

***Escherichia coli*, Strain B2F1**

Catalog No. NR-96

(Derived from ATCC® 51435™)

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Contributor:

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Product Description:

Bacteria Classification: *Enterobacteriaceae, Escherichia*

Species: *Escherichia coli*

Strain: B2F1

Serotype: O91:H21

Original Source: Clinical human isolate (patient with hemolytic uremic syndrome) from Toronto, Canada

Escherichia coli (*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. Many enterohemorrhagic *E. coli* (EHEC) strains encode potent toxins, similar to those of *Shigella dysenteriae*, which can cause severe intestinal, kidney and central nervous system disease.

E. coli, B2F1 is reported to produce two Shiga-like type II toxins, contain a large hemolysin-encoding plasmid, and is referred to as an EHEC and Shiga toxin-producing *E. coli* (STEC) strain.¹⁻³

Material Provided:

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

Note: If homogeneity is required for your intended use, please colony-purify prior to initiating work.

Packaging/Storage:

NR-96 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 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 B2F1, NR-96.”

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. Lindgren, S. W., et al. "The Specific Activities of Shiga-Like Toxin Type II (SLT-II) and SLT-II-Related Toxins of Enterohemorrhagic *Escherichia coli* Differ When Measured by Vero Cell Cytotoxicity but Not by Mouse Lethality." Infect. Immun. 62 (1994): 623–631. PubMed: 8300218.
2. Ito, H., et al. "Cloning and Nucleotide Sequencing of Vero Toxin 2 Variant Genes from *Escherichia coli* O91:H21 Isolated from a Patient with the Hemolytic Uremic Syndrome." Microb. Pathog. 8 (1990): 47–60. PubMed: 2185397.
3. Dean-Nystrom, E. A., et al. "Comparative Pathogenicity of *Escherichia coli* O157 and Intimin-Negative Non-O157 Shiga Toxin-Producing *E. coli* Strains in Neonatal Pigs." Infect. Immun. 71 (2003): 6526–6533. PubMed: 14573674.
4. Melton-Celsa, A. R., S. C. Darnell, and A. D. O'Brien. "Activation of Shiga-Like Toxins by Mouse and Human Intestinal Mucus Correlates with Virulence of Enterohemorrhagic *Escherichia coli* O91:H21 Isolates in Orally Infected, Streptomycin-Treated Mice." Infect. Immun. 64 (1996): 1569–1576. PubMed: 8613362.
5. Lindgren, S. W., A. R. Melton, and A. D. O'Brien. "Virulence of Enterohemorrhagic *Escherichia coli* O91:H21 Clinical Isolates in an Orally Infected Mouse Model." Infect. Immun. 61 (1993): 3832–3842. PubMed: 8359904.
6. Oku, Y., et al. "Purification and Some Properties of a Vero Toxin from a Human Strain of *Escherichia coli* that is Immunologically Related to Shiga-Like Toxin II (VT2)." Microb. Pathog. 6 (1989): 113–122. PubMed: 2654533.

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