

## Biotin Human CD3 (C-Fc-Avi)

|                           |                                        |
|---------------------------|----------------------------------------|
| <b>Catalog Number:</b>    | 810403, 810404                         |
| <b>Size:</b>              | 25 ug, 100 ug                          |
| <b>Target Name:</b>       | CD3-epsilon, FLJ18683, T3E, TCRE, CD3E |
| <b>Regulatory Status:</b> | RUO                                    |

### PRODUCT DETAILS

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| <b>Application:</b>           | ELISA, BLI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Format:</b>                | Liquid, Biotinylated                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Expression Host:</b>       | CHO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Species:</b>               | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Sources:</b>               | Recombinant Human CD3 Protein ( Asp 23- Asp126) with C-terminus Fc-Avi-tag is expressed in CHO cell. This protein was site-specifically labeled with Biotin by BirA ligase.                                                                                                                                                                                                                                                                                                                  |
| <b>Accession Number:</b>      | P07766                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Molecular Weight:</b>      | The protein has a predicted molecular weight of 40.2 kDa. Under DTT-reducing conditions, it migrates at approximately 50 kDa on SDS-PAGE .                                                                                                                                                                                                                                                                                                                                                   |
| <b>Affinity Tag:</b>          | C-Fc-Avi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Purity:</b>                | >95% based on SDS-PAGE under reducing condition                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Formulation:</b>           | 1xPBS buffer, pH7.4, 0.22 µm filtered                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Endotoxin level:</b>       | Less than 0.1 EU/µg protein as determined by the LAL method                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Protein Concentration:</b> | 25µg size is bottled at 0.2mg/mL concentration. 100 µg size is supplied at a lot-specific concentration.                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Storage and Handling:</b>  | Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4°C for up to 2 weeks, or at -20°C or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 µm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ -70°C to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability. |

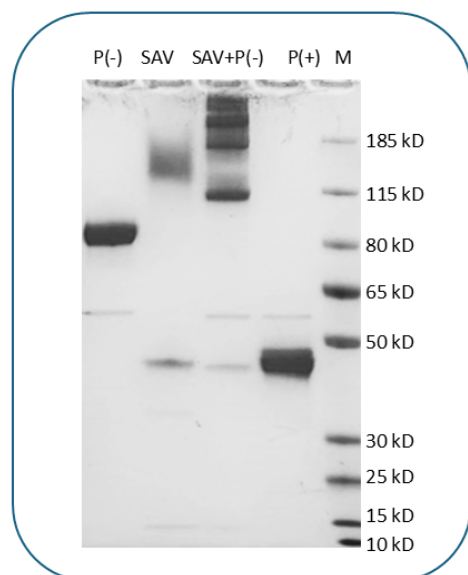
### BACKGROUND INFORMATION

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CD3ε is a critical component of the T cell receptor (TCR)-CD3 complex, a transmembrane receptor essential for antigen recognition and T cell activation. It is a single-pass type I membrane glycoprotein containing an Ig-like extracellular domain and a cytoplasmic ITAM motif, which initiates intracellular signaling upon phosphorylation by Src family kinases (e.g., LCK, FYN). The TCR-CD3 complex includes two CD3ε chains, CD3γ, CD3δ, CD3ζ, and a TCR α/β or γ/δ heterodimer. CD3ε is expressed on all mature T cells, NK T cells, and some thymocytes, playing a vital role in T cell development and immune response. Mutations in CD3E disrupt T cell maturation and can lead to severe combined immunodeficiency (SCID), as well as increased susceptibility to autoimmune diseases such as

type I diabetes.

## PRODUCT DATA



Human CD3 Protein (C-Fc-Avi) was biotinylated in vitro using BirA ligase. SDS-PAGE analysis under non-reducing (P-) conditions shows the protein has a purity greater than 95%. A gel shift assay using co-incubation with streptavidin indicates that the biotinylation efficiency of the CD3 protein exceeds 90%.

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