SANTA CRUZ BIOTECHNOLOGY, INC.

NKG2-D (V-14): sc-5458

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, $\gamma\delta$ T 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. and Wagtmann, N. 1997. Natural killer cell receptors. Curr. Opin. Immunol. 9: 344-350.
2. Moretta, A. and Moretta, L. 1997. HLA class I specific inhibitory receptors. Curr. Opin. Immunol. 9: 694-701.
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4. Ryan, J.C. and Seaman, W.E. 1997. Divergent functions of lectin-like receptors on NK cells. Immunol. Rev. 155: 79-89.
5. Vance, R.E., Tanamachi, D.M., Hanke, T. and Raulet D.H. 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., Carlberg, K., Rohrschneider, L.R., Siminovitch, K.A. and Stanley, E.R. 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.

CHROMOSOMAL LOCATION

Genetic locus: Klrk1 (mouse) mapping to 6 F3.

SOURCE

NKG2-D (V-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of NKG2-D of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-5458 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

NKG2-D (V-14) is recommended for detection of NKG2-D of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

NKG2-D (V-14) is also recommended for detection of NKG2-D in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NKG2-D siRNA (m): sc-42949, NKG2-D shRNA Plasmid (m): sc-42949-SH and NKG2-D shRNA (m) Lentiviral Particles: sc-42949-V.

Molecular Weight of NKG2-D: 42 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. Alli, R., Savithri, B., Das, S., Varalakshmi, C., Rangaraj, N. and Khar, A. 2004. Involvement of NKR-P2/NKG2-D in DC-mediated killing of tumor targets: indicative of a common, innate, target-recognition paradigm? Eur. J. Immunol. 34: 1119-1126.
2. Nitahara, A., Shimura, H., Ito, A., Tomiyama, K., Ito, M. and Kawai, K. 2006. NKG2-D ligation without T cell receptor engagement triggers both cytotoxicity and cytokine production in dendritic epidermal T cells. J. Invest. Dermatol. 126: 1052-1058.
3. Horng, T., Bezbradica, J.S. and Medzhitov, R. 2007. NKG2-D signaling is coupled to the interleukin 15 receptor signaling pathway. Nat. Immunol. 8: 1345-1352.

STORAGE

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