NKG2D/CD314 Protein, Human (HEK293, Fc)

Cat. No.:	HY-P72018
Synonyms:	CD314; CD314 antigen ; D12S2489E; Killer cell lectin like receptor subfamily K member 1; Killer cell lectin-like receptor subfamily K member 1; KLR; KLRC4 KLRK1 readthrough; KLRK1; NK cell receptor D; NK lectin-like receptor; NKG2 D activating NK receptor; NKG2 D type II integral membrane protein; NKG2-D; NKG2-D type II integral membrane protein; NKG2-D-activating NK receptor; Nkg2d; NKG2D_HUMAN; NKLLR; NKR P2; Nkrp2
Species:	Human
Source:	HEK293
Accession:	P26718 (F78-V216)
Gene ID:	22914
Molecular Weight:	Approximately 43.6 kDa

PROPERTIES

AA Sequence	F L N S L F N Q E V Q I P L T E S Y C G P C P K N W I C Y K N N C Y Q F F D E S K N W Y E S Q A S C M S Q N A S L L K V Y S K E D Q D L L K L V K S Y H W M G L V H I P T N G S W Q W E D G S I L S P N L L T I I E M Q K G D C A L Y A S S F K G Y I E N C S T P N T Y I C M Q R T V
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered PBS, 6% Trehalose, 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.
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 operates as an activating and costimulatory receptor essential for immunosurveillance, binding to diverse cellular stress-inducible ligands presented on autologous tumor cells and virus-infected cells. It plays a dual role in innate immune responses, stimulating both activating killer (NK) cells and acting as a costimulatory receptor for T-cell receptors (TCR) in CD8(+) T-cell-mediated adaptive immune responses, enhancing T-cell activation. The receptor facilitates perforin-mediated elimination of ligand-expressing tumor cells, and its signaling cascades involve calcium influx, ultimately leading to TNF-alpha expression. Additionally, NKG2D/CD314 participates in NK cell-mediated bone marrow graft rejection and may regulate the differentiation and survival of NK cells. Its ligand-binding capacity extends to various subfamilies of

	MHC class I-related glycoproteins, including MICA, MICB, RAET1E, RAET1G, RAET1L/ULBP6, ULBP1, ULBP2, ULBP3 (ULBP2>ULBP1>ULBP3), and ULBP4. The protein forms homodimers through disulfide linkage and heterohexamers with HCST/DAP10 subunits, a crucial interaction for NK cell surface expression and cytotoxicity induction. Furthermore, it can establish disulfide-bonded heterodimers with CD94 and interacts with CEACAM1, recruiting PTPN6 for VAV1 dephosphorylation, while not interacting with TYROBP.

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