

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human NKG2C/CD159c heterodimer with CD94 in flow cytometry. It does not cross-react with the human NKG2A/CD94 heterodimer or with the human CD94 homodimer.
Source	Monoclonal Mouse IgG ₁ Clone # 134591
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	BaF3 mouse pro-B cell line transfected with human NKG2C/CD159c and CD94
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Human whole blood CD56 ⁺ natural killer cells

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Human NKG2C (NK cell Group 2 isoform C; Killer cell lectin-like receptor subfamily C, member 2) is a member of the C-type lectin-like superfamily of proteins. Natural killer (NK) receptors are expressed in both NK cells and cytotoxic CD8⁺ T cells and have both activating and inhibitory members (1-3). Regulation of the balance between the activating and inhibitory receptors is important and lack of such regulation has been implicated in autoimmunity (4). The NKG2 family includes seven receptors: NKG2A, -B, -C, -D, -E, -F, and -H, which is the longer isoform of NKG2E. Except for NKG2D and NKG2F, the NKG2 family members form heterodimers with CD94 (5, 6). NKG2C interacts with the adapter molecule DAP12 and acts as activating receptor when heterodimerized with CD94 (7). Human NKG2C is synthesized as a 231 amino acid (aa) protein that includes a 70 aa cytoplasmic domain, a 23 aa transmembrane segment, and a 138 aa extracellular domain (ECD). Within the ECD, human NKG2C shares 40% sequence identity with mouse NKG2C. NKG2C-CD94 heterodimers bind to the widely expressed nonclassical MHC-I molecule, HLA-E (Qa-1b in mouse), which presents a peptide derived from the signal peptide of classical MHC-I molecules (8, 9). Triggering the NKG2C-CD94 complex may activate the cytolytic activity and cytokine production of NK and CD8⁺ T cells (8, 10). Human cytomegalovirus (HCMV) infection promotes the differentiation and expansion of NKG2C⁺ NK cell subsets, possibly involving a cognate interaction of CD94/NKG2C with ligand(s) displayed by HCMV-infected cells (11, 12).

References:

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