

## NKG2A-CD94 Heterodimer Protein, Human (HEK293, Fc-Flag)

Cat. No.:	HY-P77803
Synonyms:	CD159a; NKG2A; NKG2-A; CD94; NKG2A&CD94
Species:	Human
Source:	HEK293
Accession:	P26715 (R100-L233)&Q13241 (S34-I179)
Gene ID:	3821&3824
Molecular Weight:	55-65 kDa

### PROPERTIES

Biological Activity	Immobilized Human NKG2A&CD94, hFc Tag at 2µg/ml (100µl/Well) on Fc Antibody (2µg/ml) precoated plate. Dose response curve for Biotinylated Anti-NKG2A Antibody, hFc Tag with the EC <sub>50</sub> of 40.8ng/ml determined by ELISA.
Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

### DESCRIPTION

#### Background

NKG2A Protein, an immune inhibitory receptor crucial for self-nonsel discrimination, forms a complex with KLRD1 on cytotoxic and regulatory lymphocyte subsets, recognizing the non-classical major histocompatibility (MHC) class Ib molecule HLA-E loaded with self-peptides from the signal sequence of classical MHC class Ia molecules. This recognition allows cytotoxic cells to monitor MHC class I expression in healthy cells and promotes self-tolerance. Upon binding to HLA-E-peptide complexes, NKG2A transmits intracellular signals through two immunoreceptor tyrosine-based inhibition motifs (ITIMs), recruiting INPP5D/SHP-1 and INPPL1/SHP-2 tyrosine phosphatases to oppose signals from activating receptors. As a key inhibitory receptor on natural killer (NK) cells, NKG2A regulates their activation and effector functions, countering T cell receptor signaling on a subset of memory/effector CD8-positive T cells and distinguishing harmless from pathogenic antigens. In the HLA-E-rich tumor microenvironment, NKG2A acts as an immune inhibitory checkpoint, contributing to the progressive loss of effector functions in NK cells and tumor-specific T cells, a phenomenon known as cell exhaustion. Notably, during viral infection, NKG2A recognizes HLA-E in complex with human cytomegalovirus-derived peptides, inhibiting NK cell cytotoxicity and facilitating viral immune escape.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA