

Certificate of Analysis for NR-55566

Klebsiella pneumoniae, Strain MRSN 517281

Catalog No. NR-55566

This reagent is the tangible property of the U.S. Government.

Product Description:

Klebsiella pneumoniae (K. pneumoniae), strain MRSN 517281 was isolated in 2016 from a human sample in the Middle East as part of a global surveillance program. NR-55566 was deposited as an extensively drug-resistant strain, sensitive to amikacin, intermediately resistant to gentamicin and resistant to ampicillin/sulbactam, aztreonam, cefepime, ceftazidime, ceftazidime/avibactam, ceftolozane/tazobactam, ceftriaxone, ciprofloxacin, ertapenem, imipenem, levofloxacin, meropenem, piperacillin/tazobactam, tetracycline, tigecycline, tobramycin and trimethoprim/sulfamethoxazole. NR-55566 was produced by inoculation of the deposited material into Tryptic Soy broth and grown for 1 day at 37°C in an aerobic atmosphere. The material from the initial growth was added to Tryptic Soy broth, which was grown for 1 day at 37°C in an aerobic atmosphere to produce this lot. Quality control testing was completed on Tryptic Soy agar under propagation conditions unless otherwise noted.

Lot: 70051102 Manufacturing Date: 30MAR2022

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative rods	Gram-negative rods
Colony morphology	Report results	Circular, convex, entire, smooth, mucoid and cream (Figure 1)
Motility (wet mount)	Report results	Non-motile
VITEK [®] 2 (GN card)	K. pneumoniae (≥ 89%)	K. pneumoniae (99%)
Antibiotic Susceptibility Profile ^{1,2}		
Amikacin	Sensitive	Sensitive (≤ 2 μg/mL)
Ampicillin/sulbactam	Resistant	Resistant (≥ 32 µg/mL)
Aztreonam	Resistant	Resistant (≥ 64 µg/mL)
Cefepime	Resistant	Resistant (≥ 64 µg/mL)
Ceftazidime	Resistant	Resistant (≥ 64 µg/mL)
Ceftazidime/avibactam	Resistant	Resistant (≥ 256 µg/mL)
Ceftolozane/tazobactam	Resistant	Resistant (≥ 256 µg/mL)
Ceftriaxone	Resistant	Resistant (≥ 64 µg/mL)
Ciprofloxacin	Resistant	Resistant (≥ 32 µg/mL)
Ertapenem	Resistant	Resistant (≥ 8 µg/mL)
Gentamicin	Intermediate	Intermediate (8 µg/mL)
Imipenem	Resistant	Resistant (≥ 32 µg/mL)
Levofloxacin	Resistant	Resistant (≥ 8 µg/mL)
Meropenem	Resistant	Resistant (≥ 16 µg/mL)
Piperacillin/tazobactam	Resistant	Resistant (≥ 128 μg/mL)
Tetracycline	Resistant	Resistant (≥ 16 µg/mL)
Tigecycline	Resistant	Resistant (≥ 8 µg/mL) ³
Tobramycin	Resistant	Resistant (≥ 16 µg/mL)
Trimethoprim/sulfamethoxazole	Resistant	Resistant (≥ 320 μg/mL)
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1430 base pairs)	≥ 99% sequence identity to K. pneumoniae, strain MRSN 517281 (GenBank: JAGYCT010000093.1)	99.5% sequence identity to K. pneumoniae, strain MRSN 517281 (GenBank: JAGYCT010000093.1) ⁴

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TEST	SPECIFICATIONS	RESULTS
Purity 7 days at 37°C in an aerobic atmosphere with and without 5% CO ₂ on Tryptic Soy agar		Growth consistent with expected colony morphology
Viability	Growth	Growth

¹Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

Figure 1: Colony Morphology



/Sonia Bjorum Brower/ Sonia Bjorum Brower

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Lead Technical Writer or designee, ATCC Federal Solutions

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²Antibiotic susceptibility was tested using a combination of bioMérieux VITEK®2 GN74 and ETEST®.

³MIC Interpretation Guideline: EUCAST Version 8.0 (2018)

⁴Also consistent with other Klebsiella species