Recombinant Mouse CD40 Ligand/TNFSF5

Catalog Number: 1163-CL

DESCRIPTION

Source
Mouse myeloma cell line, NS0-derived

<table>
<thead>
<tr>
<th>10-His tag</th>
<th>GGGSGGGGGGS</th>
<th>IEGRI</th>
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<tbody>
<tr>
<td>N-terminus</td>
<td>C-terminus</td>
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N-terminal Sequence
His
Analysis

Predicted Molecular Mass
25 kDa

SPECIFICATIONS

SDS-PAGE
30-35 kDa, reducing conditions

Activity
Measured in a cell proliferation assay using mouse splenic B cells in the presence of IL-4. Banchereau, J. et al. (1991) Science 251:70. The ED_50 for this effect is typically 0.8-8 ng/mL.

Endotoxin Level
<1.0 EU per 1 μg of the protein by the LAL method.

Purity
>97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation
Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose and with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution
Reconstitute at 100 μg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

Shipping
The product is shipped at ambient temperature. 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.
- 3 months, 2 to 8 °C under sterile conditions after reconstitution.

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 upregulated 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: