

Recombinant Human Soluble CD40 Ligand

Cat. No. CD40LG-22H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human soluble CD40 Ligand produced in <i>E. coli</i> is a single non-glycosylated polypeptide chain containing 149 amino acids and having a molecular mass of approximately 16.3 kDa.
Species	Human
Source	E.coli
Description	CD40 ligand, CD40L (also known as CD154, TRAP or gp39), is a 261 amino acid type II transmembrane glycoprotein belonging to the TNF family, CD40L is expressed predominantly on activated CD4+ T lymphocytes, and also found in other types of cells, like NK cells, mast cells, basophils and eosinophils. Human CD40L shares 78% amino acid identity with its murine counterpart. The receptor of CD40L is CD40, a type I transmembrane glycoprotein belonging to the TNF receptor family. CD40 is expressed on B lymphocytes, monocytes, dendritic cells and thymic epithelium. Although all monomeric, dimeric and trimeric forms of soluble CD40L can bind to CD40, the trimeric form of soluble CD40L has the most potent biological activity through oligomerization of cell surface CD40, a common feature of TNF receptor family members. CD40L mediates a range of activities on B cells including induction of activation-associated surface antigen, entry into cell cycle, isotype switching and Ig secretion and memory generation. CD40-CD40L interaction also plays important roles in monocyte activation and dendritic cell maturation.
Purity	>95% by SDS-PAGE and HPLC analyses.

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Formulation	Lyophilized from a 0.2mm filtered concentrated (1mg/ml) solution in PBS, pH 7.0.
Biological Activity	Fully biologically active when compared to standard. The ED50 as determined by the dose-dependant stimulation of IL-12 & IL-8 induction by PMB (Peripheral Mononuclear) cells was found to be 10 ng/ml.
Endotoxin	Less than 1EU/mg of rHusCD40L as determined by LAL method.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at $\leq -20^{\circ}\text{C}$. Further dilutions should be made in appropriate buffered solutions.
Storage	This lyophilized preparation is stable for several weeks at $2-8^{\circ}\text{C}$, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at $2-8^{\circ}\text{C}$. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C . Avoid repeated freeze/thaw cycles.

GENE INFORMATION

Gene Name	<u>CD40LG</u>
Synonyms	IGM; IMD3; TRAP; gp39; CD154; CD40L; CD40-L; HIGM1; T-BAM; TNFSF5; hCD40L; CD154 antigen; CD40 antigen ligand; CD40 ligand; CD40 ligand (TNF superfamily, member 5, hyper-IgM syndrome); T-B cell-activating molecule; T-cell antigen Gp39; TNF-related activation protein; Tumor necrosis factor ligand superfamily member 5; hyper-IgM syndrome; tumor necrosis factor (ligand) superfamily member 5; tumor necrosis factor (ligand) superfamily, member 5 (hyper-

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	IgM syndrome); CD40LG
Gene ID	<u>959</u>
mRNA Refseq	<u>NM_000074</u>
Protein Refseq	<u>NP_000065</u>
MIM	<u>300386</u>
UniProt ID	<u>P29965</u>
Chromosome Location	Xq26
Pathway	Cell adhesion molecules (CAMs). Cytokine-cytokine receptor interaction. T cell receptor signaling pathway.
Function	CD40 receptor binding. cytokine activity. tumor necrosis factor receptor binding.

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