

Certificate of Analysis for NR-55520

Klebsiella pneumoniae, Strain MRSN 15687

Catalog No. NR-55520

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

Product Description:

Klebsiella pneumoniae (K. pneumoniae), strain MRSN 15687 was isolated in 2013 from a human urine sample in North America as part of a global surveillance program. NR-55520 was deposited as a multidrug-resistant strain, sensitive to amikacin, ceftazidime/avibactam, ciprofloxacin, ertapenem, gentamicin, imipenem, levofloxacin, meropenem, trimethoprim/sulfamethoxazole, tetracycline and tigecycline, intermediately resistant to piperacillin/tazobactam and resistant to ampicillin/sulbactam, aztreonam, cefepime, ceftazidime, ceftolozane/tazobactam, ceftriaxone and tobramycin. NR-55520 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: 70049643 Manufacturing Date: 26JAN2022

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative rods	Gram-negative rods
Colony morphology	Report results	Circular, convex, entire, mucoid and cream
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 (4 µg/mL)
Ampicillin/sulbactam	Resistant	Resistant (≥ 32 µg/mL)
Aztreonam	Resistant	Resistant (32 µg/mL)
Cefepime	Resistant	Resistant (≥ 64 µg/mL)
Ceftazidime	Resistant	Resistant (16 µg/mL)
Ceftazidime/avibactam	Sensitive	Sensitive (0.5 µg/mL)
Ceftolozane/tazobactam	Resistant	Resistant (≥ 256 µg/mL)
Ceftriaxone	Resistant	Resistant (≥ 64 µg/mL)
Ciprofloxacin	Sensitive	Sensitive (0.125 µg/mL)
Ertapenem	Sensitive	Sensitive (≤ 0.5 μg/mL)
Gentamicin	Sensitive	Sensitive (≤ 1 μg/mL)
Imipenem	Sensitive	Sensitive (0.25 to 0.5 µg/mL)
Levofloxacin	Sensitive	Sensitive (≤ 0.12 μg/mL)
Meropenem	Sensitive	Sensitive (≤ 0.25 μg/mL)
Piperacillin/tazobactam	Intermediate	Intermediate (48 µg/mL)
Tetracycline	Sensitive	Sensitive (≤ 1 μg/mL)
Tigecycline	Sensitive	Sensitive (≤ 0.5 μg/mL) ³
Tobramycin	Resistant	Resistant (≥ 16 µg/mL)
Trimethoprim/sulfamethoxazole	Sensitive	Resistant (> 32 μg/mL) ⁴
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1480 base pairs)	≥ 99% sequence identity to K. pneumoniae, strain MRSN 15687 (GenBank: JAGYEM010000080.1)	99.6% sequence identity to K. pneumoniae, strain MRSN 15687 (GenBank: JAGYEM010000080.1) ⁵

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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	Growth consistent with expected colony morphology
Viability	Growth	Growth

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

/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®.

³MIC Interpretation Guideline: EUCAST Version 8.0 (2018)

⁴K. pneumoniae, strain MRSN 15687 was deposited as sensitive to trimethoprim/sulfamethoxazole, but showed a MIC of > 32 μg per mL (interpreted as resistant) for this antibiotic during QC testing. Testing was performed twice in duplicate.

⁵Also consistent with other *Klebsiella* species