Recombinant TVBJ2 protein (His tag)

Catalog Number	550810
Species	Human
Expression System	E. coli
Accession	A0A0K0K1G8
Molecular Weight	Predictes a molecular mass of 12.27 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 12 kDa band.

Product Information

Sequence Region	22-114
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, 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 22-114 aa (A0A0K0K1G8) 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 10-2 (TRBV10-2) fragment (residues 22-114) from Homo sapiens, representing a stable and soluble variable domain engineered for structural and functional studies of T cell receptor-mediated immune recognition. The full-length T cell receptor beta variable 10-2 protein is a V region of the T cell receptor (TR) beta chain essential for antigen recognition in adaptive immunity. It is located on the cell membrane and functions by binding peptide-major histocompatibility (pMH) complexes displayed by antigen-presenting cells. This interaction initiates T cell receptor signaling through CD3 clustering and intracellular activation of LCK, leading to phosphorylation cascades involving ZAP70 and LAT. These pathways activate calcium signaling, MAPK, and NF-kB, which are critical for T cell growth, differentiation, and immune response. The T cell receptor repertoire is shaped by V-(D)-J rearrangement in the thymus and post-thymic interactions with pMH complexes, ensuring self-MH restriction and preventing autoimmunity.