

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived mouse ULBP-1 protein
Pro26-Thr211, with a C-terminal 6-His tag
Accession # NP_084251

N-terminal Sequence Analysis Pro26

Predicted Molecular Mass 22 kDa (monomer)

SPECIFICATIONS

SDS-PAGE 28-43 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
Immobilized recombinant mouse NKG2D Fc Chimera at 2 µg/mL (100 µL/well) can bind Recombinant Mouse ULBP-1/MULT-1 with a linear range of 1-50 ng/mL.

Endotoxin Level <0.10 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 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.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

MULT-1 (mouse UL16-binding protein-like Transcript 1) is a 53 kDa, MHC Class I-like molecule that belongs to the mouse family of NKG2D ligands (1-4). It is a type I transmembrane glycoprotein that is synthesized as a 334 amino acid (aa) precursor. It contains a 25 aa signal sequence, a 186 aa extracellular region, a 19 aa transmembrane segment and a 104 aa cytoplasmic tail (2). The extracellular region contains an alpha-1 and alpha-2 like domain with two intrachain disulfide bonds. MULT-1 is distantly related to other human and mouse NKG2D ligands, and more distantly related to the MHC class I proteins (3). Unlike most NKG2D ligands, transcripts for MULT-1 have been detected in a wide variety of mouse tissues and tumor cells lines (3). The receptor for MULT-1 is NKG2D, a 35 kDa C-type lectin that is found on mouse NK cells, activated CD8⁺ T cells, epidermal γδ T cells, and activated macrophages (1, 5, 6, 7). Recombinant MULT-1 protein binds to NKG2D with high affinity ($K_d = 6$ nM) (2). Although an activating receptor, general cellular responses to NKG2D ligation depend upon the isoform of NKG2D and the cell type (5). Little is known about the specific MULT-1-NKG2D association. Exposure to immobilized MULT-1 or MULT-1-transfected cells elicits IFN-γ production by NK cells (3). Ectopic expression of MULT-1 on the RMA mouse tumor cell line leads to tumor rejection in syngeneic mice (3).

References:

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