

NKG2-A (N-19): sc-9616

BACKGROUND

The activity of natural killer (NK) cells is regulated by members of multiple receptor families that recognize class I MHC molecules, such as the killer cell inhibitory receptor/leukocyte immunoglobulin-like receptor (KIR/LIR) family and the C-type lectin superfamily. The KIR/LIR family includes p91A (also designated pp130 or PIR-B, for paired immunoglobulin-like receptor-B) and p91B (also designated PIR-A). p91A acts as an inhibitory receptor through interactions with SHP-1, whereas p91B acts as an activating receptor. CD94, NKG2 and Ly-49 are members of the C-type lectin superfamily of type II membrane glycoproteins. CD94 forms heterodimers with NKG2 isoforms on the surface of NK cells, whereas Ly-49 isoforms form homodimers. NKG2-D, expressed on NK cells, gdT cells and CD8 $\alpha\beta$ T cells, is a receptor for the stress inducible protein MICA, an antigen frequently expressed in epithelial tumors.

REFERENCES

1. Long, E.O., et al. 1997. Natural killer cell receptors. *Curr. Opin. Immunol.* 9: 344-350.
2. Moretta, A., et al. 1997. HLA class I specific inhibitory receptors. *Curr. Opin. Immunol.* 9: 694-701.
3. Hayami, K., et al. 1997. Molecular cloning of a novel murine cell-surface glycoprotein homologous to killer cell inhibitory receptors. *J. Biol. Chem.* 272: 7320-7327.
4. Ryan, J.C., et al. 1997. Divergent functions of lectin-like receptors on NK cells. *Immunol. Rev.* 155: 79-89.
5. Vance, R.E., et al. 1997. Cloning of a mouse homolog of CD94 extends the family of C-type lectins on murine natural killer cells. *Eur. J. Immunol.* 27: 3236-3241.
6. Berg, K.L., et al. 1998. The major SHP-1-binding, tyrosine-phosphorylated protein in macrophages is a member of the KIR/LIR family and an SHP-1 substrate. *Oncogene* 17: 2535-2541.
7. Salcedo, M. 1999. Inhibitory role of murine Ly-49 lectin-like receptors on natural killer cells. *Curr. Top. Microbiol. Immunol.* 244: 97-105.
8. Bauer, S., et al. 1999. Activation of NK cells and T cells by NKG2D, a receptor for stress-inducible MICA. *Science* 285: 727-729.
9. Borrego, F., et al. 2006. The CD94/NKG2 family of receptors: from molecules and cells to clinical relevance. *Immunol. Res.* 35: 263-278.

CHROMOSOMAL LOCATION

Genetic locus: KLRC1 (human) mapping to 12p13.2.

SOURCE

NKG2-A (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of NKG2-A of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9616 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NKG2-A (N-19) is recommended for detection of NKG2-A and NKG2-B of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NKG2-A siRNA (h): sc-42947, NKG2-A shRNA Plasmid (h): sc-42947-SH and NKG2-A shRNA (h) Lentiviral Particles: sc-42947-V.

Molecular Weight of NKG2-A: 31-43 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Bahri, R., et al. 2006. Soluble HLA-G inhibits cell cycle progression in human alloreactive T lymphocytes. *J. Immunol.* 176: 1331-1339.
2. Benevolo, M., et al. 2011. High expression of HLA-E in colorectal carcinoma is associated with a favorable prognosis. *J. Transl. Med.* 9: 184.
3. van Esch, E.M., et al. 2015. Expression of coinhibitory receptors on T cells in the microenvironment of usual vulvar intraepithelial neoplasia is related to proinflammatory effector T cells and an increased recurrence-free survival. *International journal of cancer. Int. J. Cancer* 136: E95-E106.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.