

CD40L/CD154/TRAP Protein, Human (His)

Cat. No.:	HY-P72907
Synonyms:	CD40 ligand; CD40-L; TRAP; CD154; sCD40L; TNFSF5
Species:	Human
Source:	E. coli
Accession:	P29965 (Q114-L261)
Gene ID:	959
Molecular Weight:	Approximately 17.7 kDa

PROPERTIES

AA Sequence	<p>Q K G D Q N P Q I A A H V I S E A S S K T T S V L Q W A E K G Y Y T M S N N L V</p> <p>T L E N G K Q L T V K R Q G L Y Y I Y A Q V T F C S N R E A S S Q A P F I A S L</p> <p>C L K S P G R F E R I L L R A A N T H S S A K P C G Q Q S I H L G G V F E L Q P</p> <p>G A S V F V N V T D P S Q V S H G T G F T S F G L L K L</p>
Biological Activity	Immobilized Human CD40 Ligand, His Tag at 5 µg/mL (100 µl/well) on the plate. Dose response curve for Human CD40, hFc Tag with the EC ₅₀ of ≤0.94 µg/mL determined by ELISA.
Appearance	Solution
Formulation	Supplied as a 0.2 µm filtered solution of PBS, pH 7.4, 10% Glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	<p>CD40 Ligand (CD40L; CD154; TRAP) belongs to the tumor necrosis factor (TNF) family, is the ligand for CD40/TNFRSF5, specifically expressed on activated CD4+ T-lymphocytes^[1].</p> <p>CD40L is a type II transmembrane protein on B cells triggers important signals for B cell differentiation, maturation, and apoptosis^[4].</p> <p>CD40L acts function by cross-linking on T-cells to generate a costimulatory signal and thus enhances the production of IL4 and IL10 in conjunction with the TCR/CD3 ligation and CD28 costimulation, as well as promoting the production of</p>
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interferon- γ , and TNF- α ^{[1][4]}.

CD40L, binding with CD40 on antigen-presenting cells (APC), activates TNFR-associated factor 2- and IKK2-dependent pathways with stimulating I- κ B kinase (IKK), increasing NF- κ B DNA binding, and p65 nuclear translocation. The activation of I- κ B kinase leads to strongly c-Jun N-terminal kinase activation as well as GST-I- κ B and GST-p65 phosphorylation^[2].

CD40L involves in MAPK pathways that strongly repress Bcl-6 with inducing the phosphorylation of Erk1/2, p38 and Jnk1/2 and activating IRF4 mediated by NF- κ B^[3].

CD40L also binds to and signals through several integrins, including α v β 3 and α 5 β 1, which bind to the trimeric interface of CD40L. CD40L plays a major role in immune response and is a major target for inflammation^[5].

CD40L is widely found in different animals, while the sequence in Human is highly similar to Rhesus macaque (98.08%), but very different from Rat and Mouse with similarities of 77.31% and 77.69%, respectively. CD40L in Human is cleaved into 2 chains of membrane form (1-261 a.a.) and soluble form (113-261 a.a.), while the soluble form derives from the membrane form by proteolytic processing. Release of soluble CD40L from platelets is partially regulated by GP IIb/IIIa, actin polymerization, and a matrix metalloproteinases (MMP) inhibitor-sensitive pathway^[6].

REFERENCES

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