

CD40 Ligand Protein, Human, Recombinant (hFc)

General Information

Synonyms:	HIGM1;IGM;gp39;CD40L;T-BAM;CD40 ligand;CD154;TRAP;hCD40L;IMD3;TNFSF5
Protein Construction:	A DNA sequence encoding the soluble form of human CD40L (NP_000065.1) (Met 113-Leu 261) was fused with the Fc region of human IgG1 at the N-terminus. Predicted N terminal: Glu 20
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P29965
Molecular Weight:	42.8 kDa (predicted); 47.8 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	<ol style="list-style-type: none">1. Immobilized human CD40 at 2 µg/ml (100 µl/well) can bind human CD40L Fc Chimera with a linear range of 1.28-32 ng/ml.2. Measured by its ability to induce CD40 pathway activation in a Luciferase receptor Assay System. The IC50 for this effect is 10-100 ng/mL.3. Loaded Recombinant Human CD40 Protein, His Tag on His1K Biosensor, can bind Recombinant Human CD40 Ligand Protein, hFc Tag with an affinity constant of 5.88nM as determined in BLI assay (Routinely tested).
Purity:	≥ 90 % 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 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. <small>Actual storage temperature shall be subject to the COA.</small>
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 Immunotherapy Co-stimulatory Immune Checkpoint Targets Immune Checkpoint Immune Checkpoint Detection: Antibodies Immune Checkpoint Detection: ELISA Antibodies Immune Checkpoint Detection: WB Antibodies Immune Checkpoint Proteins Immune Checkpoint Targets Immunotherapy Targeted Therapy

Reference

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