

***Escherichia coli*, Strain CoGen002096**

**Catalog No. NR-4356**

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

**Contributor:**

NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH

**Product Description:**

Bacteria Classification: *Enterobacteriaceae, Escherichia*

Species: *Escherichia coli*

Strain: CoGen002096

Serotype: O157:H7

Original Source: *Escherichia coli* (*E. coli*), strain CoGen002096 is an isolate from Illinois that was obtained during the California spinach outbreak.<sup>1</sup>

Comments: The *E. coli* (O157:H7) isolated during the 2006 California spinach outbreak are defined by a common set of 14 distinct chromosomal markers.<sup>2</sup>

*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* O157:H7 is the most common EHEC serotype contributing to food and waterborne illness in North America, with hemolytic uremic syndrome (HUS) being the most severe complication.<sup>3</sup>

**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-4356 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 CoGen002096, NR-4356."

**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/bmbl5/bmbl5toc.htm](http://www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm).

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**References:**

1. "Illinois' *E. coli* Case Linked to Bagged Spinach." Illinois Department of Public Health. September 26, 2006. <http://www.idph.state.il.us/public/press06/9.26.06spinach.htm>
2. Kotewicz, M. L., et al. "Optical Mapping and 454 Sequencing of *Escherichia coli* O157:H7 Isolates Linked to the U.S. 2006 Spinach-Associated Outbreak." *Microbiology* 154 (2008): 3518-3528. PubMed: 18957604.
3. Manning, S. D., et al. "Variation in Virulence among Clades of *Escherichia coli* O157:H7 Associated with Disease Outbreaks." *Proc. Natl. Acad. Sci. U. S. A.* 25 (2008): 4868-4873. PubMed: 18332430.
4. Centers for Disease Control and Prevention (CDC). "Ongoing Multistate Outbreak of *Escherichia coli* Serotype O157:H7 Infections Associated with Consumption of Fresh Spinach – United States, September, 2006." *MMWR Morb. Mortal. Wkly. Rep.* 55 (2006): 1045-1046. PubMed: 17008868.
5. Cooley, M., et al. "Incidence and Tracking of *Escherichia coli* O157:H7 in a Major Product Production Region in California." *PLoS One* 14 (2007): e1159. PubMed: 18174909.
6. Kulasekara, B.R., et al. "Analysis of the Genome of the *Escherichia coli* O157:H7 2006 Spinach-Associated Outbreak Isolate Indicates Candidate Genes that May Enhance Virulence." *Infect. Immun.* 77 (2009): 3713-3721. PubMed: 19564389.

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