

### Genomic DNA from *Escherichia coli*, Strain NCDC 909-51

Catalog No. NR-2652

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**Contributor:**  
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#### Product Description:

Genomic DNA was isolated from a preparation of *Escherichia coli* (*E. coli*), strain NCDC 909-51, serotype O28a,28c:K73(B18):NM. The bacterial preparation was produced by propagation of BEI Resources NR-101.

The enteroinvasive *E. coli* (EIEC) strain NCDC 909-51 was isolated from the feces of a patient in Katwijk, The Netherlands around 1940.<sup>1</sup> EIEC strains invade and multiply within intestinal epithelial cells, resulting in a dysentery-like enteritis in humans, similar to that caused by *Shigella* species. EIEC pathogenesis requires the expression of genes present both on the chromosome and on a large invasion plasmid, pINV (220,000 bp).<sup>2,3</sup> The plasmid shares a significant degree of DNA homology with the virulence plasmid described in *Shigella* species, and is structurally and functionally equivalent.<sup>2,3</sup>

NR-2652 has been qualified for PCR applications by amplification of ~ 1500 bp of the 16S ribosomal RNA gene.

#### Material Provided:

Each vial contains 4–6 µg of bacterial genomic DNA in TE buffer (10 mM Tris-HCl, 1 mM EDTA, pH ~7.4). The concentration is shown on the Certificate of Analysis. The vial should be centrifuged prior to opening.

#### Packaging/Storage:

NR-2652 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen on dry ice and should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be minimized.

#### Citation:

Acknowledgment for publications should read “The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Genomic DNA from *Escherichia coli*, Strain NCDC 909-51, NR-2652.”

#### Biosafety Level: 1

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](http://www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4toc.htm).

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#### References:

1. [Ned. Tijdschr. Geneeskd.](#) 84 (1940): 4613–4621.
2. Hsia, R.-C., P. L. C. Small, and P. M. Bavoil. “Characterization of Virulence Genes of Enteroinvasive *Escherichia coli* by *TnphoA* Mutagenesis: Identification of *invX*, a Gene Required for Entry into HEp-2 Cells.” [J. Bacteriol.](#) 175 (1993): 4817–4823. PubMed: 8393007.
3. Lan, R., et al. “Molecular Evolutionary Relationships of Enteroinvasive *Escherichia coli* and *Shigella* spp.” [Infect. Immun.](#) 72 (2004): 5080–5088. PubMed: 15322001.

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