Recombinant TRAC protein (His tag)

Catalog Number	539671
Species	Human
Expression System	E. coli
Accession	P01848
Molecular Weight	Predictes a molecular mass of 14.53 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 15 kDa band.

Product Information

Sequence Region	1-115
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 1-115 aa (P01848) 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 T cell receptor alpha chain constant (TRAC) fragment (amino acids 1-115) encompassing the complete Ig-like C1-type domain. This high-purity protein serves as an essential research tool for investigating T cell receptor structure, antigen recognition mechanisms, and immune signaling pathways. The T cell receptor alpha chain constant region forms an integral component of alpha-beta T cell receptors, which are antigen-specific receptors critical for adaptive immune responses. These receptors recognize peptide-major histocompatibility complexes displayed by antigen-presenting cells, initiating a cascade of intracellular signaling events through TR-CD3 clustering and LCK activation. This signaling leads to phosphorylation of ITAM motifs and recruitment of ZAP70, ultimately activating three major pathways: calcium signaling, MAPK kinase, and NF-kB pathways, which are essential for T cell growth, differentiation, and immune function. The protein is localized to the cell membrane where it participates in the formation of functional T cell receptors that shape immune specificity and tolerance.