

CD40L/CD154/TRAP Protein, Human (HEK293, N-hFc)

Cat. No.:	HY-P72028A
Synonyms:	CD40-L; T-cell antigen Gp39; NF-related activation protein; TRAP; Tumor necrosis factor ligand superfamily member 5; CD154; sCD40L;
Species:	Human
Source:	HEK293
Accession:	P29965 (M113-L261)
Gene ID:	959
Molecular Weight:	Approximately 49 kDa

PROPERTIES

AA Sequence	<p> M 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 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 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 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	Measured by its binding ability in a functional ELISA. Immobilized human CD40 at 2 µg/mL (100 µl/well) can bind human CD40L. The ED ₅₀ for this effect is 9.66 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>CD40L, also known as CD154 or TRAP protein, functions as a cytokine and serves as a ligand for CD40/TNFRSF5, orchestrating a cascade of immunological responses. It plays a pivotal role in T-cell activation, acting as a potent co-stimulator that enhances both T-cell proliferation and cytokine production, specifically IL4 and IL10. Upon cross-linking on T-cells, CD40L generates a costimulatory signal synergizing with TCR/CD3 ligation and CD28 costimulation. Additionally, CD40L induces the activation of NF-kappa-B, triggers the activation of kinases MAPK8 and PAK2 in T-cells, and facilitates</p>
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tyrosine phosphorylation of CD28 isoform 3. Beyond T-cell modulation, CD40L mediates B-cell proliferation in the absence of co-stimulus and promotes IgE production in the presence of IL4, contributing to immunoglobulin class switching. Furthermore, it serves as a ligand for integrins, specifically ITGA5:ITGB1 and ITGAV:ITGB3, and collaborates with the CD40 receptor in the activation of CD40-CD40LG signaling, exerting cell-type-dependent effects such as B-cell activation, NF-kappa-B signaling, and anti-apoptotic signaling.

Caution: Product has not been fully validated for medical applications. For research use only.

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