

NKG2D/CD314 Protein, Rhesus Macaque (sf9, His)

Cat. No.:	HY-P75940
Synonyms:	NKG2-D type II integral membrane protein; NK cell receptor D; KLRK1
Species:	Rhesus Macaque
Source:	Sf9 insect cells
Accession:	Q9MZJ7 (F78-V216)
Gene ID:	574240
Molecular Weight:	Approximately 18.3 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μ m filtered solution of 20 mM Tris, 500 mM NaCl, 10% Glycerol, pH 8.0. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ 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 crucial for immunosurveillance, binding to various 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. The signaling pathway involves calcium influx, resulting in TNF-alpha expression. Additionally, 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 can also create a heterohexamer with HCST/DAP10, essential for NK cell surface expression and induction of NK cell-mediated cytotoxicity. Furthermore, NKG2D interacts with CEACAM1, recruiting PTPN6, which dephosphorylates VAV1. This multifaceted interaction network underscores the critical role of NKG2D in immune responses and surveillance.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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