

# Certificate of Analysis for NR-51487

## Escherichia coli, Strain JJ1887

#### Catalog No. NR-51487

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### **Product Description:**

Escherichia coli (E. coli), strain JJ1887 was isolated in 2007 from a woman with recurrent cystitis.

Lot: 70021689<sup>1</sup> Manufacturing Date: 10JUL2019

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative rods	Gram-negative rods
Colony morphology <sup>2</sup>	Report results	Circular, raised, entire, smooth and cream (Figure 1)
Motility (wet mount)	Report results	Motile
VITEK® 2 (GN card)	E. coli (≥ 89%)	E. coli (99%)
Antibiotic Susceptibility Profile <sup>3</sup>	2. 36.1 (= 33.75)	2. 3011 (30 73)
VITEK® (AST-GN69 card)		
ESBL <sup>4</sup>	Report results	Positive
Ampicillin	Report results	Resistant (≥ 32 µg/mL)
Amoxicillin/Clavulanic Acid	Report results	Resistant (≥ 32 µg/mL)
Ampicillin/Sulbactam	Report results	Resistant (≥ 32 µg/mL)
Piperacillin/Tazobactam	Report results	Sensitive (8 µg/mL)
Cefazolin	Report results	Resistant (≥ 64 µg/mL)
Ceftazidime	Report results	Sensitive (4 µg/mL) <sup>5</sup>
Ceftriaxone	Report results	Resistant (≥ 64 µg/mL)
Cefepime	Report results	Sensitive (2 μg/mL) <sup>5</sup>
Ertapenem	Report results	Sensitive (≤ 0.5 μg/mL)
Imipenem	Report results	Sensitive (≤ 0.25 μg/mL)
Gentamicin	Report results	Resistant (≥ 16 μg/mL)
Tobramycin	Report results	Resistant (≥ 16 μg/mL)
Ciprofloxacin	Report results	Resistant (≥ 4 µg/mL)
Levofloxacin	Report results	Resistant (≥ 8 µg/mL)
Nitrofurantoin	Report results	Sensitive (≤ 16 μg/mL)
Trimethoprim/Sulfamethoxazole	Report results	Resistant (≥ 320 µg/mL)
Etest® antibiotic test strips <sup>6</sup>		
Doxycycline	Report results	Resistant (64 µg/mL)
Polymyxin B	Report results	0.38 μg/mL <sup>7</sup>
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1460 base pairs)	≥ 99% sequence identity with E. coli, strain JJ1887 (GenBank: CP014316.1)	99.9% sequence identity with E. coli, strain JJ1887 (GenBank: CP014316.1) <sup>8</sup>
Purity (post-freeze) <sup>9</sup>	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze) <sup>2</sup>	Growth	Growth

<sup>&</sup>lt;sup>1</sup>NR-51487 was produced by inoculation of the deposited material onto Tryptic Soy agar and grown 1 day at 37°C in an aerobic atmosphere. Colonies from the agar growth were preserved in Tryptic Soy broth supplemented with 10% glycerol. NR-51487 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 kolles and grown 1 day at 37°C in an aerobic atmosphere to produce this lot.

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<sup>&</sup>lt;sup>2</sup>1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar

<sup>&</sup>lt;sup>3</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>&</sup>lt;sup>4</sup>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.

<sup>&</sup>lt;sup>5</sup>Because *E. coli*, strain JJ1887 is a confirmed ESBL-producer, CSLI recommendations are to modify the interpretation of ceftazidime and cefepime based on the susceptibilities of other antibiotics in the same class, suggesting that this isolate is resistant to ceftazidime and cefepime.

<sup>61</sup> day at 37°C in an aerobic atmosphere on Mueller Hinton agar

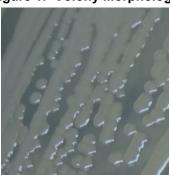


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<sup>7</sup>CLSI does not have published polymyxin B MIC breakpoints for *E. coli*. Isolates are defined only as wild type or non-wild type. For more information, please refer to Chew, K. L., et al. "Colistin and Polymyxin B Susceptibility Testing for Carbapenem-Resistant and *mcr*-Positive Enterobacteriaceae: Comparison of Sensitire, MicroScan, Vitek 2, and Etest with Broth Microdilution." <u>J. Clin. Microbiol.</u> 55 (2017): 2609-2616. PubMed: 28592552.

<sup>8</sup>Also consistent with Shigella and other Escherichia species

Figure 1: Colony Morphology



/Heather Couch/ Heather Couch

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Program Manager or designee, ATCC Federal Solutions

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<sup>&</sup>lt;sup>9</sup>Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with and without 5% CO₂ on Tryptic Soy agar.