NKG2D/CD314 Protein, Mouse (HEK293, His)

Cat. No.:	HY-P72503
Synonyms:	NKG2-D type II integral membrane protein; CD314; KLRK1; NKG2-D
Species:	Mouse
Source:	HEK293
Accession:	O54709 (F94-V232)
Gene ID:	27007
Molecular Weight:	20-30 kDa

PROPERTIES

AA Sequence	F Q P V L C N K E V P V S S R E G Y C G P C P N N W I C H R N N C Y Q F F N E E K T W N Q S Q A S C L S Q N S S L L K I Y S K E E Q D F L K L V K S Y H W M G L V Q I P A N G S W Q W E D G S S L S Y N Q L T L V E I P K G S C A V Y G S S F K A Y T E D C A N L N T Y I C M K R A V
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	NKG2D/CD314 Protein functions as an activating and costimulatory receptor critical for immunosurveillance, binding to stress-inducible ligands on autologous tumor cells and virus-infected cells. This engagement triggers stimulatory and costimulatory innate immune responses in activated killer (NK) cells, leading to cytotoxic activity. In CD8(+) T-cell-mediated adaptive immune responses, NKG2D acts as a costimulatory receptor for the T-cell receptor (TCR), amplifying T-cell activation and stimulating perforin-mediated elimination of ligand-expressing tumor cells. Signaling involves calcium influx, culminating in TNF-alpha expression. NKG2D participates in NK cell-mediated bone marrow graft rejection and may regulate NK cell differentiation and survival. The protein forms a homodimer through disulfide linkage and a heterohexamer with HCST/DAP10, crucial for NK cell surface expression and induction of cytotoxicity. It interacts with various ligands,

including RAET1A, RAET1B, RAET1C, RAET1D, RAET1E, H60, and MULT1, belonging to MHC class I-related glycoproteins subfamilies. Additionally, NKG2D interacts with CEACAM1, recruiting PTPN6 for VAV1 dephosphorylation, highlighting its role in orchestrating complex immune responses.

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