

Staphylococcus hominis subsp. novobiosepticus, Strain NRS122

Catalog No. NR-45927

Product Description: *Staphylococcus hominis* (*S. hominis*) subsp. *novobiosepticus*, strain NRS122 was isolated in April 2002 from a 42-year-old male inpatient in Maryland, USA.

Lot¹: 70011781

Manufacturing Date: 12JAN2018

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology ² Motility (wet mount) Hemolysis ³ Biochemical characterization Catalase Coagulase ⁴ VITEK [®] 2 Compact (GP card) VITEK [®] MS (MALDI-TOF)	Gram-positive cocci Report results Report results Report results Positive Report results <i>S. hominis</i> subsp. <i>novobiosepticus</i> (≥ 89%) <i>S. hominis</i> subsp. <i>novobiosepticus</i>	Gram-positive cocci Circular, convex, entire, smooth and cream (Figure 1) Non-motile β-hemolytic Positive Negative <i>S. hominis</i> (low discrimination) ⁵ <i>S. hominis</i> subsp. <i>hominis</i> (99.9%) ⁶
Antibiotic Susceptibility Profile⁷ VITEK [®] (AST-GP71 card) Beta-lactamase ⁸ 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 ¹⁰ Vancomycin Teicoplanin	Report results Report results Resistant Resistant Sensitive Resistant Report results Report results Report results Report results Resistant Resistant Sensitive Sensitive Susceptible Sensitive Report results Report results Report results Report results Report results Sensitive Sensitive Sensitive	Positive Positive Resistant (≥ 0.5 µg/mL) Resistant (≥ 4 µg/mL) Sensitive (= 1 µg/mL) Resistant (≥ 8 µg/mL) Resistant (≥ 8 µg/mL) Resistant (= 4 µg/mL) Negative Resistant (≥ 8 µg/mL) Resistant (≥ 8 µg/mL) Sensitive (= 0.5 µg/mL) Sensitive (= 2 µg/mL) Susceptible (≤ 0.25 µg/mL) Sensitive (= 1-2 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (= 2 µg/mL) Sensitive (≤ 0.12 µg/mL) ⁹ Sensitive (≤ 16 µg/mL) Sensitive (= 1 µg/mL) Sensitive (≤ 10 µg/mL) Sensitive (= 3 µg/mL) Sensitive (= 1.5 µg/mL)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 760 base pairs) Digital DNA-DNA hybridization (dDDH) ¹²	≥ 99% sequence identity to <i>S. hominis</i> subsp. <i>novobiosepticus</i> type strain (GenBank: PPQX01000061.1) ≥ 70% for species identification	99.9% sequence identity to <i>S. hominis</i> subsp. <i>novobiosepticus</i> type strain (GenBank: PPQX01000061.1) ¹¹ <i>S. hominis</i> subsp. <i>novobiosepticus</i> (83.0%) ^{13,14}
Purity (post-freeze)¹⁵	Consistent with expected colony morphology	Consistent with expected colony morphology
Viability (post-freeze)²	Growth	Growth

- ¹*S. hominis* subsp. *novobiosepticus*, strain NRS122 was deposited to BEI Resources as part of the NARSA collection. NR-45927 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 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
- ³1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood
- ⁴1 day at 37°C in rabbit serum with 0.15% EDTA (Coagulase Plasma BBL™ 240827)
- ⁵The VITEK® 2 Compact (GP card) performed in triplicate could not distinguish between *S. hominis* subsp. *novobiosepticus* and *S. hominis* subsp. *hominis* based on the D-amydalin, L-pyrrolydonyl-arylamidase, D-mannose, D-trehalose and bacitracin resistance test results. For additional information on the differentiating characteristics of *S. hominis* subsp. *novobiosepticus* and *S. hominis* subsp. *hominis*, please refer to Kloos, W. E., et al. "Staphylococcus hominis subsp. novobiosepticus subsp. nov., a Novel Trehalose- and N-Acetyl-D-Glucosamine-Negative, Novobiocin- and Multiple-Antibiotic-Resistant Subspecies Isolated from Human Blood Cultures." *Int. J. Syst. Bacteriol.* 48 (1998): 799-812. PubMed: 9734034.
- ⁶The VITEK® MS cannot differentiate between *S. hominis* subsp. *novobiosepticus* and *S. hominis* subsp. *hominis*, but the result is reported as *S. hominis* subsp. *hominis*.
- ⁷Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)
- ⁸The production of beta-lactamase was detected using a Cefinase™ Paper Disc (BBL™ 231650).
- ⁹MIC Interpretation Guideline: EUCAST Version 4.0 (2014)
- ¹⁰1 day at 37°C in an aerobic atmosphere on Mueller Hinton agar
- ¹¹Also consistent with *S. hominis* subsp. *hominis*
- ¹²Relatedness between bacterial strains has traditionally been determined using DDH. For additional information, refer to Auch, A.F., et al. "Digital DNA-DNA Hybridization for Microbial Species Delineation by Means of Genome-to-Genome Sequence Comparison." *Stand. Genomic Sci.* 2 (2010): 117-134. PubMed: 21304684. *S. hominis* subsp. *novobiosepticus*, strain CCUG 42399[†] (GenBank: PPQX01.1) was used for dDDH analysis.
- ¹³The whole genome of *S. hominis* subsp. *novobiosepticus* was sequenced using the Illumina® MiSeq® system and was assembled and analyzed with CLC Genomics Workbench.
- ¹⁴Originally deposited as *S. epidermidis* and updated to *S. hominis* subsp. *novobiosepticus* following dDDH analysis
- ¹⁵Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with 5% CO₂ on Tryptic Soy agar.

Figure 1: Colony Morphology



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