Yersinia enterocolitica subsp. *enterocolitica*, Strain NCTC 11175

Catalog No. NR-212
(Derived from ATCC® 700822™)

For research only. Not for use in humans.

Contributor:
ATCC®

Manufacturer:
BEI Resources

Product Description:
Bacteria Classification: *Enterobacteriaceae*, *Yersinia*
Species: *Yersinia enterocolitica* subsp. *enterocolitica*[1,2]
Strain: NCTC 11175
Biotype: 4
Serotype: O:3
Original Source: *Yersinia enterocolitica (Y. enterocolitica)* subsp. *enterocolitica*, strain NCTC 11175 was isolated in 1970 from the blood of a patient with septicemia.[3]
Comments: *Y. enterocolitica* subsp. *enterocolitica*, strain NCTC 11175 was deposited at ATCC® by the National Collection of Type Cultures.

Y. enterocolitica subsp. *enterocolitica* is a significant food-borne enteropathogen which causes gastroenteritis.[4] *Y. enterocolitica* subsp. *enterocolitica* is an extremely heterogeneous species, encompassing six biotypes and currently more than 50 serogroups, not all of which can cause disease.[5] It is of particular concern to the food industry because it is a psychrotrophic pathogen able to proliferate at temperatures approaching 0°C.

Y. enterocolitica subsp. *enterocolitica* is a non-spore-forming, Gram-negative, rod-shaped coccobacillus. Virulence-associated genes are located on the chromosome and on the pYV (approximately 70 kb) plasmid found in typical virulent strains of *Y. enterocolitica* subsp. *enterocolitica*.[6,7] This plasmid encodes a type III secretion system involved in the delivery of virulence proteins that contribute to internalization into host cells.[7]

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-212 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:
Brain Heart Infusion broth or Tryptic Soy broth or equivalent
Tryptic Soy agar or Sheep Blood agar or equivalent
Incubation:
Temperature: 26°C[8]
Atmosphere: Aerobic
Propagation:
1. Keep vial frozen until ready for use; thaw slowly.
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 tubes and plate at 26°C for 1 to 2 days.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Yersinia enterocolitica* subsp. *enterocolitica*, Strain NCTC 11175, NR-212."

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; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

Disclaimers:
You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

BEI Resources
www.beiresources.org

E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

References:

1. "Validation List No. 75." Int. J. Syst. Evol. Microbiol. 50 (2000): 1415-1417.
2. Neubauer, H., et al. "*Yersinia enterocolitica* 16S rRNA Gene Types Belong to the Same Genospecies but Form Three Homology Groups." Int. J. Med. Microbiol. 290 (2000): 61-64. PubMed: 11043982.
3. Chessum, B., et al. "Case of Septicaemia Due to *Yersinia enterocolitica*." Br. Med. J. 3 (1971): 466. PubMed: 5567772.
4. Fredriksson-Ahomaa, M., A. Stolle and H. Korkeala. "Molecular Epidemiology of *Yersinia enterocolitica* Infections." FEMS Immunol. Med. Microbiol. 47 (2006): 315-329. PubMed: 16872368.
5. Virdi, J. S. and P. Sachdeva. "Molecular Heterogeneity in *Yersinia enterocolitica* and '*Y. enterocolitica*-Like' Species – Implications for Epidemiology, Typing and Taxonomy." FEMS Immunol. Med. Microbiol. 45 (2005): 1-10. PubMed: 15985218.
6. Bottone, E. J. "*Yersinia enterocolitica*: The Charisma Continues." Clin. Microbiol. Rev. 10 (1997): 257-276. PubMed: 9105754.
7. Snellings, N. J., M. Popek and L. E. Lindler. "Complete DNA Sequence of *Yersinia enterocolitica* Serotype 0:8 Low-Calcium-Response Plasmid Reveals a New Virulence Plasmid-Associated Replicon." Infect. Immun. 69 (2001): 4627-4638. PubMed: 11402007.
8. Chu, M. C. Laboratory Manual of Plague Diagnostic Tests. Centers for Disease Control and Prevention, Atlanta, 2000.
9. Lamps, L. W., et al. "Molecular Biogrouping of Pathogenic *Yersinia enterocolitica*: Development of a Diagnostic PCR Assay with Histologic Correlation." Am. J. Clin. Pathol. 125 (2006): 658-664. PubMed: 16707365.

Support Provided by NIAID

BEI Resources
www.beiresources.org

E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898