Recombinant TRBR2 protein (His tag)

Catalog Number	544366
Synonyms	TR beta chain TRBV25-1*01J2S3*01C2*01; MC.7.G5 TRB
Species	Human
Expression System	E. coli
Accession	P0DTU4
Molecular Weight	Predictes a molecular mass of 31.04 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 31 kDa band.

Product Information

Sequence Region	22-281
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 22-281 aa (P0DTU4) 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 beta chain MC.7.G5 (TR beta chain TRBV25-1*01J2S3*01C2*01) fragment (amino acids 22-281) is a high-purity protein designed for immunological and cancer research. This fragment includes the complete Ig-like V-type and C1-type domains, enabling focused studies on its role in pan-cancer cell recognition and T cell-mediated cytotoxicity in an HLA-independent manner. The full-length T cell receptor beta chain is part of an alpha-beta T cell receptor clonotype that exhibits broad recognition of cancer cells via the invariant MR1 molecule. It is expressed on CD8-positive T cells, such as clone MC.7.G5, and mediates cytotoxicity against diverse cancer types—including lung, melanoma, leukemia, colon, breast, prostate, bone, and ovarian cancers—without reacting to healthy cells. Upon antigen engagement, it initiates TR-CD3 clustering and intracellular signaling through LCK, ZAP70, and the LAT signalosome, activating calcium, MAPK, and NF-kB pathways to drive T cell effector functions. The protein is localized to the cell membrane, underscoring its role in surface receptor signaling and immune response modulation.