# Product Information Sheet for NR-48558

## *Enterobacter cloacae*, Strain UCI 36

## Catalog No. NR-48558

## For research use only. Not for human use.

### Contributor:
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### Manufacturer:
BEI Resources

### Product Description:
Bacteria Classification: *Enterobacteriaceae, Enterobacter*
Species: *Enterobacter cloacae*
Strain: UCI 36
Original Source: *Enterobacter cloacae (E. cloacae)*, strain UCI 36 was isolated in 2013 from the tissue of an ICU human patient in Irvine, California, USA.[1]
Comments: *E. cloacae*, strain UCI 36 is part of a Carbapenem-Resistant Enterobacteriaceae (CRE) Sequencing Project at the Broad Institute.[1,2] Strain UCI 36 was deposited as resistant to ampicillin, nitrofurantoin, trimethoprim-sulfamethoxazole, ertapenem, ceftriaxone, cefazolin, ceftazidine and cefoxitin, intermediately susceptible to ciprofloxacin and levofloxacin and sensitive to imipenem, meropenem, cefepime, gentamicin and amikacin.[1] The complete genome of *E. cloacae*, strain UCI 36 is available (GenBank: JCKR00000000).

*E. cloacae* is a Gram-negative, rod-shaped, facultatively-anaerobic bacteria that is commensal inhabitant of the human gastrointestinal tract.[3,4] *E. cloacae* is part of *E. cloacae* complex and is ubiquitously present in terrestrial and aquatic environments.[4] *E. cloacae* is considered of clinical significance, with skin and GI tract as the most common sites through which it is contracted, and is increasingly isolated as nosocomial pathogen.[3,4,5] *E. cloacae* is resistant to amipicillin, cefoxitin and narrow spectrum cephalosporins.[3,4,5] β-lactam antibiotic resistance in *E. cloacae* is attributed to expression of inducible chromosomal Bush group 1 β-lactamase, acquisition of plasmid-mediated β-lactamases or a combination of these mechanisms.[4,5]

### Material Provided:
Each vial contains approximately 0.5 mL of bacterial culture in Tryptic Soy broth supplemented with 10% glycerol.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

### Packaging/Storage:
NR-48558 was packaged aseptically, in screw-capped plastic cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

### Growth Conditions:
Media:
Tryptic Soy broth or Nutrient broth or equivalent
Tryptic Soy agar or Nutrient agar or Tryptic Soy agar with 5% defibrinated sheep blood or equivalent
Incubation:
Temperature: 37°C
Atmosphere: Aerobic
Propagation:
1. Keep vial frozen until ready for use, then thaw.
2. Transfer the entire thawed aliquot into a single tube of broth.
3. Use several drops of the suspension to inoculate an agar slant and/or plate.
4. Incubate the tube, slant and/or plate at 37°C for 1 day

### Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Enterobacter cloacae* complex, Strain UCI 36, NR-48558."

### Biosafety Level: 2
Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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## References:

1. Onderdonk, A. B., Personal Communication.
2. Cerqueira, G. C., et al. "Multi-Institute Analysis of Carbapenem Resistance Reveals Remarkable Diversity, Unexplained Mechanisms, and Clonal Outbreaks." Proc. Natl. Acad. Sci. USA 114 (2017): 1135-1140. PubMed: 28096418.
3. Sanders, W. E. and C. C. Sanders. "*Enterobacter* spp.: Pathogens Poised to Flourish at the Turn of the Century." Clin. Microbiol. Rev. 10 (1997): 220-241. PubMed: 9105752
4. Mezzatesta, M. L., F. Gona, and S. Stefani. "*Enterobacter cloacae* Complex: Clinical Impact and Emerging Antibiotic Resistance." Future Microbiol. 7 (2012): 887-902. PubMed: 22827309.
5. Rice, L. B. et al. "Outbreak of Ceftazidime Resistance Caused by Extended-Spectrum Beta-Lactamases at a Massachusetts Chronic-Care Facility." Antimicrob. Agents Chemother. 34 (1990): 2193-2199. PubMed: 2073110.
6. Pitout, J. D., et al. "Beta-Lactamases and Detection of Beta-Lactam Resistance in Enterobacter spp." Antimicrob. Agents Chemother. 41 (1997): 35-39. PubMed: 8980751.



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