Data Sheet (Cat.No.TMPY-03376)

TargetMol

NKG2D/CD314 Protein, Rhesus, Recombinant (aa 78-216, His)

General Information

Synonyms:	NKG2-D;NKG2D;KLRK1;killer cell lectin-like receptor subfamily K, member 1
Protein Construction:	A DNA sequence encoding the rhesus NKG2D (NP_001028061.1) (Phe78-Val216) was expressed with a polyhistide tag at the N-terminus. Predicted N terminal: His
Species:	Rhesus
Expression Host:	Baculovirus Insect Cells
Accession:	P61252
Molecular Weight:	18.3 kDa (predicted)

QC Testing

Biological Activity:	1. Immobilized Rhesus His-NKG2D (78-216) at 10 μg/ml (100 μl/well) can bind human ULBP1-Fch , The EC50 of human ULBP1-Fch is 0.12-0.28 μg/ml. 2. Immobilized Rhesus His-NKG2D (78-216) at 10 μg/ml (100 μl/well) can bind human MICB-Fch , The EC50 of human MICB-Fch is 33.8-79 ng/ml.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, 10% glycerol, pH 8.0.Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.15 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

KLRK1 (Killer Cell Lectin Like Receptor K1) is a Protein Coding gene. NKG2D, also known as CD314, is an immune receptor that consists of two disulfide-linked type II transmembrane proteins with short intracellular proteins incapable to transduce signals. To transduce signals, NKG2D needs adaptor proteins and it uses two adaptor

proteins, DAP10 and DAP12. These two adaptor proteins associate as homodimers to NKG2D- therefore the entire receptor complex appears as a hexamer. NKG2D can send co-stimulatory signals to activate CD8 T cells. NKG2D also plays an important role in viral control. Cellular stress can induce ligands for NKG2D which results in the cell susceptible to NK cell-mediated lysis.

Reference

Houchins J, et al. (1991) DNA sequence analysis of NKG2, a family of related cDNA clones encoding type II integral membrane proteins on human natural killer cells. J Exp Med. 173: 1017-102.

Bauer S, et al. (1999) Activation of NK cells and T cells by NKG2D, a receptor for stress-inducible MICA. Science. 285 (5428):727-9.

Zafirova B, et al. (2011) Regulation of immune cell function and differentiation by the NKG2D receptor. Cell Mol Life Sci. 68(21):3519-29.

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