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SUPPORTING INFECTIOUS DISEASE RESEARCH

Klebsiella pneumoniae, Strain MRSN 13748

Catalog No. NR-55515

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

Product Description:

Klebsiella pneumoniae (K. pneumoniae), strain MRSN 13748 was isolated in 2011 from a human blood sample in Europe as part of a global surveillance program. NR-55515 was deposited as an extensively drug-resistant strain, sensitive to amikacin and ceftazidime/avibactam, intermediately resistant to ceftazidime and tobramycin and resistant to ampicillin/sulbactam, aztreonam, cefepime, ceftolozane/tazobactam, ceftriaxone, ciprofloxacin, ertapenem, gentamicin, imipenem, levofloxacin, meropenem, piperacillin/tazobactam, tetracycline, tigecycline and trimethoprim/sulfamethoxazole. NR-55515 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: 70049653

Manufacturing Date: 14JAN2022

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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)	<i>K. pneumoniae</i> (≥ 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	Intermediate	Resistant (16 µg/mL) ³
Ceftazidime/avibactam	Sensitive	Sensitive (1.5 µg/mL)
Ceftolozane/tazobactam	Resistant	Resistant (16 to 24 µg/mL)
Ceftriaxone	Resistant	Resistant (≥ 64 µg/mL)
Ciprofloxacin	Resistant	Intermediate (2 to 3 µg/mL) ³
Ertapenem	Resistant	Resistant (≥ 8 µg/mL)
Gentamicin	Resistant	Resistant (≥ 16 µg/mL)
Imipenem	Resistant	Sensitive (0.5 to 0.75 µg/mL) ⁴
Levofloxacin	Resistant	Resistant (≥ 8 µg/mL)
Meropenem	Resistant	Intermediate (2 µg/mL) ³
Piperacillin/tazobactam	Resistant	Resistant (≥ 128 µg/mL)
Tetracycline	Resistant	Resistant (≥ 16 µg/mL)
Tigecycline	Resistant	Resistant (≥ 8 µg/mL) ⁵
Tobramycin	Intermediate	Intermediate (8 µg/mL)
Trimethoprim/sulfamethoxazole	Resistant	Resistant (≥ 320 µg/mL)
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1490 base pairs)	≥ 99% sequence identity to <i>K. pneumoniae</i> , strain MRSN 13748 (GenBank: JAGYER010000099.1)	99.7% sequence identity to <i>K. pneumoniae</i> , strain MRSN 13748 (GenBank: JAGYER010000099.1) ⁶

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Certificate of Analysis for NR-55515

SUPPORTING INFECTIOUS DISEASE RESEARCH

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)

²Antibiotic susceptibility was tested using a combination of bioMérieux VITEK[®]2 GN74 and ETÉST[®].

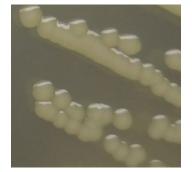
³The susceptibility result for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.

⁴*K. pneumoniae*, strain MRSN 13748 was deposited as resistant to imipenem, but showed a MIC of 0.5 μg per mL and 0.75 μg per mL (interpreted as sensitive) for this antibiotic during QC testing. Testing was performed in duplicate.

⁵MIC Interpretation Guideline: EUCAST Version 8.0 (2018)

⁶Also consistent with other *Klebsiella* species

Figure 1: Colony Morphology



/Sonia Bjorum Brower/ Sonia Bjorum Brower

Lead Technical Writer or designee, ATCC Federal Solutions

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