

# Ly-49 (V-17): sc-9623

## 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. There are at least 21 Ly-49 proteins, ranging from 230 to 280 amino acids in length. The Ly-49 isoforms, which are clustered on human chromosome 16, all function to present the C-type lectin domain on the cell membrane. NKG2-D, expressed on NK cells,  $\gamma\delta$  T cells, and CD8<sup>+</sup>  $\alpha\beta$  T cells, is a receptor for the stress inducible protein MICA, an antigen frequently expressed in epithelial tumors.

## REFERENCES

- Long, E.O., et al. 1997. Natural killer cell receptors. *Curr. Opin. Immunol.* 9: 344-350.
- Moretta, A., et al. 1997. HLA class I specific inhibitory receptors. *Curr. Opin. Immunol.* 9: 694-701.
- 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.
- 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.
- Ryan, J.C., et al. 1997. Divergent functions of lectin-like receptors on NK cells. *Immunol. Rev.* 155: 79-89.
- Takei, F., et al. 1997. The Ly-49 family: genes, proteins and recognition of class I MHC. *Immunol. Rev.* 155: 67-77.
- 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.
- Salcedo, M. 1999. Inhibitory role of murine Ly-49 lectin-like receptors on natural killer cells. *Curr. Top. Microbiol. Immunol.* 244: 97-105.
- Bauer, S., et al. 1999. Activation of NK cells and T cells by NKG2D, a receptor for stress-inducible MICA. *Science* 285: 727-729.

## SOURCE

Ly-49 (V-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Ly-49 of mouse 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  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9623 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Ly-49 (V-17) is recommended for detection of a broad range of Ly-49 family members of mouse and rat 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).

Molecular Weight of Ly-49: 31 kDa.

## 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

- Kusakabe, K., et al. 2007. Effect of danazol on NK cells and cytokines in the mouse uterus. *J. Reprod. Dev.* 53: 87-94.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


 MONOS  
 Satisfaction  
 Guaranteed

Try **Ly-49 (14B11): sc-53022**, our highly recommended monoclonal alternative to Ly-49 (V-17).