

***Enterobacter cloacae*, Strain 889980**

Catalog No. NR-56592

For research use only. Not for use in humans.

Contributor and Manufacturer:
ATCC®

Product Description:

Bacteria Classification: *Enterobacteriaceae*, *Enterobacter*

Species: *Enterobacter cloacae*

Strain: 889980

Original Source: *Enterobacter cloacae* (*E. cloacae*), strain 889980 was isolated in 2012 from the urine sample of a 57-year-old female in Turkey.

Comments: *E. cloacae*, strain 889980 was deposited as part of the Global Priority Superbugs Collection. NR-56592 was deposited as resistant to ceftazidime, ceftazidime/avibactam, ceftriaxone, ciprofloxacin, levofloxacin, meropenem and piperacillin/tazobactam.

E. cloacae is a Gram-negative, rod-shaped, facultatively-anaerobic bacteria that is commensal inhabitant of the human gastrointestinal tract.^{1,2} *E. cloacae* is part of *E. cloacae* complex and is ubiquitously present in terrestrial and aquatic environments.² *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.^{1,2,3} *E. cloacae* is resistant to ampicillin, cefoxitin and narrow spectrum cephalosporins.^{1,2,3} 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.^{2,3}

Material Provided:

Each vial contains approximately 0.3 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-56592 was packaged aseptically in 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:

Nutrient broth or Tryptic Soy broth or equivalent
Nutrient agar or Tryptic Soy 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*, Strain 889980, NR-56592."

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](#), 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

Disclaimers:

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References:

1. 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
2. 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.
3. 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.
4. 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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