Genomic DNA from *Yersinia pestis*, Strain Harbin 35

Catalog No. NR-2719

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Contributor:

Centers for Disease Control and Prevention, Division of Vector-Borne Infectious Diseases, Fort Collins, Colorado, USA

Manufacturer:

BEI Resources

Product Description:

NR-2719 contains genomic DNA extracted from a preparation of *Yersinia pestis* (*Y. pestis*), strain Harbin 35, biovar Medievalis.

Y. pestis, strain Harbin 35 is a human isolate from Manchuria (1940).[1] It contains three virulence plasmids: 1) pMT1 [pFra; ~ 110 kilobases (kb)], which encodes a murine toxin and capsular protein with anti-phagocytic activities, 2) pCD1 (pYV; ~ 70 kb), which encodes a type III secretion system and is essential for virulence and 3) pPCP1 (pPla; ~ 9.5 kb monomer or ~ 19 kb dimer), which encodes a protease that facilitates the initial dissemination of the bacteria to the lymph nodes.[2] *Y. pestis,* strain Harbin 35 also contains chromosomal virulence factors located in an unstable locus, *pgm*.[3] The complete sequences of the chromosome (4,532,063 bp; GenBank: CP001608), pMT1 (99,286 bp; GenBank: CP001610), pCD1 (68,552 bp; GenBank: CP001609), and pPCP1 (9,600 bp; GenBank: CP001611) from *Y. pestis,* strain Harbin 35 have been determined.[2]

The presence of all three plasmids in NR-2719 has been confirmed by PCR amplification of plasmid specific virulence markers. NR-2719 has been qualified for PCR applications by amplification of approximately 1500 base pairs of the 16S ribosomal RNA gene.

Material Provided:

Each vial of NR-2719 contains 0.7 µg to 1.5 µg of bacterial genomic DNA in TE buffer (10 mM Tris-HCl and 1 mM EDTA, pH ~ 8). Each vial of NR-2719 lot 7398290 contains approximately 5 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-2719 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen 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 BEI Resources, NIAID, NIH: Genomic DNA from *Yersinia pestis*, Strain Harbin 35, NR-2719."

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, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

Disclaimers:

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References:

1. Radnedge, L., et al. "Genome Plasticity in *Yersinia pestis*." Microbiology 148 (2002): 1687-1698. PubMed: 12055289.
2. Parkhill, J., et al. "Genome Sequence of *Yersinia pestis*, the Causative Agent of Plague." Nature 413 (2001): 523-527. PubMed: 11586360.
3. Hare, J. M. and K. A. McDonough. "High-Frequency RecA-Dependent and -Independent Mechanisms of Congo Red Binding Mutations in *Yersinia pestis*." J. Bacteriol. 181 (1999): 4896-4904. PubMed: 10438760.

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