Data Sheet (Cat.No.TMPY-02669)

TargetMol

TIGIT Protein, Mouse, Recombinant (His)

General Information

Synonyms:	T cell immunoreceptor with Ig and ITIM domains;Vstm3;ENSMUSG00000071552
Protein Construction:	A DNA sequence encoding the extracellular domain of mouse TIGIT (NP_001139797.1) (Met 1-Gly 141) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Gly 26
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	NP_001139797.1
Molecular Weight:	14.2 kDa (predicted); 20-25 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Immobilized mouse TIGIT-His at 10 μg/ml (100 μl/well) can bind mouse PVR-Fch , The EC50 of mouse PVR-Fch is 0.31-0.73 μg/ml.
Purity:	≥ 90 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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

Reference

Ota T.,et al.,(2004), Complete sequencing and characterization of 21,243 full-length human cDNAs. Nat. Genet. 36: 40-45.

Bechtel S.,et al., (2007), The full-ORF clone resource of the German cDNA consortium.BMC Genomics 8:399-399.

Yu X., Harden K.,et al.,(2009), The surface protein TIGIT suppresses T cell activation by promoting the generation of mature immunoregulatory dendritic cells. Nat. Immunol. 10:48-57.

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