Recombinant Mouse CD300f/LMIR3 Fc Chimera

Catalog Number: 10967-LM

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived mouse CD300f/LMIR3 protein

CD300f/LMIR-3 (Cys16-Gly188) Accession # Q6SJQ7.1	IEGRMDP	Mouse IgG_{2a} (Glu98-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Cys16 & Glu20
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	46 kDa

SPECIFICATIONS

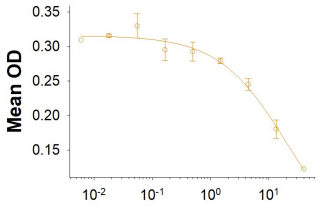
SDS-PAGE	55-65 kDa, under reducing conditions.
Activity	Measured by its ability to inhibit anti-CD3 antibody induced IL-2 or IFN-gamma secretion by human T cells. The ED_{50} for this effect 1.50-15.0 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
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. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

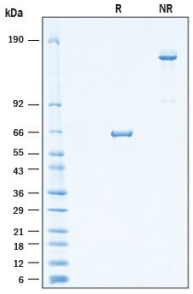
DATA

Bioactivity



Recombinant Mouse CD300f/LMIR3 Fc Chimera Protein Bioactivity. Measured by its ability to inhibit anti-CD3 antibody induced IL-2 secretion by human T cells. The ED_{50} for this effect 1.50 - 15.0 µg/mL.

SDS-PAGE



Recombinant Mouse CD300f/LMIR3 Fc Chimera Protein SDS-PAGE. 2 µg/lane of Recombinant Mouse CD300f/LMIR3 Fc Chimera Protein (Catalog # 10967-LM) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 55-65 kDa and 110-130 kDa, respectively.

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BACKGROUND

Leukocyte mono-immunoglobulin-like receptor 3 (LMIR3), also called CD300f and CLM-1, is a member of the paired immune receptor family within the immunoglobulin superfamily (1). Mature mouse LMIR3 consists of an extracellular domain (ECD) with one Ig-like V-type domain, a transmembrane segment, and a cytoplasmic domain that contains two immunoreceptor tyrosine-based inhibitory motifs (ITIMs) and immunoreceptor tyrosine-based switch motif (ITSM) (2). Alternate splicing generates additional isoforms with varying length C-terminal tails following the ECD (3). Within the ECD, mouse LMIR3 shares 43% amino acid (aa) sequence identity with human LMIR3. LMIR3 is expressed on the surface of dendritic cells, monocytes, granulocytes, and mast cells as well as on acute myeloid leukemia (AML) blasts (3, 4). Pervanadate treatment or antibody cross-linking of LMIR3 induces phosphorylation of tyrosine residues in the cytoplasmic domain and the subsequent recruitment of phosphatases SHIP, SHP-1, SHP-2, and the p85 alpha subunit of PI3K (3, 5, 6). LMIR3 appears to exhibit a dual function in mast cells. LMIR3 functions as a negative regulator of MC activation through an inhibitory effect on FcεRI-mediated cytokine production in mast cells (5). Conversely, it enhances TLR4-mediated signaling/cytokine production in mast cells through association with the activating signaling protein FcR gamma (5). Additionally, LMIR3 ligation can induce cell death and inhibit signaling through multiple receptors including Fc epsilon RI, LMIR4, SCF R, TLR2, TLR3, and TLR9 (3-8). In mouse, a splice variant of LMIR3 (known as DIgR2, with a 7 aa insertion in the ECD) inhibits CD4+ T cell activation and in vivo Th1 and CTL responses (9). LMIR3 is up-regulated on monocytes surrounding experimentally-induced spinal cord demyelination and functions as a negative regulator of inflammation in the CNS (10).

References:

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