Recombinant TRDV1 protein (His tag)

Catalog Number	550010
Species	Human
Expression System	E. coli
Accession	A0A1B0GX56
Molecular Weight	Predictes a molecular mass of 12.41 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 12 kDa band.

Product Information

Sequence Region	22-115
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 22-115 aa (A0A1B0GX56) 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 delta variable 1 (TRDV1) fragment (amino acids 22-115) is a highly stable and soluble protein domain ideal for structural studies, antigen binding assays, and immunological research. This fragment captures the essential variable region involved in gamma-delta T cell receptor-mediated antigen recognition, providing a valuable tool for investigating innate-like immune responses. The full-length T cell receptor delta variable 1 (TRDV1) protein is a critical component of gamma-delta T cell receptors, which recognize diverse self and foreign non-peptide antigens at epithelial boundaries. These receptors bind antigens including endogenous lipids presented by CD1D and phosphoantigens presented by BTN3A1, triggering rapid innate-like immune responses for pathogen clearance and tissue repair. Antigen binding initiates phosphorylation cascades through immunoreceptor tyrosine-based activation motifs (ITAMs) in CD3 chains, leading to ZAP70 recruitment, calcium mobilization, ERK activation, and ultimately T cell expansion and differentiation. Gamma-delta T cell receptors achieve their diversity through somatic rearrangement of variable (V), diversity (D), and joining (J) genes with additional diversity from exonuclease trimming and nucleotide additions. The protein is localized to the cell membrane where it participates in antigen recognition complexes.