

#### DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human NKp46/NCR1 in ELISA.
<b>Source</b>	Recombinant Monoclonal Mouse IgG <sub>2B</sub> Clone # 195314R
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse T cell hybridoma transfected with human NKp46/NCR1 Accession # O76036
<b>Conjugate</b>	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
<b>Formulation</b>	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.

**Flow Cytometry** Titration recommended for optimal concentration with starting range of 0.1-1 µg/1 million cells. Sample used for this experiment was Human PBMC.

#### 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.**

- 12 months from date of receipt, 2 to 8 °C as supplied.

#### 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<sup>dim</sup>CD16<sup>+</sup> 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<sup>bright</sup>CD16<sup>-</sup>) 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.
2. Ferlazzo, G. *et al.* (2004) *J. Immunol.* **172**:1455.
3. Augugliaro, R. *et al.* (2003) *Eur. J. Immunol.* **33**:1235.
4. Pende, D. *et al.* (1999) *J. Exp. Med.* **190**:1505.
5. Arnon, T. *et al.* (2004) *Blood* **103**:664.
6. Arnon, T. *et al.* (2001) *Eur. J. Immunol.* **31**:2680.
7. Mandelboim, O. *et al.* (2001) *Nature* **409**:1055.
8. Moretta, A. *et al.* (2001) *Annu. Rev. Immunol.* **19**:197.

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