

Datasheet

Human CD40 Ligand / TNFSF5 Protein

Catalog # CDL-H5248

For Research Use Only

Description

Source Human CD40 Ligand, His Tag (CDL-H5248) is expressed from human 293 cells (HEK293). It contains AA Glu 108 - Leu 261 (Accession # P29965-1). Predicted N-terminus: His

Predicted N-terminus His

Protein Structure Poly-his CD40 Ligand(Glu 108 - Leu 261)
P29965-1

Molecular Characterization This protein carries a polyhistidine tag at the N-terminus. The protein has a calculated MW of 19 kDa. The protein migrates as 23 kDa and 24 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin Less than 1.0 EU per µg by the LAL method.

Purity >95% as determined by SDS-PAGE.

Bioactivity Measured by its binding ability in a functional ELISA. Immobilized Human CD40 Ligand, His Tag (Catalog # CDL-H5248) at 5 µg/mL (100 µL/well) can bind Human CD40, Fc Tag (Catalog # CD0-H5253) with a linear range of 0.156-5 µg/mL (QC tested).

Formulation and Storage

Formulation Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally trehalose is added as protectant before lyophilization. Contact us for customized product form or formulation.

Reconstitution Please see Certificate of Analysis for specific instructions. For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage For long term storage, the product should be stored at lyophilized state at -20°C or lower. Please avoid repeated freeze-thaw cycles.

No activity loss was observed after storage at:

- 4-8°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

Background

Background CD40 ligand is also known as CD40L, CD154, TNFSF5 and T-cell antigen Gp39, is a single-pass type I I membrane protein which belongs to the TNF superfamily of molecules. CD40 ligand is expressed predominantly on activated CD4+ T lymphocytes, and also found in other types of cells, including platelets, mast cells, macrophages, basophils, NK cells, B lymphocytes, as well as non-haematopoietic cells (smooth muscle cells, endothelial cells, and epithelial cells). Although all monomeric, dimeric and trimeric forms of soluble CD40 ligand can bind to CD40, the trimeric form of soluble CD40 ligand has the most potent biological activity through oligomerization of cell surface CD40, a common feature of TNF receptor family members. CD40 ligand binds to CD40 on antigen-presenting cells (APC), which leads to many effects depending on the target cell type. In general, CD40 ligand plays the role of a costimulatory molecule and induces activation in APC in association with T cell receptor stimulation by MHC molecules on the APC. In total CD40 ligand has three binding partners: CD40, α5β1 integrin and α11β3. CD40 ligand regulates B cell function by engaging CD40 on the B cell surface. A defect in this gene results in an inability to undergo immunoglobulin class switch and is associated with hyper IgM syndrome.

References

- (1) Schönbeck U, Libby P, 2001, Cell. Mol. Life Sci. 58 (1): 4-43.
- (2) Furman M.I. et al., 2004, J. Am. Coll. Cardiol. 43: 2319-25.
- (3) Spriggs, M.K. et al., 1992, J. Exp. Med. 176:1543.
- (4) Fanslow, W.C. et al., 1994, Seminars in Immunology 6:267.

Please contact us at TechSupport@acrobiosystems.com , if you have any questions about this product.

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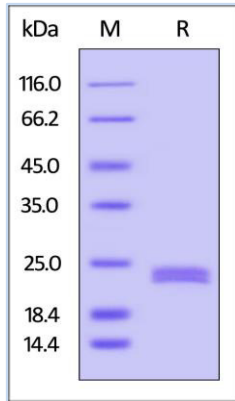
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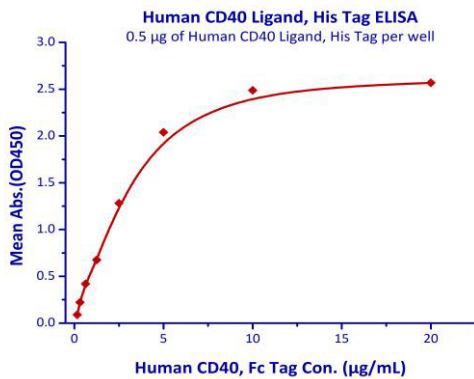
Assay Data

SDS-PAGE Data



Human CD40 Ligand, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity Data



Immobilized Human CD40 Ligand, His Tag (Catalog # CDL-H5248) at 5 µg/mL (100 µL/well) can bind Human CD40, Fc Tag (Catalog # CD0-H5253) with a linear range of 0.156-5 µg/mL (QC tested).