

***Escherichia coli*, Strain EDL933**

**Catalog No. NR-11**

(Derived from ATCC® 700927™)

**For research use only. Not for human use.**

**Contributor:**

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**Product Description:**

Bacteria Classification: *Enterobacteriaceae*, *Escherichia*

Species: *Escherichia coli*

Strain: EDL933

Serotype: O157:H7

Original Source: *Escherichia coli* (*E. coli*), strain EDL933 was isolated from raw hamburger meat implicated in a hemorrhagic colitis outbreak in United States in 1982.<sup>1</sup>

Comment: *E. coli*, strain EDL933 was originally deposited to the ATCC® by the CDC in 1988 as ATCC® 43895™. ATCC® 43895™ was acquired by the University of Wisconsin for use in a genome sequencing project and re-deposited to the ATCC® as ATCC® 700927™.

*E. coli* EDL933 and many other EHEC strains encode potent toxins, similar to those of *Shigella dysenteriae*, which can cause severe intestinal, kidney and central nervous system disease. *E. coli* EDL933 carries two plasmid species: 1) pO157 (92,077 bp) and 2) pEDL933 (3,306 bp). Virulence-associated genes are located on both the chromosome and pO157. The complete sequence of the chromosome (5,528,445 bp; GenBank: AE005174)<sup>2</sup> and pO157 (GenBank: AF074613)<sup>3</sup> from *E. coli* strain EDL933 have been determined.

The presence of the plasmid pO157 and chromosomal virulence markers *stx1*, *stx2* and *eaeA* have been confirmed by PCR amplification of extracted DNA.

**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 purify prior to initiating work.

**Packaging/Storage:**

NR-11 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 broth.
3. Use several drops of the suspension to inoculate an 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 EDL933, NR-11."

**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](http://www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm).

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**References:**

1. Riley, L. W., et al. "Hemorrhagic Colitis Associated with a Rare *Escherichia coli* Serotype." N. Engl. J. Med. 308 (1983): 681-685. PubMed: 6338386.
2. Perna, N. T., et al. "Genome Sequence of Enterohaemorrhagic *Escherichia coli* O157:H7." Nature 409 (2001): 529-533. PubMed: 11206551. GenBank: AE005174.
3. Burland, V., et al. "The Complete DNA Sequence and Analysis of the Large Virulence Plasmid of *Escherichia coli* O157:H7." Nucleic Acids Res. 26 (1998): 4196-4204. PubMed: 9722640. GenBank: AF074613.

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