Human CD40L / CD154 / TNFSF5 Protein (ECD, Fc Tag)

Catalog Number: 10239-H01H

General Information

Gene Name Synonym:

CD154; CD40 Ligand; CD40L; gp39; hCD40L; HIGM1; IGM; IMD3; T-BAM; TNFSF5; TRAP

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.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: ≥ 90 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.

Bio Activity:

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 IC_{50} for this effect is 10-100 ng/mL.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Predicted N terminal: Glu 20

Molecular Mass:

The recombinant human CD40L/Fc is a disulfide-linked homodimeric protein. The reduced monomer consists of 386 amino acids and has a predicted molecular mass of 42.8 kDa. The apparent molecular mass of rh CD40L/Fc monomer is approximately 47.8 kDa in SDS-PAGE under reducing conditions due to glycosylation.

Formulation:

Lyophilized from sterile PBS, 10% Trehalose, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Stability & Storage:
Samples are stable for twelve months from date of receipt at -20℃ to -80℃.

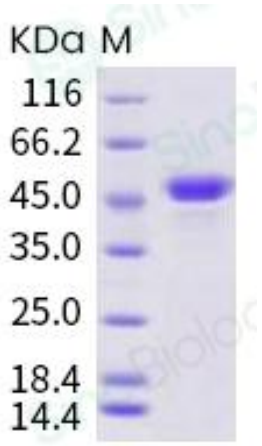
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

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.

References

1.Zola H, *et al.* (2007) CD molecules 2006-human cell differentiation molecules. J Immunol Methods. 318 (1-2): 1-5. 2.Ho IC, *et al.* (2009) GATA3 and the T-cell lineage: essential functions before and after T-helper-2-cell differentiation. Nat Rev Immunol. 9 (2): 125-35. 3.Matesanz-Isabel J, *et al.* (2011) New B-cell CD molecules. Immunology Letters.134 (2): 104-12.