GP71 card tests both cefoxitin and oxacillin susceptibilities to determine the final oxacillin interpretation based on CLSI guidelines. However, for coagulase-negative *Staphylococcal* (CoNS) species, it has been reported that VITEK cards can fail to detect cefoxitin resistance in *mecA* positive strains. For addition information about detection of methicillin-resistant CoNS strains, please refer to Johnson, K. N., K. Andreadchio and P. H. Edelstein. "Detection of Methicillin-Resistant Coagulase-Negative *Staphylococci* by the VITEK® 2 System." *J. Clin. Microbiol.* 52 (2014): 3196-3199 PubMed: 1500504.

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

¹⁰For 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.

¹¹Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood

Figure 1: Colony Morphology



Date: 25 MAY 2017

Signature:

BEI Resources Authentication

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