Data Sheet (Cat.No.TMPY-05788)

TargetMol

TIGIT Protein, Mouse, Recombinant (mFc)

General Information

Synonyms: ENSMUSG00000071552;T cell immunoreceptor with Ig and ITIM domains;Vstm3

Protein Construction: A DNA sequence encoding the mouse TIGIT (NP_001139797.1) (Met1-Gly141) was expressed with the Fc region of mouse IgG2a at the C-terminus. Predicted N terminal: Ala 17

Species: Mouse

Expression Host: HEK293 Cells

Accession: NP_001139797.1

Molecular Weight: 39.93 kDa (predicted)

QC Testing

Biological Activity: Immobilized Mouse CD155/PVR Protein, Recombinant (His Tag) at 2μg/mL (100μL/well) can bind TIGIT Protein, Mouse, Recombinant (mFc Tag), the EC50 of TIGIT Protein, Mouse, Recombinant (mFc Tag) is 10-50 ng/mL.

Purity: > 95 % as determined by SDS-PAGE.

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:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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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