Data Sheet (Cat.No.TMPY-05646)

TargetMol

CD40 Ligand Protein, Human, Recombinant (hFc & Avi), Biotinylated

General Information

Synonyms:	CD154;TRAP;CD40 ligand;gp39;hCD40L;IMD3;HIGM1;CD40L;TNFSF5;T-BAM;IGM
Protein Construction:	A DNA sequence encoding the human CD40LG (NP_000065.1) (Met113-Leu261) was expressed with a n-terminal Fc region of human IgG1 tagged AVI tag at the N-terminus. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. Predicted N terminal: Gly
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P29965
Molecular Weight:	44.7 kDa (predicted)

QC Testing

Biological Activity:	Immobilized Human CD40 His at 2 μg/mL (100 μL/well) can bind Human CD40 Ligand (ECD, hFc & AVI Tag), Biotinylated, the EC50 is 5-40 ng/mL.
Purity:	> 85 % 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 20 mM Tris, 150 mM NaCl, pH 8.5. 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

The cluster of differentiation (CD) system is commonly used as cell markers in immunophenotyping. Different kinds of cells in the immune system can be identified through the surface CD molecules which associating with the immune function of the cell. There are more than 320 CD unique clusters and subclusters have been identified.

Some of the CD molecules serve as receptors or ligands important to the cell through initiating a signal cascade which then alter the behavior of the cell. Some CD proteins do not take part in cell signal process but have other functions such as cell adhesion. CD154, also known as CD40 ligand or CD40L, is a member of the TNF superfamily. While CD154 was originally found on T cell surface, its expression has since been found on a wide variety of cells, including platelets, mast cells, macrophages and NK cells. CD154's ability is achieved through binding to the CD40 on antigen-presenting cells (APC). In the macrophage cells, the primary signal for activation is IFN-γ from Th1 type CD4 T cells. The secondary signal is CD40L on the T cell, which interacting with the CD40 molecules, helping increase the level of activation.Cancer ImmunotherapyCo-stimulatory Immune Checkpoint TargetsImmune CheckpointImmune Checkpoint Detection: AntibodiesImmune Checkpoint Detection: ELISA AntibodiesImmune Checkpoint Detection: WB AntibodiesImmune Checkpoint ProteinsImmune Checkpoint TargetsImmunotherapyTargeted Therapy

Reference

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