

Technical Data Sheet

Biotinylated Human CD3 (C-Fc-Avi)

Catalog Number: 810403, 810404

Size: 25 ug, 100 ug

Target Name: CD3-epsilon, FLJ18683, T3E, TCRC, CD3E

Regulatory Status: RUO

Product Details

Application: ELISA, BLI

Format: Liquid, Biotinylated

Expression Host: CHO

Species: Human

Sources: 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.

Accession Number: P07766

Molecular Weight: The protein has a predicted molecular weight of 40.2 kDa. Under DTT-reducing conditions, it migrates at approximately 50 kDa on SDS-PAGE .

Affinity Tag: C-Fc-Avi

Purity: >95% based on SDS-PAGE under reducing condition

Formulation: 1xPBS buffer, pH7.4, 0.22 µm filtered

Endotoxin level: Less than 0.1 EU/µg protein as determined by the LAL method

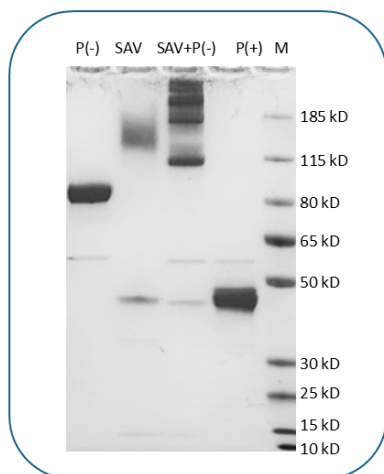
Protein Concentration: 25µg size is bottled at 0.2mg/mL concentration. 100 µg size is supplied at a lot-specific concentration.

Storage and Handling: 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

CD3 ϵ 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 CD3 ϵ chains, CD3 δ , CD3 γ , and a TCR $\alpha\beta$ or $\alpha\gamma$ heterodimer. CD3 ϵ 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%.