

**DESCRIPTION**

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived			
	MDP	Mouse IgG <sub>2A</sub> (Glu98-Lys330)	IEGR	Mouse NKG2A (Ala94-Ile244) Accession # Q9Z202
	N-terminus		C-terminus	

**N-terminal Sequence** Met

**Analysis**

**Structure / Form** Disulfide-linked homodimer

**Predicted Molecular Mass** 44 kDa

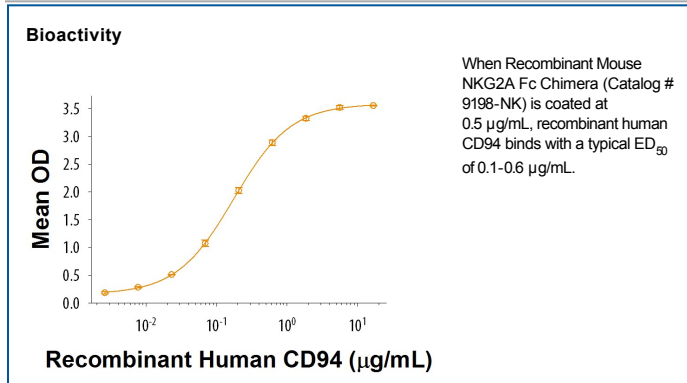
**SPECIFICATIONS**

<b>SDS-PAGE</b>	58-67 kDa, reducing conditions
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Recombinant Mouse NKG2A/CD159a Fc Chimera is coated at 0.5 µg/mL, recombinant human CD94 binds with a typical ED <sub>50</sub> of 0.1-0.6 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**

NKG2A/CD159a is an approximately 40 kDa transmembrane C-type lectin superfamily protein that inhibits innate immune system activation (1). Mouse NKG2A consists of a 70 amino acid (aa) cytoplasmic domain with two ITIM inhibitory motifs, a 23 aa transmembrane segment, and a 151 aa extracellular domain (ECD) with one C-type lectin domain (2). Within the ECD, mouse NKG2A shares 41% and 71% aa sequence identity with human and rat NKG2A, respectively. Alternative splicing generates additional isoforms with a 17 aa deletion in the extracellular juxtamembrane region or a substitution of that region plus the transmembrane segment. NKG2A 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:**

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