

***Escherichia coli*, Strain RIMD 0509952**

Catalog No. NR-12

(Derived from ATCC® BAA-460™)

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Contributor:

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Product Description:

Bacteria Classification: *Enterobacteriaceae, Escherichia*

Agent: *Escherichia coli* (*E. coli*)

Strain: RIMD 0509952

Serotype: O157:H7

Original Source:¹ Human feces, 1996

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.

The enterohemorrhagic *E. coli* (EHEC) strain RIMD 0509952 was isolated from a patient during an outbreak of hemorrhagic colitis and hemolytic uremic syndrome in Sakai City, Osaka Prefecture, Japan.¹ *E. coli* RIMD 0509952 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* RIMD 0509952 carries two plasmid species: 1) pO157 (92,721 bp) and 2) pOSAK1 (3,306 bp).² Virulence-associated genes are located on both the chromosome and pO157. The complete sequence of the chromosome (5,498,450 bp; GenBank: NC_002695), pO157 (GenBank: NC_002128) and pOSAK1 (GenBank: NC_002127) from *E. coli* strain RIMD 0509952 have been determined.^{2,3}

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-12 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 slant and/or 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 RIMD 0509952, NR-12."

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. 4th ed. Washington, DC: U.S. Government Printing Office, 1999. HHS Publication No. (CDC) 93-8395. This text is available online at www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4toc.htm.

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References:

1. Watanabe, H., et al. "Outbreaks of Enterohaemorrhagic *Escherichia coli* O157:H7 Infection by Two Different Genotype Strains in Japan, 1996." Lancet 348 (1996): 831–832. PubMed: 8814014.
2. Makino, K., et al. "Complete Nucleotide Sequences of 93-kb and 3.3-kb Plasmids of an Enterohemorrhagic *Escherichia coli* O157:H7 Derived from Sakai Outbreak." DNA Res. 5 (1998): 1–9. PubMed: 9628576. GenBank: NC_002128 and NC_002127.
3. Hayashi, T., et al. "Complete Genome Sequence of Enterohemorrhagic *Escherichia coli* O157:H7 and Genomic Comparison with a Laboratory Strain K-12." DNA Res. 8 (2001): 11–22. PubMed: 11258796. GenBank: NC_002695.

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