

Certificate of Analysis for NR-55558

Klebsiella pneumoniae, Strain MRSN 468268

Catalog No. NR-55558

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

Product Description:

Klebsiella pneumoniae (K. pneumoniae), strain MRSN 468268 was isolated in 2017 from a human urine sample in North America as part of a global surveillance program. NR-55558 was deposited as a multidrug-resistant strain, sensitive to amikacin, ceftazidime/avibactam, ceftolozane/tazobactam, ciprofloxacin, ertapenem, imipenem, levofloxacin, meropenem, piperacillin/tazobactam, tigecycline and tobramycin, intermediately resistant to ampicillin/sulbactam and resistant to aztreonam, cefepime, ceftazidime, ceftriaxone, gentamicin, tetracycline and trimethoprim/sulfamethoxazole. NR-55558 was produced by inoculation of the deposited material into Tryptic Soy broth and grown for 1 day at 37°C in an aerobic atmosphere. Broth inoculum was added to Tryptic Soy agar kolles, which were grown for 1 day at 37°C in an aerobic atmosphere to produce this lot. Quality control testing was completed under propagation conditions unless otherwise noted.

Lot: 70050682 Manufacturing Date: 02MAR2022

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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	Intermediate	Intermediate (16 µg/mL)
Aztreonam	Resistant	Sensitive (2 µg/mL) ³
Cefepime	Resistant	Sensitive (2 µg/mL) ⁴
Ceftazidime	Resistant	Sensitive (4 µg/mL) ⁵
Ceftazidime/avibactam	Sensitive	Sensitive (0.125 µg/mL)
Ceftolozane/tazobactam	Sensitive	Sensitive (0.19 µg/mL)
Ceftriaxone	Resistant	Resistant (≥ 64 µg/mL)
Ciprofloxacin	Sensitive	Sensitive (0.38 µg/mL)
Ertapenem	Sensitive	Sensitive (≤ 0.5 μg/mL)
Gentamicin	Resistant	Resistant (≥ 16 µg/mL)
Imipenem	Sensitive	Sensitive (0.25 µg/mL)
Levofloxacin	Sensitive	Sensitive (1 μg/mL)
Meropenem	Sensitive	Sensitive (≤ 0.25 μg/mL)
Piperacillin/tazobactam	Sensitive	Sensitive (≤ 4 μg/mL)
Tetracycline	Resistant	Resistant (≥ 16 µg/mL)
Tigecycline	Sensitive	Resistant (2 µg/mL) ^{6,7}
Tobramycin	Sensitive	Sensitive (2 µg/mL)
Trimethoprim/sulfamethoxazole	Resistant	Resistant (≥ 320 μg/mL)
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene	≥ 99% sequence identity to	99.5% sequence identity to
(1470 base pairs)	K. pneumoniae, strain MRSN 468268 (GenBank: JAGYDB010000076.1)	K. pneumoniae, strain MRSN 468268 (GenBank: JAGYDB010000076.1) ⁸

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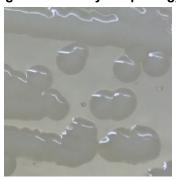


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TEST	SPECIFICATIONS	RESULTS
Purity 7 days at 37°C in an aerobic atmosphere with and without 5% CO ₂ on Tryptic Soy agar		Growth consistent with expected colony morphology
Viability	Growth	Growth

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

Figure 1: Colony Morphology



/Sonia Bjorum Brower/ Sonia Bjorum Brower

31 JUL 2022

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 ETÉST®.

³K. pneumoniae, strain MRSN 468268 was deposited as resistant to aztreonam, but showed a MIC of 2 μg per mL (interpreted as sensitive) for this antibiotic during QC testing. Testing was performed in duplicate.

⁴K. pneumoniae, strain MRSN 468268 was deposited as resistant to cefepime, but showed a MIC of 2 μg per mL (interpreted as sensitive) for this antibiotic during QC testing. Testing was performed in duplicate.

⁵K. pneumoniae, strain MRSN 468268 was deposited as resistant to ceftazidime, but showed a MIC of 4 μg per mL (interpreted as sensitive) for this antibiotic during QC testing. Testing was performed in duplicate. ⁶MIC Interpretation Guideline: EUCAST Version 8.0 (2018)

⁷The susceptibility result for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.

⁸Also consistent with other *Klebsiella* species