**DESCRIPTION**

**Source**
Human embryonic kidney cell, HEK293-derived human CD40 Ligand/TNFSF5 protein

Hemagglutinin tag
YPYDVPDYA

GCN4-I\_Z
(Met1-Ile29)

GGSGGGSGGG

Human CD40 Ligand
(Met113-Leu261)

N-terminal Sequence  Tyr  
Predicted Molecular Mass 21.6 kDa

**SPECIFICATIONS**

**SDS-PAGE**
22-26 kDa, reducing conditions

**Activity**

The ED_{50} for this effect is 0.2-1.2 ng/mL in the presence of 20 ng/mL of Recombinant Human IL-4 (Catalog # 204-IL) and a cross-linking antibody, Mouse Anti-Hemagglutinin/HA Peptide Monoclonal Antibody (Catalog # MAB060).


The ED_{50} for this effect is approximately 0.5 ng/mL in the presence of Recombinant Human IL-4 (Catalog # 204-IL) and a cross-linking antibody, Mouse Anti-Hemagglutinin/HA Peptide Monoclonal Antibody (Catalog # MAB060).

**Endotoxin Level**
<0.01 EU per 1 μg of the protein by the LAL method.

**Purity**
>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation**
Lyophilized from a 0.2 μm filtered solution in PBS and EDTA. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution**
Reconstitute at 100 μg/mL in PBS.

**Shipping**
The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**
Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.
CD40 Ligand, also known as TNFSF, CD154, TRAP, and gp39, is a 34-39 kDa type II transmembrane glycoprotein that belongs to the TNF superfamily (1-3). Mature human CD40 Ligand consists of a 22 amino acid (aa) cytoplasmic domain, a transmembrane segment, and an 215 aa extracellular region (4, 5). The extracellular domain of human CD40 Ligand shares 74% and 76% aa sequence identity with mouse and rat CD40 Ligand, respectively. Similar to other TNF superfamily members, CD40 Ligand forms a bioactive homotrimer, both as membrane bound and soluble forms (6-9). The 18 kDa soluble form (aa 113-261) arises from proteolytic processing. Mutation and alternative splicing generate additional forms of CD40 Ligand that are often truncated or non-trimerizable (8). CD40 Ligand is expressed on platelets, as well as on activated T cells and B cells, basophils, eosinophils, fibroblasts, mast cells, monocytes, natural killer cells, vascular endothelial cells, and smooth muscle cells. CD40 Ligand binds to CD40, which is expressed on the surface of B cells, dendritic cells, macrophages, monocytes, platelets, endothelial, and epithelial cells (10). The interaction of CD40 Ligand with CD40 initiates signaling in both CD40 and CD40 Ligand expressing cells (11). CD40 ligation by CD40 Ligand promotes B cell activation and T cell-dependent humoral responses (12, 13). CD40 Ligand dysregulation on T cells and antigen presenting cells contributes to the immune deficiency associated with HIV infection and AIDS (14, 15). It is also implicated in the pathology of multiple cardiovascular diseases including atherosclerosis, atherothrombosis, and restenosis (16, 17).

References: