Genomic DNA from *Yersinia pestis*, Strain Yokohama Derivative 11 (D11)

**Catalog No. NR-4717**

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

**Contributor:**
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**Product Description:**
Genomic DNA was isolated from a preparation of *Yersinia pestis* (Y. pestis), strain Yokohama derivative 11 (D11).

*Y. pestis* is an aerobic, non-spore-forming, Gram-negative, rod-shaped bacterium. Virulence-associated genes are located on the chromosome and on three plasmids found in typical *Y. pestis* strains: 1) pMT1 (pFra; ~ 100 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 (pPia; ~ 9.5 kb), which encodes a protease that facilitates the initial dissemination of the bacteria to the lymph nodes. Virulence factors on the chromosome are located in an unstable locus, pgm.²

*Y. pestis*, strain Yokohama(D11) is a derivative of the Yokohama strain, which originated in Japan.³ *Y. pestis*, strain Yokohama(D11) contains the pMT1 and pPCP1 plasmids, but lacks the pCD1 plasmid that is essential for virulence as well as the unstable chromosomal pgm locus.⁴

The presence of the pMT1 and pPCP1 plasmids in NR-4717 has been confirmed by PCR amplification of a virulence marker on each plasmid. NR-4717 has been qualified for PCR applications by amplification of approximately 1500 bp of the 16S rRNA gene as well as virulence marker sequences of approximately 1200 and 400 bp.

**Material Provided:**
Each vial contains approximately 4 to 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-4717 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 *Yersinia pestis*, Strain Yokohama Derivative 11 (D11), NR-4717.”

**Biosafety Level:**
1

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**References:**
2. Hare, J. M. and K. A. McDonough. “High-Frequency RecA-Dependent and -Independent Mechanisms of

