Recombinant TVB2 protein (His tag)

Catalog Number	551069
Species	Human
Expression System	E. coli
Accession	A0A1B0GX68
Molecular Weight	Predictes a molecular mass of 12.91 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 13 kDa band.

Product Information

Sequence Region	20-115
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 20-115 aa (A0A1B0GX68) 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 T cell receptor beta variable 2 (TRBV2) fragment (amino acids 20-115), a stable and soluble unit derived from human TCR beta chain, designed for structural and functional studies of antigen recognition in adaptive immunity. The full-length T cell receptor beta variable 2 (TRBV2) protein is a V region of the variable domain of the T cell receptor (TR) beta chain, essential for antigen recognition in human immune responses. Alpha-beta T cell receptors are antigen-specific receptors on T lymphocytes that recognize peptide-major histocompatibility (pMH) complexes displayed by antigen-presenting cells, initiating T cell adaptive immunity. Binding to pMH triggers TR-CD3 clustering, intracellular activation of LCK, phosphorylation of ITAM motifs in CD3 subunits, recruitment of ZAP70, and formation of the LAT signalosome, which propagates signaling through calcium, MAPK, and NF-kB pathways to regulate T cell growth and differentiation. The T cell repertoire is generated via V-(D)-J rearrangement in the thymus and shaped by selection to ensure self-MH restriction and non-autoaggressive function. TRBV2 is localized to the cell membrane, facilitating its role in immune surveillance and response.