Certificate of Analysis for NR-48978

Klebsiella pneumoniae, Strain 1.53

Catalog No. NR-48978

Product Description: *Klebsiella pneumoniae* (*K. pneumoniae*), strain 1.53 was isolated in 2009 from an intra-abdominal infection of a human patient in India.

Lot[1]: 70022723 **Manufacturing Date: 01MAR2019**

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative rods	Gram-negative rods
Colony morphology[2]	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%)
VITEK® MS (MALDI-TOF)	*K. pneumoniae*	*K. pneumoniae* (99.9%)
Antibiotic Susceptibility Profile		
VITEK® (AST-GN69)[3]		
ESBL[4]	Report results	Negative
Ampicillin	Resistant	Resistant (≥ 32 µg/mL)
Amoxicillin/clavulanic Acid	Resistant	Resistant (≥ 32 µg/mL)
Ampicillin/sulbactam	Report results	Resistant (≥ 32 µg/mL)
Piperacillin/tazobactam	Report results	Resistant (≥ 128 µg/mL)
Cefazolin	Resistant	Resistant (≥ 64 µg/mL)
Ceftazidime	Resistant	Resistant (≥ 64 µg/mL)
Ceftriaxone	Resistant	Resistant (≥ 64 µg/mL)
Cefepime	Resistant	Resistant (≥ 64 µg/mL)
Ertapenem	Report results	Resistant (≥ 8 µg/mL)
Imipenem	Resistant	Resistant (≥ 16 µg/mL)
Gentamicin	Resistant	Resistant (≥ 16 µg/mL)
Tobramycin	Report results	Resistant (≥ 16 µg/mL)
Ciprofloxacin	Resistant	Resistant (≥ 4 µg/mL)
Levofloxacin	Resistant	Resistant (≥ 8 µg/mL)
Nitrofurantoin	Report results	Resistant (≥ 512 µg/mL)
Trimethoprim/sulfamethoxazole	Resistant	Resistant (≥ 320 µg/mL)
VITEK® (AST-XN06)[5]		
Ticarcillin	Report results	Resistant (≥ 128 µg/mL)
Piperacillin	Report results	Resistant (≥ 128 µg/mL)
Cefalotin	Resistant	Resistant (≥ 64 µg/mL)
Cefuroxime	Resistant	Resistant (≥ 64 µg/mL)
Cefuroxime Axetil	Report results	Resistant (≥ 64 µg/mL)
Cefotetan	Report results	Resistant (≥ 64 µg/mL)
Cefoxitin	Resistant	Resistant (≥ 64 µg/mL)
Cefpodoxime	Report results	Resistant (≥ 8 µg/mL)
Cefotaxime	Resistant	Resistant (≥ 64 µg/mL)
Ceftizoxime	Report results	Resistant (≥ 64 µg/mL)
Aztreonam	Report results	Resistant (≥ 64 µg/mL)
Doripenem	Report results	Resistant (≥ 8 µg/mL)[3]
Meropenem	Resistant	Resistant (≥ 16 µg/mL)
Amikacin	Resistant	Resistant (≥ 64 µg/mL)
Nalidixic Acid	Resistant	Resistant (≥ 32 µg/mL)
Moxifloxacin	Report results	Resistant (≥ 8 µg/mL)
Norfloxacin	Report results	Resistant (≥ 16 µg/mL)
Tetracycline	Resistant	Resistant (≥ 16 µg/mL)
Tigecycline	Report results	Resistant (≥ 8 µg/mL)

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TEST	SPECIFICATIONS	RESULTS
Antibiotic Susceptibility Profile (continued) Etest® antibiotic test strips[3,6] Chloramphenicol	Resistant	Resistant (≥ 256 µg/mL)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1480 base pairs)	≥ 99% sequence identity to *K. pneumoniae* type strain (GenBank: JSZI01000045.1)	99.6% sequence identity to *K. pneumoniae* type strain (GenBank: JSZI01000045.1)[7]
Purity (post-freeze)[8]	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze)[2]	Growth	Growth

[1]The deposited material was inoculated onto Tryptic Soy agar, which was grown 1 day at 37°C in an aerobic atmosphere and preserved in Tryptic Soy broth supplemented with 10% glycerol. NR-48978 was produced by inoculation of the preserved material into Tryptic Soy broth, which was grown for 1 day at 37°C in an aerobic atmosphere. Broth inoculum was added to Tryptic Soy agar with 5% defibrinated sheep blood kolles and grown for 1 day at 37°C in an aerobic atmosphere to produce this lot.
[2]1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood
[3]Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2018)
[4]The VITEK® 2 ESBL Test is a confirmatory test for Extended-Spectrum Beta-Lactamases (ESBLs) inhibited by clavulanic acid and utilizes cefepime, cefotaxime and ceftazidime, with and without clavulanic acid, to determine a positive or negative result.
[5]MIC interpretation was determined using VITEK® 2 software version 07.01 combined with the bioMérieux Advanced Expert System™ (AES) software using the interpretation standard CLSI M100-S22 (2012) and the interpretation guideline "Natural Resistance." For more information, please refer to Sanders, C. C., et al. "Potential Impact of the VITEK 2 System and the Advanced Expert System on the Clinical Laboratory of a University-Based Hospital." J. Clin. Microbiol. 39 (2001): 2379-2385. PubMed: 11427542.
[6]1 day at 37°C in an aerobic atmosphere on Mueller Hinton agar
[7]Also consistent with other *Klebsiella* species
[8]Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with 5% CO_2 on Tryptic Soy agar with 5% defibrinated sheep blood.

Figure 1: Colony Morphology

/Heather Couch/
Heather Couch 24 MAY 2019
Program Manager 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.

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