Certificate of Analysis for NR-55565

Klebsiella pneumoniae, Strain MRSN 516635

Catalog No. NR-55565

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

Product Description:

Klebsiella pneumoniae (K. pneumoniae), strain MRSN 516635 was isolated in 2016 from an unknown human sample in the Middle East as part of a global surveillance program. NR-55565 was deposited as a multidrug-resistant strain (MDR), sensitive to amikacin, ceftazidime/avibactam, ceftolozane/tazobactam, ciprofloxacin, ertapenem, imipenem, levofloxacin, meropenem, piperacillin/tazobactam and tigecycline, intermediately resistant to tobramycin and resistant to ampicillin/sulbactam, aztreonam, cefepime, ceftazidime, ceftriaxone, gentamicin, tetracycline and trimethoprim/sulfamethoxazole. NR-55565 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: 70051100 **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
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 (16 µg/mL)
Cefepime	Resistant	Inconclusive[3]
Ceftazidime	Resistant	Resistant (16 µg/mL)
Ceftazidime/avibactam	Sensitive	Sensitive (0.25 µg/mL)
Ceftolozane/tazobactam	Sensitive	Sensitive (0.38 µg/mL)
Ceftriaxone	Resistant	Resistant (≥ 64 µg/mL)
Ciprofloxacin	Sensitive	Sensitive (0.38 to 0.5 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	Sensitive (≤ 0.5 µg/mL)[4]
Tobramycin	Intermediate	Intermediate (8 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 516635 (GenBank: JAGYCU010000101.1)	99.2% sequence identity to *K. pneumoniae*, strain MRSN 516635 (GenBank: JAGYCU010000101.1)[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

[1]Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)
[2]Antibiotic susceptibility was tested using a combination of bioMérieux VITEK®2 GN74 and ETEST®
[3]*K. pneumoniae*, strain MRSN 516635 was deposited as being resistant to cefepime. Antibiotic susceptibility testing performed in duplicate determined that for strain MRSN 516635, the cefepime MICs are 2 µg per mL and 4 µg per mL, which are interpreted as sensitive and intermediately resistant, respectively.
[4]MIC Interpretation Guideline: EUCAST Version 8.0 (2018)
[5]Also consistent with other *Klebsiella* species

/Sonia Bjorum Brower/
Sonia Bjorum Brower 11 AUG 2022
Lead Technical Writer or designee, ATCC Federal Solutions

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

Support Provided by NIAID

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