Human NKp46/NCR1 Antibody

Monoclonal Mouse IgG_{2B} Clone # 195314

Catalog Number: MAB1850

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human NKp46/NCR1 in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG_{2B} Clone # 195314
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse T cell hybridoma transfected with human NKp46/NCR1
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

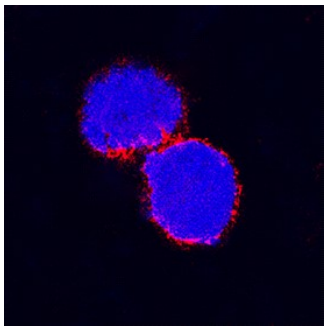
APPLICATIONS

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
Western Blot	1 µg/mL	Recombinant Human NKp46/NCR1 Fc Chimera (Catalog # 1850-NK)
Flow Cytometry	2.5 µg/10^6 cells	Human whole blood $CD56^+$ natural killer cells
Immunocytochemistry	8-25 µg/mL	See Below
CyTOF-reported	Horowitz, A. *et al.* Sci. Transl. Med. (2013) 208ra145. Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Agonist Activity	Measured by its ability to induce IFN-γ secretion by NK-92 human natural killer lymphoma cells. The ED_{50} for this effect is typically 0.1-0.3 µg/mL.	

DATA

Immunocytochemistry



NKp46/NCR1 in NK-92 Human Cell Line. NKp46/NCR1 was detected in immersion fixed NK-92 human natural killer lymphoma cell line using Mouse Anti-Human NKp46/NCR1 Monoclonal Antibody (Catalog # MAB1850) at 25 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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Human NKp46/NCR1 Antibody

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BACKGROUND

NKp46, along with NKp30 and NKp44, are activating receptors that have been collectively termed the natural cytotoxicity receptors (NCR) (1). These receptors lack significant sequence homology to one another. They are expressed almost exclusively by NK cells and play a major role in triggering some of the key lytic activities of NK cells. The $CD56^{dim}CD16^{+}$ subpopulation that makes up the majority of NK cells in the peripheral blood and spleen expresses NKp46 in both resting and activated states (2). The main NK cell population of the lymph node ($CD56^{bright}CD16^{-}$) expresses low levels of NKp46 in resting cells, but expression is up-regulated by IL-2. NKp46 is a type I transmembrane protein with two extracellular Ig-like domains followed by a short stalk region, a transmembrane domain containing a positively charged amino acid residue, and a short cytoplasmic tail. Through its positive charge in the transmembrane domain, NKp46 associates with the ITAM-bearing signal adapter proteins, CD3ζ and FcεR1γ, which are able to form disulfide-linked homodimers and heterodimers (3, 8). Studies with neutralizing antibodies indicate that the three NCRs are primarily responsible for triggering the NK-mediated lysis of many human tumor cell lines. Blocking any of the NCRs individually resulted in partial inhibition of tumor cell lysis, but nearly complete inhibition of lysis was observed if all three receptors were blocked simultaneously (4). NKp46 has also been implicated in recognition of virus-infected cells through its capacity to bind to viral hemagglutinins (5-7). Human NKp46 shares 58% and 59% amino acid sequence identity with the mouse and rat proteins, respectively.

References:

1. Moretta, L. and A. Moretta (2004) EMBO J. **23**:255.
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5. Arnon, T. *et al.* (2004) Blood **103**:664.
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7. Mandelboim, O. *et al.* (2001) Nature **409**:1055.
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