

**DESCRIPTION**

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived			
	HA (YPYDVPDYA)	GCN4-IZ	GGSGGGSGGGS	Mouse CD40 Ligand/TNFSF5 (Met112-Leu260) Accession # P27548
	N-terminus			C-terminus

**N-terminal Sequence** Tyr

**Analysis**

**Predicted Molecular Mass** 22 kDa

**Mass**

**SPECIFICATIONS**

<b>SDS-PAGE</b>	24-29 kDa, reducing conditions
<b>Activity</b>	Measured in a cell proliferation assay using mouse splenic B cells in the presence of IL-4. Banchereau, J. <i>et al.</i> (1991) <i>Science</i> <b>251</b> :70. The ED <sub>50</sub> for this effect is 0.07-0.35 ng/mL in the presence of a cross-linking antibody, Mouse Anti-Hemagglutinin/HA Peptide Monoclonal Antibody (Catalog # <a href="#">MAB060</a> ).
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE with silver staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS and NaCl with BSA as a carrier protein. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 100 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

CD40 Ligand, also known as TNFSF5, CD154, TRAP, or gp39, is a 33-39 kDa type II transmembrane glycoprotein member of the TNF superfamily (1, 2). Mature mouse CD40 Ligand consists of a 22 amino acid (aa) cytoplasmic domain, a transmembrane segment, and a 214 aa extracellular region (1). The extracellular domain of mouse CD40 Ligand shares 75% and 93% amino acid (aa) sequence identity with the human and rat proteins, respectively. CD40 Ligand is expressed as a homotrimer on platelets and activated T cells and B cells. It is up-regulated following stimulation of basophils, eosinophils, fibroblasts, mast cells, monocytes, natural killer cells, vascular endothelial cells, and smooth muscle cells. CD40 Ligand binds and activates CD40, which is expressed on the surface of B cells, dendritic cells, macrophages, monocytes, platelets, endothelial cells, and epithelial cells (3). The 18 kDa soluble form (aa 112-260) arises from proteolytic processing and retains the ability to bind and activate CD40 (4, 5). Monomeric, dimeric, and trimeric forms of soluble CD40 Ligand bind to oligomeric CD40 on cell membranes (2). CD40 ligation by CD40 Ligand promotes B cell activation and T cell-dependent humoral responses (6, 7). CD40 Ligand dysregulation on T cells and antigen presenting cells contributes to the immune deficiency associated with HIV infection and AIDS (8, 9). It is also implicated in the pathology of multiple cardiovascular diseases including atherosclerosis, atherothrombosis, and restenosis (10, 11).

**References:**

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