**Escherichia coli, Strain 3003**

**Catalog No. NR-17638**

For research use only. Not for human use.

**Contributor:**
C. DebRoy, Director, *E. coli* Reference Center, Department of Veterinary and Biomedical Sciences, College of Agricultural Sciences, The Pennsylvania State University, University Park, Pennsylvania, USA

**Manufacturer:**
BEI Resources

**Product Description:**

**Bacteria Classification:** Enterobacteriaceae, *Escherichia*

**Species:** *Escherichia coli*

**Strain:** 3003

**Serotype:** O157:H4\(^1,2\)

**Original Source:** *Escherichia coli* (E. coli), strain 3003 is a water isolate.\(^1,2\)

**Comment:** *E. coli*, strain 3003 is referred to as a non-Shiga toxin-producing *E. coli* (STEC) O157 strain as its genome does not encode for either Shiga toxin (Stx) type I or Stx type II.\(^1,2\) The complete genome of *E. coli*, strain 3003 is available (GenBank: [AFAF00000000](https://www.ncbi.nlm.nih.gov/nuccore/AFAF00000000)).

*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.\(^3-9\) 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)\(^6,9\), enterohaemorrhagic *E. coli* (EHEC)\(^6,9\), enterotoxigenic *E. coli* (ETEC)\(^5\), enteropathogenic *E. coli* (EPEC)\(^8\), enterocolitica *E. coli* (EAEC)\(^8\), enteroinvasive *E. coli* (EIEC) and diffusely adherent *E. coli* (DAEC).\(^10\)

The O157 serogroup is a large and diverse group that includes many serotypes that are commonly found in animals, foods, and clinical samples, including the human pathogenic O157:H7 serotype that produces both Stx type I and Stx type II.\(^11\)

**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-17638 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 Nutrient broth or equivalent

Tryptic Soy agar or 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 3003, NR-17638.”

**Biosafety Level:** 2


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References:
1. DebRoy, C., Personal Communication.

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