

**DESCRIPTION**

<b>Source</b>	Human embryonic kidney cell, HEK293-derived			
	MDP	Mouse IgG <sub>2A</sub> (Glu98-Lys330)	IEGR	Mouse NKG2A (Ala94-Ile227) Accession # NP_034782
	N-terminus		C-terminus	

**N-terminal Sequence Met Analysis**

**Structure / Form** Disulfide-linked homodimer

**Predicted Molecular Mass** 42 kDa

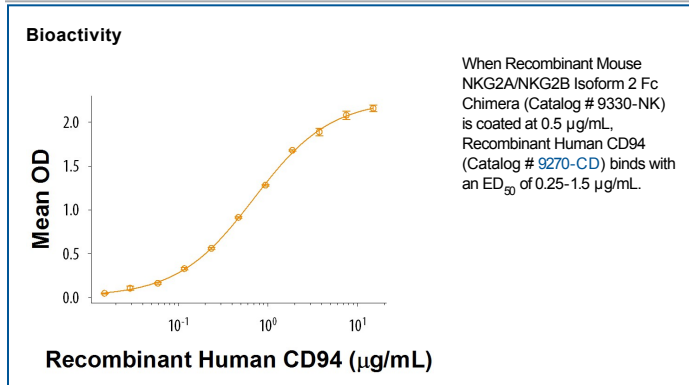
**SPECIFICATIONS**

<b>SDS-PAGE</b>	57-65 kDa, reducing conditions
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Recombinant Mouse NKG2A/NKG2B Isoform 2 Fc Chimera is coated at 0.5 µg/mL, 100 µL/well, Recombinant Human CD94 (Catalog # 9270-CD) binds with an ED <sub>50</sub> of 0.25-1.5 µg/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 500 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**DATA**



**BACKGROUND**

NKG2B is a member of the C-type lectin superfamily of proteins. It is a splice variant of NKG2A which has an additional 17 aa in the extracellular juxtamembrane region (1). NKG2B is an approximately 40 kDa transmembrane protein, with 28 aa in the transmembrane region, and 105 aa in the extracellular domain (ECD). Within the ECD, mouse NKG2B shares 40% and 67% aa identity with human and rat NKG2B, respectively. NKG2B is expressed on a subset of NK cells and CD8<sup>+</sup> T cells (2-6) where it forms a covalent heterodimer with CD94 (5, 7, 8). NKG2A-CD94 heterodimers bind to the widely expressed nonclassical MHC-I molecule, HLA-E (Qa-1<sup>b</sup> in mouse), which presents a peptide derived from the signal peptide of classical MHC-I molecules (2, 7). Triggering the NKG2A-CD94 complex inhibits the cytolytic activity of NK and CD8<sup>+</sup> T cells (2, 3, 5, 6, 9). This enables the innate immune system to detect cells that express host MHC-I molecules and to protect them from NK cell mediated lysis. This mechanism is subverted by human cytomegalovirus which encodes a peptide that is homologous to the HLA-E binding peptide (10). HCMV infected cells up-regulate both HLA-E and NKG2A expression and utilize this peptide to escape from immune clearance (3, 10). In contrast, vaccinia virus induces HLA-E down-regulation, thus permitting NK cell lysis of the virally infected cell (11).

**References:**

1. Lohwasser S, et al. (1999) *Eur J Immunol.* **29**:755.
2. Vance, R.E. *et al.* (1998) *J. Exp. Med.* **188**:1841.
3. Saez-Borderias, A. *et al.* (2009) *J. Immunol.* **182**:829.
4. Houchins, J.P. *et al.* (1997) *J. Immunol.* **158**:3603.
5. Brooks, A.G. *et al.* (1997) *J. Exp. Med.* **185**:795.
6. Zhou, J. *et al.* (2008) *J. Immunol.* **180**:25.
7. Braud, V.M. *et al.* (1998) *Nature* **391**:795.
8. Carretero, M. *et al.* (1997) *Eur. J. Immunol.* **27**:563.
9. Lee, N. *et al.* (1998) *Proc. Natl. Acad. Sci. USA* **95**:5199.
10. Tomasec, P. *et al.* (2000) *Science* **287**:1031.
11. Brooks, C.R. *et al.* (2006) *J. Immunol.* **176**:1141.