Mouse NKp46/NCR1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2225

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse NKp46/NCR1 in direct ELISAs and Western blots. In direct ELISAs, approximately 15% cross-reactivity with recombinant human (rh) NKp46 is observed and less than 1% cross-reactivity with rhNKp80 and rhNKp30 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse NKp46/NCR1 Glu22-Asn255 Accession # Q8C567
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.

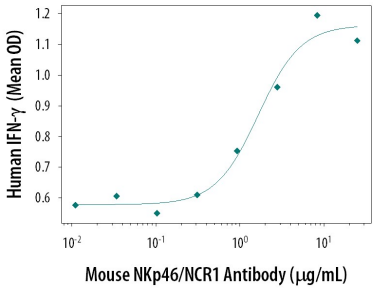
APPLICATIONS

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	0.1 µg/mL	Recombinant Mouse NKp46/NCR1 Fc Chimera (Catalog # 2225-NK)
Agonist Activity	0.4-2.4 µg/mL	See Below
Flow Cytometry	2.5 µg/10^6 cells	See Below
Immunohistochemistry	3-15 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

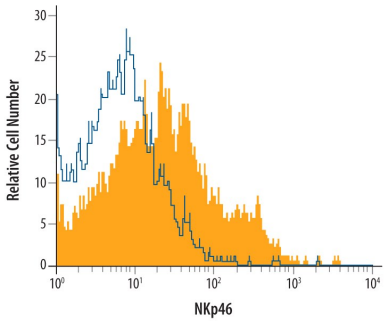
DATA

Agonist Activity



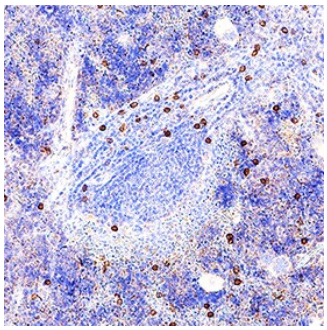
Mouse NKp46/NCR1 Antibody Induces IFN-γ Secretion in Activated Mouse NK Cells. Mouse NKp46/NCR1 Antigen Affinity-purified Polyclonal Antibody induces IFN-γ secretion in mouse natural killer (NK) cells activated with 25 ng/mL Recombinant Mouse IL-2 (Catalog # 402-ML) and 25 ng/mL Recombinant Mouse IL-12 (Catalog # 419-ML), in a dose-dependent manner, as measured using the Quantikine Mouse IFN-γ ELISA Kit (Catalog # MIF00). The ED_{50} for this effect is typically 0.4-2.4 µg/mL.

Flow Cytometry



Detection of NKp46/NCR1 in Mouse DX5/CD49b$^+$ Splenocytes by Flow Cytometry. Mouse DX5/CD49b$^+$ splenocytes were stained with Goat Anti-Mouse NKp46/NCR1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2225, filled histogram) or control antibody (Catalog # AB-108-C, open histogram), followed by Allophycocyanin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # F0108).

Immunohistochemistry



NKp46/NCR1 in Mouse Spleen. NKp46/NCR1 was detected in perfusion fixed frozen sections of mouse spleen using Goat Anti-Mouse NKp46/NCR1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2225) at 3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in lymphocytes. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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.

BACKGROUND

NKp46, along with NKp30 and NKp44, are activating receptors that have been collectively termed the natural cytotoxicity receptors (NCR) (1). These receptors are expressed almost exclusively by NK cells and play a major role in triggering some of the key lytic activities of NK cells. In human systems, 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 upregulated by IL-2. Mouse NKp46, also known as MAR-1 (3), is a type I transmembrane protein with two extracellular Ig-like domains. It has a positive charge in its transmembrane domain that permits association with the ITAM-bearing signal adapter proteins, CD3ζ and Fcε RIγ (4). Studies with neutralizing antibodies indicate that the three NCR 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 (5). NKp46 has also been implicated in recognition of virus-infected cells through its capacity to bind to viral hemagglutinins (6-8).

References:

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