Data Sheet (Cat.No.TMPY-07044)

TIGIT Dimer Protein, Human, Recombinant (Avi & His), Biotinylated

General Information

Synonyms:	VSTM3;VSIG9;DKFZp667A205;WUCAM;FLJ39873
Protein Construction:	A DNA sequence encoding the Human TIGIT (NP_776160.2) (Met22-Pro141) was expressed with a C-terminal polyhistidine tag followed by an AVI tag. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. This construct has a dimer design.
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q495A1-1
Molecular Weight:	30.63 kDa (predicted); 39.3 kDa (reducing contition)

QC Testing

Biological Activity:	1. Immobilized TIGIT Dimer Protein, Human, Recombinant (Avi & His), Biotinylated (Cat#TMPY-07044) at 2 μg/mL (100 μL/well) on streptavidin precoated (2 μg/mL, 100 μL/well) can bind CD155/PVR Protein, Human, Recombinant (hFc) (Cat#TMPY-00699), the EC50 is 15-45 ng/mL. 2. Immobilized Anti-Tigit Antibody, Human IgG1 (Tiragolumab) at 2 μg/mL (100 μL/well) can bind TIGIT Dimer Protein, Human, Recombinant (Avi & His), Biotinylated (Cat#TMPY-07044), the EC50 is 0.5-1.5 ng/mL (Routinely tested).
Purity:	≥ 95% as determined by SDS-PAGE. ≥ 95% as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from sterile PBS, pH 7.4. Please contact us for any concerns or special requirements. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hardcopy of datasheet or the lot-specific COA.

Preparation and Storage

Reconstitution:

Please refer to the lot-specific COA.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

TIGIT, also known as V-set and transmembrane domain-containing protein 3 (VSTM3) or V-set and immunoglobulin domain-containing protein 9 (VSIG9) is a new surface protein containing an immunoglobulin variable domain, a transmembrane domain and an immunoreceptor tyrosine-based inhibitory motif (ITIM). TIGIT is expressed on regulatory, memory, activated T cells and NK cells. It binds PVR with high affinity, and PVRL2 with lower affinity, but not PVRL3. Knockdown of TIGIT with siRNA in human memory T cells did not affect T cell responses, however, TIGIT inhibits NK cytotoxicity directly through its ITIM. TIGIT suppresses T cell activation by promoting the generation of mature immunoregulatory dendritic cells. The binding of PVR to TIGIT on human dendritic cells enhanced the production of IL-1 and diminished the production of IL-12p4. Also, TIGIT counter inhibits the NK-mediated killing of tumor cells and protects normal cells from NK-mediated cytotoxicity thus providing an "alternative self" mechanism for MHC class I inhibition.Cancer ImmunotherapyCo-inhibitory Immune Checkpoint TargetsImmune CheckpointImmune Checkpoint TargetsImmunotherapyTargeted Therapy