

***Escherichia coli*, Strain NCDC U14-41**

Catalog No. NR-102

(Derived from ATCC® 23501™)

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Contributor:

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Product Description:

Bacteria Classification: *Enterobacteriaceae, Escherichia*

Species: *Escherichia coli (E. coli)*

Strain: NCDC U14-41

Serotype: O3:K2a,2b(L):H2

Original Source:¹ Isolated in 1943 by Dr. F. Kauffmann from human urine

Comment: *E. coli*, strain NCDC U14-41 was deposited at ATCC® in 1967 by Dr. William H. Ewing, Bacteriology Section, National Communicable Disease Center, Atlanta, Georgia.

E. coli is a gram-negative rod-shaped bacterium which occurs singly or in pairs. It is a major facultative inhabitant of the large intestine.

E. coli strain NCDC U14-41 is an enteroaggregative *E. coli* (EAEC). PCR probes have been developed to identify the presence of aggregative adherence pattern associated plasmid (pAA) and the virulence marker *aggR*, which are commonly associated with EAEC.

The presence of pAA has been confirmed by PCR amplification of the marker sequences CVD432 and *aggR* from extracted nucleic acid.

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in 0.5X Tryptic Soy Broth supplemented with 10% glycerol.

Packaging/Storage:

NR-102 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 Condition:

Media:

Tryptic Soy Broth or equivalent

Tryptic Soy Agar 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 Tryptic Soy Broth.
3. Use several drops of the suspension to inoculate a Tryptic Soy Agar slant and/or plate.
4. Incubate the tubes and plate at 37°C for 24 hours.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: *Escherichia coli*, Strain NCDC U14-41, NR-102."

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, 2007; see www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm.

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References:

1. *Acta Pathol. Microbiol. Scand.* 20 (1943): 21–44.
2. Brenner, D. J., et al. "Atypical Biogroups of *Escherichia coli* Found in Clinical Specimens and Description of *Escherichia hermannii* sp. nov." *J. Clin. Microbiol.* 15 (1982): 703–713. PubMed: 7040466.
3. Schmidt, H., et al. "Development of PCR for Screening of Enteroaggregative *Escherichia coli*." *J. Clin. Microbiol.* 33 (1995): 701–705. PubMed: 7751380.
4. Tsai, C. C., S. Y. Chen, and H. Y. Tsen. "Screening the Enteroaggregative *Escherichia coli* Activity and Detection of the *aggA*, *aafA*, and *astA* Genes with Novel PCR Primers for the *Escherichia coli* Isolates from Diarrhea Cases in Taiwan." *Diagn. Microbiol. Infect. Dis.* 46 (2003): 159–165. PubMed: 12867090.
5. Ogata, K., et al. "Prevalence of *Escherichia coli* Possessing the *eaeA* Gene of Enteropathogenic *E. coli* (EPEC) or the *aggR* Gene of Enteroaggregative *E. coli* (EAggEC) in Traveler's Diarrhea Diagnosed in Those Returning to Tama, Tokyo from Other Asian Countries." *Jpn. J. Infect. Dis.* 55 (2002): 14–18. PubMed: 11971156.
6. Moon, J. Y., J. H. Park, and Y. B. Kim. "Molecular Epidemiological Characteristics of Virulence Factors on Enteroaggregative *E. coli*." *FEMS Microbiol. Lett.* 253 (2005): 215–220. PubMed: 16257141.

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