**Escherichia coli, Strain H10407**

**Catalog No. NR-4**  
(Derived from ATCC® 35401™)

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

**Contributor:**  
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**Manufacturer:**  
BEI Resources

**Product Description:**

**Bacteria Classification:** Enterobacteriaceae, Escherichia  
**Agent:** Escherichia coli (E. coli)  
**Strain:** H10407  
**Serotype:** O78:H11  
**Original Source:** 1 Human feces  
**Comment:** Escherichia coli, strain H10407 was deposited at ATCC® in the early 1980s by Samuel B. Formal, Department of Bacterial Diseases, Walter Reed Army Institute of Research, Washington, DC.

**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 enterotoxigenic *E. coli* (ETEC) strain H10407 was isolated from a patient with diarrhea in Bangladesh. It produces at least two types of virulence factors: 1) colonization factor antigen I (CFA/I), which is responsible for adhesion of bacterial cells to intestinal epithelial cells, and 2) heat-labile (LT) and heat-stable (ST) enterotoxins which cause diarrhea. E. coli H10407 carries three plasmid species: 1) pCS1 (CFA/I-ST™; 95,000 bp), 2) pJY11 (LT-ST™; 65,000 bp), and 3) pTRA1 (65,000 bp), a self-transmissible plasmid which mobilizes pCS1 and pJY11. The gene for another heat-stable enterotoxin (EAST1) has been found in *E. coli* H10407, sequenced (GenBank: AB042004), and reported to have enterotoxin activity. 2,3

The presence of pCS1 and pJY11 in NR-4 has been confirmed by PCR amplification from extracted nucleic acid of the marker sequences esth and estp from pCS1 and estl from pJY11. In addition, NR-4 carries the chromosomal marker sequence astA.

**Material Provided:**

Each vial contains approximately 0.5 mL of bacterial culture in Tryptic Soy broth supplemented with 10% glycerol.

**Packaging/Storage:**

NR-4 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 BEI Resources, NIAID, NIH: Escherichia coli, Strain H10407, NR-4.”

**Biosafety Level:** 2


**Disclaimers:**

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References:

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