

**Enterobacter cloacae, Strain UCI 36**
**Catalog No. NR-48558**

**Product Description:** *Enterobacter cloacae* (*E. cloacae*), strain UCI 36 was isolated in 2013 from the tissue of an ICU human patient in Irvine, California, USA. *E. cloacae*, strain UCI 36 is part of a Carbapenem-Resistant Enterobacteriaceae (CRE) Sequencing Project.

**Lot<sup>1</sup>: 70006293**
**Manufacturing Date: 14JUN2017**

| TEST   | SPECIFICATIONS  | RESULTS   |
|--|---|---|
| <b>Phenotypic Analysis</b><br>Cellular morphology<br>Colony morphology <sup>2</sup><br><br>Motility (wet mount)<br>VITEK <sup>®</sup> MS (MALDI-TOF)<br>VITEK <sup>®</sup> 2 Compact (GN card)   | Gram-negative rods<br>Report results<br><br>Report results<br><i>E. cloacae</i><br><i>E. cloacae</i> (≥ 89%)  | Gram-negative rods<br>Circular, low convex, entire, smooth and cream (Figure 1)<br>Motile<br><i>E. cloacae</i> (50%) <i>E. asburiae</i> (50%) <sup>3</sup><br><i>E. cloacae</i> subsp. <i>cloacae</i> (96%)   |
| <b>Antibiotic Susceptibility Profile</b><br>VITEK <sup>®</sup> (AST-GN69) <sup>4,5</sup><br>Amoxicillin/clavulanic Acid<br>Piperacillin/tazobactam<br>Cefazolin<br>Ceftazidime<br>Ceftriaxone<br>Cefepime<br>Ertapenem<br>Imipenem<br>Gentamicin<br>Tobramycin<br>Ciprofloxacin<br>Levofloxacin<br>Nitrofurantoin<br>Trimethoprim/sulfamethoxazole | Report results<br>Report results<br>Resistant<br>Resistant<br>Resistant<br>Sensitive<br>Resistant<br>Sensitive<br>Sensitive<br>Report results<br>Intermediate<br>Intermediate<br>Resistant<br>Resistant | Resistant (≥ 32 µg/mL)<br>Resistant (≥ 128 µg/mL)<br>Resistant (≥ 64 µg/mL)<br>Resistant (≥ 64 µg/mL)<br>Resistant (≥ 64 µg/mL)<br>Sensitive (= 2 µg/mL) <sup>6</sup><br>Sensitive (= 2 µg/mL) <sup>7</sup><br>Sensitive (≤ 0.25 µg/mL) <sup>6</sup><br>Sensitive (≤ 1 µg/mL)<br>Sensitive (≤ 1 µg/mL)<br>Intermediate (= 2 µg/mL)<br>Intermediate (= 4 µg/mL)<br>Intermediate (= 64 µg/mL) <sup>8</sup><br>Resistant (≥ 320 µg/mL) |
| <b>Genotypic Analysis</b><br>Sequencing of 16S ribosomal RNA gene (~ 780 base pairs)   | ≥ 99% sequence identity to<br><i>E. cloacae</i> , strain UCI 36<br>(GenBank: JCKR01000011.1)  | 99.5% sequence identity to<br><i>E. cloacae</i> , strain UCI 36<br>(GenBank: JCKR01000011.1) <sup>9</sup>   |
| <b>Purity (post-freeze)<sup>10</sup></b>   | Consistent with expected colony morphology  | Consistent with expected colony morphology  |
| <b>Viability (post-freeze)<sup>2</sup></b>   | Growth  | Growth  |

<sup>1</sup>NR-48558 was produced by inoculation of the deposited 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 kolles, which were grown for 1 day at 37°C in an aerobic atmosphere to produce this lot.

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

<sup>3</sup>MALDI-TOF MS is inadequate in distinguishing *E. cloacae* from *E. asburiae*. For additional information, please refer to Pavlovic, M., et al. "A Dual Approach Employing MALDI-TOF MS and Real-Time PCR for Fast Species Identification within the *Enterobacter cloacae* Complex." *FEMS Microbiol. Lett.* 328 (2012): 46-53. PubMed: 22150997.

<sup>4</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)

<sup>5</sup>No results were obtained for ampicillin, ampicillin/sulbactam and Extended-Spectrum Beta-Lactamases (ESBLs) from the VITEK<sup>®</sup> (AST-GN69 Card) analysis. Alternative methods of testing are recommended by the manufacturer.

<sup>6</sup>*E. cloacae*, strain UCI 36 was deposited as sensitive to cefepime and imipenem. Because this isolate is not a confirmed ESBL-producer, the CLSI recommends utilization of the interpretation without subjugation to modifications based on the susceptibilities of other antibiotics in the same class. However, while this strain appears sensitive *in vitro*, there is a possibility that it is intermediately susceptible or resistant *in vivo*.

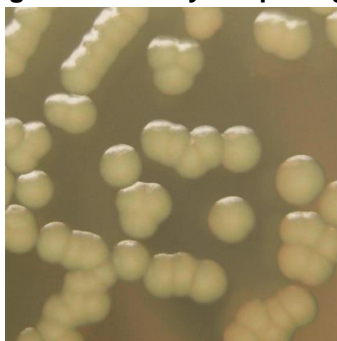
<sup>7</sup>*E. cloacae*, strain UCI 36 was deposited as resistant to ertapenem. Antibiotic susceptibility testing performed in duplicate determined that strain UCI 36 is sensitive to ertapenem.

<sup>8</sup>*E. cloacae*, strain UCI 36 was deposited as resistant to nitrofurantoin. Antibiotic susceptibility testing performed in duplicate determined that strain UCI 36 is intermediate to nitrofurantoin.

<sup>9</sup>Also consistent with other *Enterobacter* species

<sup>10</sup>Purity of this lot was assessed for 7 days on Tryptic Soy agar at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub>.

Figure 1: Colony Morphology



**Date:** 21 NOV 2017

**Signature:** 

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