Plasmid pMRLB.7 Containing Gene Rv3875 (Protein Esat6) from *Mycobacterium tuberculosis*

Catalog No. NR-36431

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Contributor and Manufacturer:

NIH - TB Vaccine Testing and Research Materials Contract

Product Description:

NR-36431 is a recombinant expression vector containing *Mycobacterium tuberculosis* gene Rv3875, which encodes the early secretory antigenic target Esat6, also known as esxA.[1,2] Gene Rv3875 was amplified by PCR and cloned into pET23b for expression in *Escherichia coli.* The gene was cloned without a signal sequence and with nucleotides coding for the amino acids phenylalanine, alanine, leucine and glutamic acid (FALE) prior to the histidine tag. These nucleotides increase plasmid stability and promote solubility upon transformation and expression. The expressed protein has an observed molecular weight of 10 kDa. The expected purified protein yield from a one liter culture is approximately 5 mg.

Note: Plasmid pMRLB7 contains the gene required for ampicillin (Ap) resistance. The recommended concentration of Ap in culture is 100 µg/mL.

Material Provided:

Each vial contains approximately 1 µg of plasmid DNA in TE buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8). The concentration is shown on the Certificate of Analysis.

Packaging/Storage:

NR-36431 was packaged aseptically in cryovials. The product is provided frozen on dry ice and should be stored at -80°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: Plasmid pMRLB.7 Containing Gene Rv3875 (Protein Esat6) from *Mycobacterium tuberculosis*, NR-36431."

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. Cole, S. T., et al. "Deciphering the Biology of *Mycobacterium tuberculosis* from the Complete Genome Sequence." Nature 393 (1998): 537-544. PubMed: 9634230. Erratum in: Nature 396 (1998): 190-198.
2. TubercuList: Rv3875

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