

CD40L/CD154/TRAP Protein, Human (P. pastoris, His)

Cat. No.:	HY-P700555
Synonyms:	rHuCD40L; CD154; TRAP; TNFSF5; CD40LG; CD40-L
Species:	Human
Source:	P. pastoris
Accession:	P29965 (H47-L261)
Gene ID:	959
Molecular Weight:	31 kDa

PROPERTIES

AA Sequence	<pre> H R R L D K I E D E R N L H E D F V F M K T I Q R C N T G E R S L S L L N C E E I K S Q F E G F V K D I M L N K E E T K K E N S F E 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 </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0.
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.
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 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.</p>
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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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