Recombinant CD3E protein (His tag)

Catalog Number	544325
Synonyms	T-cell surface antigen T3/Leu-4 epsilon chain; CD antigen CD3e
Species	Human
Expression System	E. coli
Accession	P07766
Molecular Weight	Predictes a molecular mass of 12.27 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 14 kDa band.

Product Information

Sequence Region	34-126
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 34-126 aa (P07766) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human CD3E (34-126) Fragment - A highly stable and soluble protein fragment derived from the T-cell surface glycoprotein CD3 epsilon chain, essential for T-cell receptor signaling and immune response. This carefully selected 93-amino acid fragment provides an ideal tool for structural studies and biochemical analyses of T-cell activation mechanisms. The full-length T-cell surface glycoprotein CD3 epsilon chain (CD3E) is a critical component of the TCR-CD3 complex on T-lymphocyte surfaces, playing a fundamental role in adaptive immune responses. As part of this complex, CD3E transmits signals across the cell membrane following T-cell receptor engagement by antigen-presenting cells. The cytoplasmic domain contains immunoreceptor tyrosine-based activation motifs (ITAMs) that become phosphorylated by Src family kinases, initiating downstream signaling pathways essential for T-cell activation. Beyond signal transduction, CD3E is crucial for proper T-cell development, initiating TCR-CD3 complex assembly by forming heterodimers with CD3D and CD3G. The protein also regulates TCR-CD3 complex internalization and cell surface expression through endocytosis sequences in its cytoplasmic region. Additionally, CD3E serves as a receptor for ITPRIPL1, where ligand recognition can inhibit T-cell activation by disrupting CD3E-ZAP70 interaction and blocking key signaling cascades. This membrane-anchored protein represents a key therapeutic target for modulating immune responses in various disease contexts.