

Certificate of Analysis for NR-55596

Klebsiella pneumoniae, Strain MRSN 731029

Catalog No. NR-55596

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

Product Description:

Klebsiella pneumoniae (K. pneumoniae), strain MRSN 731029 was isolated in 2019 from a human urine sample in Asia as part of a global surveillance program. NR-55596 was deposited as a multidrug-resistant strain (MDR) sensitive to amikacin, ceftazidime/avibactam, ceftolozane/tazobactam, ertapenem, imipenem, meropenem, piperacillin/tazobactam, tigecycline, tobramycin, and trimethoprim/sulfamethoxazole, intermediately resistant to ciprofloxacin and levofloxacin and resistant to ampicillin/sulbactam, aztreonam, cefepime, ceftazidime, ceftriaxone, gentamicin, and tetracycline. NR-55596 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: 70051630 Manufacturing Date: 06APR2022

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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 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}	Till pricamenae (= cere)	The productional (6676)
Amikacin	Sensitive	Sensitive (≤ 2 μg/mL)
Ampicillin/sulbactam	Resistant	Resistant (≥ 32 µg/mL)
Aztreonam	Resistant	Sensitive (≤ 1 µg/mL) ³
Cefepime	Resistant	Sensitive (≤ 1 µg/mL) ³
Ceftazidime	Resistant	Sensitive (≤ 1 µg/mL) ³
Ceftazidime/avibactam	Sensitive	Sensitive (0.125 µg/mL)
Ceftolozane/tazobactam	Sensitive	Sensitive (0.19 µg/mL)
Ceftriaxone	Resistant	Resistant (32 to 64 µg/mL)
Ciprofloxacin	Intermediate	Intermediate (1.5 µg/mL)
Ertapenem	Sensitive	Sensitive (≤ 0.5 μg/mL)
Gentamicin	Resistant	Resistant (≥ 16 µg/mL)
Imipenem	Sensitive	Sensitive (0.19 to 0.25 µg/mL)
Levofloxacin	Intermediate	Intermediate (4 µg/mL)
Meropenem	Sensitive	Sensitive (≤ 0.25 µg/mL)
Piperacillin/tazobactam	Sensitive	Sensitive (8 µg/mL)
Tetracycline	Resistant	Resistant (≥ 16 µg/mL)
Tigecycline	Sensitive	Resistant (2 µg/mL) ^{4,5}
Tobramycin	Sensitive	Sensitive (2 µg/mL)
Trimethoprim/sulfamethoxazole	Sensitive	Sensitive (≤ 20 μg/mL)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1460 base pairs)	≥ 99% sequence identity to <i>K. pneumoniae</i> , strain MRSN 731029 (GenBank: JAGYBP010000103.1)	99.3% sequence identity to K. pneumoniae, strain MRSN 731029 (GenBank: JAGYBP010000103.1)

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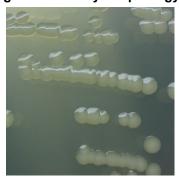


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TEST	SPECIFICATIONS	RESULTS
Purity 7 days at 37°C in an aerobic atmosphere with and without 5% CO ₂ on Tryptic Soy agar		Growth consistent with expected colony morphology
Viability	Growth	Growth

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

Figure 1: Colony Morphology



/Sonia Bjorum Brower/ Sonia Bjorum Brower

27 JUN 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 ETEST[®].

³K. pneumoniae, strain MRSN 731029 was deposited as resistant to aztreonam, cefepime and ceftazidime but showed a MIC of ≤ 1 μg per mL (interpreted as sensitive) for these antibiotics during QC testing. Testing was performed in duplicate.

⁴MIC Interpretation Guideline: EUCAST Version 8.0 (2018)

⁵The susceptibility result for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.