

***Escherichia coli*, Strain Bi8337-41  
(Serotype O10:K5:H4)**

**Catalog No. NR-17671**

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

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

Bacteria Classification: *Enterobacteriaceae*, *Escherichia*

Species: *Escherichia coli*

Strain: Bi8337-41 (also referred to as ATCC® 23506™)

Serotype: O10:K5:H4<sup>1,2</sup>

Original Source: *Escherichia coli* (*E. coli*), strain Bi8337-41 was isolated from human peritoneum.<sup>3</sup>

Comments: Strain Bi8337-41 is used as a reference strain for O10 serotyping.<sup>2</sup> *E. coli*, strain Bi8337-41 was selected to undergo complete genome sequencing at the [J. Craig Venter Institute](#).

*E. coli* is a Gram-negative, rod-shaped bacterium commonly found in the gut flora of warm-blooded animals and is the primary facultative anaerobe of the human gastrointestinal tract. While most *E. coli* strains are harmless and are an important part of a healthy intestinal tract, some serotypes are pathogenic, causing diarrhea, urinary tract infections, respiratory illness, pneumonia, or other illnesses in their host.<sup>4-6</sup> Pathogenic *E. coli* may be transmitted through contaminated food or water, or through contact with infected persons or animals. The six pathotypes associated with diarrhea and collectively referred to as diarrheagenic *E. coli* are: Shiga toxin-producing *E. coli* [STEC; also referred to as Verocytotoxin-producing *E. coli* (VTEC) or enterohemorrhagic *E. coli* (EHEC)]<sup>7</sup>, enterotoxigenic *E. coli* (ETEC)<sup>8</sup>, enteropathogenic *E. coli* (EPEC)<sup>9</sup>, enteroaggregative *E. coli* (EAEC)<sup>10</sup>, enteroinvasive *E. coli* (EIEC) and diffusely adherent *E. coli* (DAEC).<sup>11</sup>

**Material Provided:**

Each vial contains approximately 0.5 mL of bacterial culture in 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-17671 was packaged aseptically in 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, Nutrient broth or equivalent

Tryptic Soy agar, Nutrient agar or Tryptic Soy agar with 5% defibrinated sheep blood 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 tube, slant and/or plate at 37°C for 24 hours.

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Escherichia coli*, Strain Bi8337-41 (Serotype O10:K5:H4), NR-17671."

**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, 2009; see [www.cdc.gov/biosafety/publications/bmb15/index.htm](http://www.cdc.gov/biosafety/publications/bmb15/index.htm).

**Disclaimers:**

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**References:**

1. DebRoy, C., Personal Communication.
2. Kapur, V., et al. "Genome Sequencing and Analysis of Pathogenic *Escherichia coli* Strains." [J. Craig Venter Institute](#). (2009) <[http://gsc.jcvi.org/projects/gsc/e\\_coli/index.shtml](http://gsc.jcvi.org/projects/gsc/e_coli/index.shtml)>
3. Orskov, I., et al. "Serology, Chemistry, and Genetics of O and K Antigens of *Escherichia coli*." *Bacteriol. Rev.* 41 (1977): 667-710. PubMed: 334154.
4. Nataro, J. P. and J. B. Kaper. "Diarrheagenic *Escherichia coli*." *Clin. Microbiol. Rev.* 11 (1998): 142-201. PubMed: 9457432.
5. Kaper, J. B., J. P. Nataro and H. L. Mobley. "Pathogenic *Escherichia coli*." *Nat. Rev. Microbiol.* 2 (2004): 123-140. PubMed: 15040260.
6. Croxen, M. A., et al. "Recent Advances in Understanding Enteric Pathogenic *Escherichia coli*." *Clin. Microbiol. Rev.* 26 (2013): 822-880. PubMed: 24092857.
7. Smith, J. L., P. M. Fratamico and N. W. Gunther, 4th. "Shiga Toxin-Producing *Escherichia coli*." *Adv. Appl. Microbiol.* 86 (2014): 145-197. PubMed: 24377855.
8. Zhang, W. and D. A. Sack. "Progress and Hurdles in the Development of Vaccines against Enterotoxigenic *Escherichia coli* in Humans." *Expert Rev. Vaccines* 11 (2012): 677-694. PubMed: 22873126.
9. Ochoa, T. J. and C. A. Contreras. "Enteropathogenic *Escherichia coli* Infection in Children." *Curr. Opin. Infect. Dis.* 24 (2011): 478-483. PubMed: 21857511.
10. Estrada-Garcia, T. and F. Navarro-Garcia. "Enterotoxigenic *Escherichia coli* Pathotype: A Genetically Heterogeneous Emerging Foodborne Enteropathogen." *FEMS Immunol. Med. Microbiol.* 66 (2012): 281-298. PubMed: 22775224.
11. Smith, E. J., et al. "Pathogenesis of Adherent-Invasive *Escherichia coli*." *Future Microbiol.* 8 (2013): 1289-1300. PubMed: 24059919.

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