

ESAT-6, Recombinant Protein Reference Standard

Catalog No. NR-59870

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Contributor and Manufacturer:

BEI Resources

Product Description:

NR-59870 is a recombinant form of the early secretory antigenic target protein, ESAT-6.¹ The protein sequence consists of amino acid residues 1 to 103 including a hexa-histidine tag at the C-terminus. The recombinant protein was expressed in *Escherichia coli* BL21 (DE3) pLysS cells and purified using standard chromatographic techniques. ESAT-6 has a theoretical molecular weight of approximately 11 kDa. The amino acid sequence of NR-59870 is shown below in Figure 1.

Note: This protein is provided as a reference standard and should be ordered with the corresponding plasmid (pMRLB.7; NR-50170).

Material Provided:

Each vial contains approximately 200 µg of ESAT-6 protein in Dulbecco's Phosphate Buffered Saline Solution (D-PBS). The concentration, expressed as mg/mL, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-59870 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 avoided.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: ESAT-6, Recombinant Protein Reference Standard, NR-59870."

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 (BMBL). Current Edition. Washington, DC: U.S. Government Printing Office.

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References:

1. MycoBrowser: [Rv3875](#)
2. Sørensen, A. L., et al. "Purification and Characterization of a Low-Molecular-Mass T-Cell Antigen Secreted by *Mycobacterium tuberculosis*." *Infect. Immun.* 63 (1995): 1710-1717. PubMed: 7729876.
3. Harboe, M., et al. "Evidence for Occurrence of the ESAT-6 Protein in *Mycobacterium tuberculosis* and Virulent *Mycobacterium bovis* and for Its Absence in *Mycobacterium bovis* BCG." *Infect. Immun.* 64 (1996): 16-22. PubMed: 8557334.
4. Skjöt, R. L., et al. "Comparative Evaluation of Low-Molecular-Mass Proteins from *Mycobacterium tuberculosis* Members of the ESAT-6 Family as Immunodominant T-Cell Antigens." *Infect. Immun.* 68 (2000): 214-220. PubMed: 10603390.
5. Singh, A., et al. "Dissecting Virulence Pathways of *Mycobacterium tuberculosis* Through Protein-Protein Association." *Proc. Natl. Acad. Sci. U. S. A.* 103 (2006): 11346-11351. PubMed: 16844784.

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Figure 1: ESAT-6 Amino Acid Sequence

MTEQQWNFAG IEAAASAIQG NVTSIHSLLD EGKQSLTKLA AAWGGSGSEA
YQGVQQKWDA TATELNNALQ NLARTISEAG QAMASTE^{GNV} TGMFALE^{HHH} ^{HHH}

Non-ESAT-6 protein residues are underlined.