

# NKG2-D (1D11): sc-23869

## 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<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. and Wagtmann, N. 1997. Natural killer cell receptors. *Curr. Opin. Immunol.* 9: 344-350.
- Moretta, A. and Moretta, L. 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.

## CHROMOSOMAL LOCATION

Genetic locus: KLRK1 (human) mapping to 12p13.2.

## SOURCE

NKG2-D (1D11) is a mouse monoclonal antibody raised against NKL cells of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for blocking the binding of MICA with NKG2-D, sc-23869 L, 200  $\mu$ g/0.1 ml.

NKG2-D (1D11) is available conjugated to either phycoerythrin (sc-23869 PE), fluorescein (sc-23869 FITC) or Alexa Fluor® 488 (sc-23869 AF488) or Alexa Fluor® 647 (sc-23869 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM.

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## APPLICATIONS

NKG2-D (1D11) is recommended for detection of NKG2-D of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

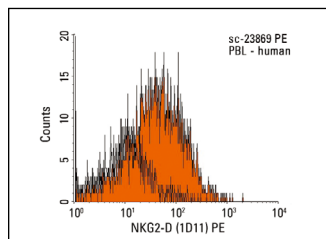
Suitable for use as control antibody for NKG2-D siRNA (h): sc-42948, NKG2-D shRNA Plasmid (h): sc-42948-SH and NKG2-D shRNA (h) Lentiviral Particles: sc-42948-V.

Molecular Weight of NKG2-D: 42 kDa.

## STORAGE

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

## DATA



NKG2-D (1D11) PE: sc-23869 PE. FCM analysis of TCR  $\alpha/\beta$ <sup>+</sup>, CD8<sup>+</sup> human peripheral blood leukocytes. Black line histogram represents the isotype control, normal mouse IgG<sub>1</sub>-PE: sc-2866.

## SELECT PRODUCT CITATIONS

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- Fernández-Messina, L., et al. 2010. Differential mechanisms of shedding of the glycosylphosphatidylinositol (GPI)-anchored NKG2D ligands. *J. Biol. Chem.* 285: 8543-8551.
- Dasgupta, A., et al. 2012. Treatment of a solid tumor using engineered drug-resistant immunocompetent cells and cytotoxic chemotherapy. *Hum. Gene Ther.* 23: 711-721.
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- López-Cobo, S., et al. 2015. Transfer of the human NKG2D ligands UL16 binding proteins (ULBP) 1-3 is related to lytic granule release and leads to ligand retransfer and killing of ULBP-recipient natural killer cells. *Immunology* 146: 70-80.
- Xia, P. and Xu, X.Y. 2017. DKK3 attenuates the cytotoxic effect of natural killer cells on CD133<sup>+</sup> gastric cancer cells. *Mol. Carcinog.* 56: 1712-1721.
- Lorenzo-Herrero, S., et al. 2019. CD107a degranulation assay to evaluate immune cell antitumor activity. *Methods Mol. Biol.* 1884: 119-130.
- Sharapova, T.N., et al. 2021. Hsp70 interacts with the TREM-1 receptor expressed on monocytes and thereby stimulates generation of cytotoxic lymphocytes active against MHC-negative tumor cells. *Int. J. Mol. Sci.* 22: 6889.

## RESEARCH USE

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