Product Information Sheet for NR-2650

Genomic DNA from *Escherichia coli*, Strain H414-36/89

Catalog No. NR-2650

For research use only. Not for human use.

Contributor:
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Product Description:
Genomic DNA was isolated from a preparation of *Escherichia coli (E. coli)*, strain H414-36/89, serotype O91:H21.

The enterohemorrhagic *E. coli* (EHEC) strain H414-36/89 was isolated from a patient with hemorrhagic colitis in Germany.[1] *E. coli* H414-36/89 and many other EHEC strains encode potent toxins, similar to those of *Shigella dysenteriae*, which can cause severe intestinal, kidney and central nervous system disease. The large plasmid of *E. coli* H414-36/89 carries one copy of the gene for Shiga-like toxin type II (SLT-II) and two copies of the gene for an SLT-II-variant-type toxin.[2,3] *E. coli* H414-36/89 has been shown to be highly virulent in a mouse model of infection.[2,4]

NR-2650 has been qualified for PCR applications by amplification of approximately 1500 bp of the 16S ribosomal RNA gene as well as amplification of a gene length virulence marker on the large plasmid.

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-2650 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 H414-36/89, NR-2650."

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. 5th ed. Washington, DC: U.S. Government Printing Office, 2007; see www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm.

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References:
1. Bockemuhl, J. S., S. Aleksic, and H. Karch. "Serological and Biochemical Properties of Shiga-like Toxin (Verocytotoxin)-Producing Strains of *Escherichia coli*, Other than O-group 157, from Patients in Germany." Zentralbl. Bakteriol. 276 (1992): 189–195. PubMed: 1559007.
2. Lindgren, S. W., A. R. Melton, and A. D. O'Brien. "Virulence of Enterohemorrhagic *Escherichia coli* O91:H21 Clinical Isolates in an Orally Infected Mouse Model." Infect. Immun. 61 (1993): 3832–3842. PubMed: 8359904.

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3. Lindgren, S. W., J. E. Samuel, C. K. Schmitt, and A. D. O'Brien. "The Specific Activities of Shiga-like Toxin Type II (SLT-II) and SLT-II-related Toxins of Enterohemorrhagic *Escherichia coli* Differ When Measured by Vero Cell Cytotoxicity but Not by Mouse Lethality." Infect. Immun. 62 (1994): 623–631. PubMed: 8300218.
4. Melton-Celsa, A. R., S. C. Darnell, and A. D. O'Brien. "Activation of Shiga-like Toxins by Mouse and Human Intestinal Mucus Correlates with Virulence of Enterohemorrhagic *Escherichia coli* O91:H21 Isolates in Orally Infected, Streptomycin-Treated Mice." Infect. Immun. 64 (1996): 1569–1576. PubMed: 8613362.

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