Recombinant TVAL1 protein (His tag)

Catalog Number	550796
Species	Human
Expression System	E. coli
Accession	A0A0B4J245
Molecular Weight	Predictes a molecular mass of 12.08 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 12 kDa band.

Product Information

Sequence Region	21-112
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 21-112 aa (A0A0B4J245) 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 variable 12-1 (TRAV12-1) Fragment (aa 21-112) – a high-purity, soluble protein fragment engineered for structural and functional studies of T cell receptor-mediated immune recognition. This 92-amino acid fragment retains key structural features essential for investigating antigen-specific T cell responses. The full-length T cell receptor alpha variable 12-1 protein constitutes the variable domain of the T cell receptor alpha chain and plays a critical role in antigen recognition. As part of the alpha-beta T cell receptor complex, it specifically recognizes peptide-major histocompatibility complexes displayed by antigen-presenting cells, initiating T cell activation and adaptive immune responses. This recognition triggers intracellular signaling cascades through CD3 complex phosphorylation, leading to calcium mobilization, MAPK activation, and NF-kB pathway engagement – ultimately driving T cell proliferation and differentiation. The protein is localized to the cell membrane where it participates in the essential interactions that shape the T cell repertoire through thymic selection and peripheral maturation. The selected fragment (amino acids 21-112) represents a stable, soluble unit optimized for biochemical and structural analyses while maintaining relevant functional characteristics.