

***Escherichia coli*, Strain 96.0497 (Serotype O91:H21)**

Catalog No. NR-17623

For research use only. Not for human use.

Contributor:

Chobi DebRoy, Ph.D., Director, *E. coli* Reference Center, Department of Veterinary and Biomedical Sciences, The Pennsylvania State University, University Park, Pennsylvania, USA

Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Enterobacteriaceae*, *Escherichia*

Species: *Escherichia coli*

Strain: 96.0497

Serotype: O91:H21^{1,2}

Original Source: *Escherichia coli* (*E. coli*), strain 96.0497 is a human isolate.^{1,2}

Comments: *E. coli*, strain 96.0497 is a Shiga toxin-producing *E. coli* (EHEC) and its genome encodes for the Shiga-like type 2 toxin (Stx2).¹ The complete genome of *E. coli*, strain 96.0497 was sequenced at the [J. Craig Venter Institute](#) (GenBank: [AEZU00000000](#)).

E. coli is a Gram-negative, rod-shaped bacterium commonly found in the gut flora of warm-blooded animals and is the primary facultative anaerobe of the human gastrointestinal tract. While most *E. coli* strains are harmless and are an important part of a healthy intestinal tract, some serotypes are pathogenic, causing diarrhea, urinary tract infections, respiratory illness, pneumonia, or other illnesses in their host.³⁻⁵ Pathogenic *E. coli* may be transmitted through contaminated food or water, or through contact with infected persons or animals. The six pathotypes associated with diarrhea and collectively referred to as diarrheagenic *E. coli* are: Shiga toxin-producing *E. coli* [STEC; also referred to as Verocytotoxin-producing *E. coli* (VTEC) or enterohemorrhagic *E. coli* (EHEC)]⁶, enterotoxigenic *E. coli* (ETEC)⁷, enteropathogenic *E. coli* (EPEC)⁸, enteroaggregative *E. coli* (EAEC)⁹, enteroinvasive *E. coli* (EIEC) and diffusely adherent *E. coli* (DAEC).¹⁰

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-17623 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 24 hours.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Escherichia coli*, Strain 96.0497 (Serotype O91:H21), NR-17623."

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. DebRoy, C., Personal Communication.
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5. Croxen, M. A., et al. "Recent Advances in Understanding Enteric Pathogenic *Escherichia coli*." [Clin. Microbiol. Rev.](#) 26 (2013): 822-880. PubMed: 24092857.
6. Smith, J. L., P. M. Fratamico and N. W. Gunther, 4th. "Shiga Toxin-Producing *Escherichia coli*." [Adv. Appl. Microbiol.](#) 86 (2014): 145-197. PubMed: 24377855.
7. Zhang, W. and D. A. Sack. "Progress and Hurdles in the Development of Vaccines against Enterotoxigenic *Escherichia coli* in Humans." [Expert Rev. Vaccines](#) 11 (2012): 677-694. PubMed: 22873126.
8. Ochoa, T. J. and C. A. Contreras. "Enteropathogenic *Escherichia coli* Infection in Children." [Curr. Opin. Infect. Dis.](#) 24 (2011): 478-483. PubMed: 21857511.
9. Estrada-Garcia, T. and F. Navarro-Garcia. "Enterotoxigenic *Escherichia coli* Pathotype: A Genetically Heterogeneous Emerging Foodborne Enteropathogen." [FEMS Immunol. Med. Microbiol.](#) 66 (2012): 281-298. PubMed: 22775224.
10. Smith, E. J., et al. "Pathogenesis of Adherent-Invasive *Escherichia coli*." [Future Microbiol.](#) 8 (2013): 1289-1300. PubMed: 24059919.

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