

## NKG2D/CD314 Protein, Mouse (HEK293, Fc)

Cat. No.:	HY-P78330
Synonyms:	CD314; D12S2489E; KLR; NKG2-D; NKG2D
Species:	Mouse
Source:	HEK293
Accession:	O54709 (F90-V232)
Gene ID:	27007
Molecular Weight:	50-68 kDa

### PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 $\mu$ m filtered solution of 20 mM Tris, 250 mM NaCl, pH 8.0. Normally 8% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/ $\mu$ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> O.
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	<p>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.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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