

## CFP10:ESAT6 recombinant protein

Recombinant chimeric antigen CFP10:ESAT6 for Mycobacterium tuberculosis (Koch's bacillus)

CATALOG #  
**AAA14240**

### PRODUCT SYNONYMS

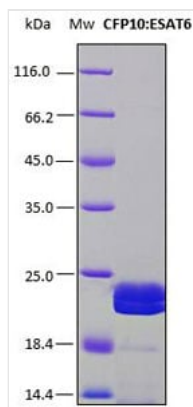
CFP10:ESAT6; Recombinant chimeric antigen CFP10:ESAT6 for Mycobacterium tuberculosis (Koch's bacillus); ESAT6:CFP10; Chimeric antigen; CFP10:ESAT6 recombinant protein

### PRODUCT SPECIFICATIONS

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Form/Format                                                  | 20 mM phosphate buffer pH 8 and 0.15 M NaCl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Concentration                                                | 1.45 mg/mL (varies by lot)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Sequence Length                                              | 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Application Notes                                            | <p>Possible Applications: WB , DB, Indirect ELISA , positive control in direct ELISA , CLIA, Lateral flow. Where this product has not been tested for use in a particular technique , this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates.</p> <p>*The measurement of the protein concentration has been performed with the theoretical extinction coefficient of the recombinant protein obtained from Gill and vonHippel, 1989. It is recommended that the users carry out their absorbance determinations to avoid equipment variabilities regarding final concentration, mainly in reproducibility analysis.</p>                                                |
| Source                                                       | Escherichia coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Total quantity per aliquot                                   | 1mg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Recombinant Antigen                                          | M.tuberculosis chimeric antigen CFP10:ESAT6 (Bekmurzayeva et al., 2013)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Batch composition                                            | <p>Components:</p> <p>his-CFP10:ESAT6</p> <p>Composition:</p> <p>Recombinant chimeric antigen with a his-tag in its N-terminus.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Absence of precipitation after a freezing and thawing cycle. | Ok                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Quality Control                                              | <p>Protein concentration determined Espectrophotometrically:</p> <p><math>D_{0.1\%}^{280} = 1.64</math></p> <p><math>A_{0.1\%} = 1.13</math></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Appearance                                                   | Dry powder (stabilized with 15% trehalose)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Observations                                                 | <p>In some cases, purified proteins run at a molecular weight which is slightly different to the theoretically calculated molecular weight maybe due to the his-tag presence, which can produce a delay in SDS-PAGE. Proteins should be maintained frozen at high concentrations. The dilution to be performed for ELISA assays should be made with a small quantity of protein, the same day of the expiration. In order to defrost the protein, maintain the aliquot at 25 degree C without shaking to avoid aggregation. Prior to making test dilutions and after defrosting the protein, is recommended to remove possible protein aggregates by centrifuging the stock solution, avoiding alterations in the immobilization of the biomolecule to the solid surface.</p> |

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| <b>Reconstitution</b>          | With 0.630 ml of sterile double-distilled water, a final concentratio of 1.45 mg/mL will be obtained. The solubilization of the cake should be developed for 15 minutes to allow a homogenous protein solution, considering that part of the cake can be on the galss-walls of the container. Please keep in mind that the final volume of the reconstituted protein solution may differ from the reconstitution volume mentioned in the instructions due to the hygroscopic nature of trehalose. As the protein is reconstituted, the final volume may slightly increase to reach the specified amount mentioned in the certificate of analysis. Upon reconstitution, leave the solution at least 15min. homogenizing with a mild agitation at 4°C. Avoid vigourous shaking that can cause foaming and protein denaturation. After those minutes, centrifuge the vial to ensure that all the product remains at the base and do not lose any of it on the walls. With this reconstituion, the protein will be maintained at pH 8. It is recommended that the users carry us out their absorbance determinations to avoid concentration varibabilities due to the equipment used, mainly in reproducibility analysis. |
| <b>Preparation and Storage</b> | Protein is shipped at room temperature<br>Upon arrival, it should be stored at 4 degree to -20 degree C in vertical position, avoiding all possible humidity and maintaining the vials dry. Once reconstituted, it should be aliquoted to avoid repeated freezing and thawing cycles and stored at -20 degree C to -80 degree C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## IMAGES



### SDS-PAGE

SDS-PAGE analysis (15%) of 2 ul of recombinant CFP10: ESAT6. Purity is approx. 95% as determined by gel electrophoresis. The band which appears just below, corresponds to a in vivo N-terminus or C-terminus degradation product of this same protein, as it is showed in a western blot performed with a his-tag monoclonal antibody.

## ADDITIONAL INFORMATION

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| <b>Related Product Information for CFP10:ESAT6 recombinant protein</b> | Mycobacterium tuberculosis genes for the 10 kDa culture filtrate antigen EsxB (CFP10)and the ESAT6 protein have been expressed as a recombinant chimeric antigen fused to a his-tag in its N-terminus. |
| <b>Product Categories/Family for CFP10:ESAT6 recombinant protein</b>   | BACTERIA                                                                                                                                                                                               |

## NCBI AND UNIPROT INFORMATION

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|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NCBI GI #</b>               | 597960710                                                                                                                                                                        |
| <b>Molecular Weight</b>        | Determined by SDS-PAGE, the protein band is between molecular markers of 25,000 and 18,400 Da, while relative molecular mass calculated from amino acid sequence is 22,100.0 Da. |
| <b>NCBI Official Full Name</b> | CFP10, partial                                                                                                                                                                   |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.