Product Information Sheet for NR-56588

Citrobacter freundii, Strain 974673

Catalog No. NR-56588

For research use only. Not for use in humans.

Contributor and Manufacturer:
ATCC®

Product Description:
Bacteria Classification: *Enterobacteriaceae, Citrobacter*
Species: *Citrobacter freundii*
Strain: 974673
Original Source: *Citrobacter freundii (C. freundii)*, strain 974673 was isolated in 2013 from a urine sample of a 49-year-old male in China.
Comments: *C. freundii*, strain 974673 was deposited as part of the Global Priority Superbugs Collection. NR-56588 was deposited as resistant to amikacin, aztreonam, cefepime, ceftazidime, ceftazidime/avibactam, ceftriaxone, ciprofloxacin, doripenem, imipenem, levofloxacin, meropenem and piperacillin/ tazobactam.

C. freundii is a facultatively anaerobic, typically motile, Gram-negative bacillus that occasionally inhabits human and animal intestines as well as soil, water, sewage and food. In rare cases, it can cause significant opportunistic infections particularly in neonates and debilitated or immunocompromised individuals.[1,2,3]

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-56588 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: *Citrobacter freundii*, Strain 974673, NR-56588."

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

Disclaimers:
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References:
1. Bai, L., et al. "Isolation and Characterization of Cytotoxic, Aggregative *Citrobacter freundii*." PLoS One 7 (2012): e33054. PubMed: 22470435.
2. Doran, T. I. "The Role of *Citrobacter* in Clinical Disease of Children: Review." Clin. Infect. Dis. 28 (1999): 384-394. PubMed: 10064257.

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3. Lozano-Leon, A., et al. "*Citrobacter freundii* Infection after Acute Necrotizing Pancreatitis in a Patient with a Pancreatic Pseudocyst: A Case Report." J. Med. Case Rep. 5 (2011): 51. PubMed: 21299889.

Support Provided by NIAID

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