

## TIGIT Dimer Protein, Human, Recombinant (His)

## General Information

Synonyms:	WUCAM;FLJ39873;VSIG9;DKFZp667A205;VSTM3
Protein Construction:	A DNA sequence encoding the extracellular domain of human TIGIT (NP_776160.2) (Met22-Pro141) with a C-terminal polyhistidine tag was expressed. This construct has a dimer design.
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q495A1-1
Molecular Weight:	28.81 kDa (predicted); 36.72 kDa (reducing condition)

## QC Testing

Biological Activity:	1. Immobilized CD155/PVR Protein, Human, Recombinant (hFc) (Cat#TMPY-00699) at 2 µg/mL (100 µL/well) can bind TIGIT Dimer Protein, Human, Recombinant (His) (Cat#TMPY-07043), the EC50 is 6-18 ng/mL. 
	2. Immobilized Anti-Tigit Antibody, Human IgG1 (Tiragolumab) at 2 µg/mL (100 µL/well) can bind TIGIT Dimer Protein, Human, Recombinant (His) (Cat#TMPY-07043), the EC50 is 1.2-4 ng/mL (Routinely tested). 
	3. Loaded CD155/PVR Protein, Human, Recombinant (hFc) (Cat#TMPY-00699) on ProA Biosensor, can bind TIGIT Dimer Protein, Human, Recombinant (His) (Cat#TMPY-07043) with an affinity constant of 0.51 nM as determined in BLI assay (Sartorius Octet RED384) (Routinely tested). 
	4. CD155/PVR Protein, Human, Recombinant (hFc) (Cat#TMPY-00699) captured on Protein A chip can bind TIGIT Dimer Protein, Human, Recombinant (His) (Cat#TMPY-07043) with an affinity constant of 3.28 nM as determined in an SPR assay (Biacore 8K) (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 &amp; 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 Immunotherapy Co-inhibitory Immune Checkpoint Targets Immune Checkpoint Immune Checkpoint Targets Immunotherapy Targeted Therapy

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Tel: 781-999-4286 E\_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481