Recombinant TRAR2 protein (His tag)

Catalog Number	542099
Synonyms	MC.7.G5 TRA; TR alpha chain TRAV38-2DV8*01J31*01C*01
Species	Human
Expression System	E. coli
Accession	P0DTU3
Molecular Weight	Predictes a molecular mass of 27.53 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 28 kDa band.

Product Information

Sequence Region	22-250
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 22-250 aa (P0DTU3) 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 chain MC.7.G5 (TRAV38-2DV8*01J31*01C*01) fragment (residues 22-250) is a high-purity protein encompassing the Ig-like V-type and C1-type domains. This fragment serves as an essential tool for investigating the structure and antigen recognition mechanisms of a pan-cancer reactive T cell receptor, enabling targeted research into HLA-independent cancer cell cytotoxicity. The full-length T cell receptor alpha chain MC.7.G5 is a component of an alpha-beta T cell receptor clonotype that exhibits broad recognition of cancer cells via the invariant MR1 molecule. It is expressed on the cell membrane of CD8-positive T cells and mediates cytotoxicity against diverse cancer types—including lung, melanoma, leukemia, colon, breast, prostate, bone, and ovarian cancers—without reactivity to healthy cells. Upon antigen engagement, it initiates TR-CD3 clustering and intracellular signaling cascades involving LCK, ZAP70, and the LAT signalosome, activating calcium, MAPK, and NF-κB pathways to drive T cell effector responses. This receptor operates independently of HLA and recognizes tumor-specific metabolites, highlighting its unique role in cancer immunology.