

# NK 2B4 (2B4.69): sc-80900

## BACKGROUND

Natural killer (NK) cells are bone marrow-derived lymphocytes that can kill certain tumor cells and virally infected cells. There are multiple immunoglobulin superfamily (IgSF) receptor-ligand interactions that coordinate NK cell recognition of target cells and cytolytic function. The IgSF receptor NK 2B4 (CD244) is a ligand for CD48 that is expressed on the surface of all mouse and human NK cells and the subset of T cells that mediate NK-like killing. NK 2B4 is a cell surface glycoprotein of the immunoglobulin superfamily that is involved in the regulation of natural killer and T lymphocyte function. NK 2B4 binds the Src homology 2 domain-containing protein (SH2D1A) or signaling lymphocyte activation molecule (SLAM)-associated protein (SAP), which may function as regulators of NK 2B4-associated signal transduction pathways. NK 2B4 is expressed in human spleen, peripheral blood leukocytes, lymph node, bone marrow and fetal liver.

## REFERENCES

- Chuang, S.S., Lee, Y., Stepp, S.E., Kumaresan, P.R. and Mathew, P.A. 1999. Molecular cloning and characterization of the promoter region of murine natural killer cell receptor 2B4. *Biochim. Biophys. Acta* 1447: 244-250.
- Boles, K.S., Nakajima, H., Colonna, M., Chuang, S.S., Stepp, S.E., Bennett, M., Kumar, V. and Mathew, P.A. 1999. Molecular characterization of a novel human natural killer cell receptor homologous to mouse 2B4. *Tissue Antigens* 54: 27-34.
- Nakajima, H., Cella, M., Langen, H., Friedlein, A. and Colonna, M. 1999. Activating interactions in human NK cell recognition: the role of 2B4-CD48. *Eur. J. Immunol.* 29: 1676-1683.
- Kumaresan, P.R., Stepp, S.E., Bennett, M., Kumar, V. and Mathew, P.A. 2000. Molecular cloning of transmembrane and soluble forms of a novel rat natural killer cell receptor related to 2B4. *Immunogenetics* 51: 306-313.
- Parolini, S., Bottino, C., Falco, M., Augugliaro, R., Giliani, S., Franceschini, R., Ochs, H.D., Wolf, H., Bonnefoy, J.Y., Biassoni, R., Moretta, L., Notarangelo, L.D. and Moretta, A. 2000. X-linked lymphoproliferative disease. 2B4 molecules displaying inhibitory rather than activating function are responsible for the inability of natural killer cells to kill Epstein-Barr virus-infected cells. *J. Exp. Med.* 192: 337-346.
- Kumaresan, P.R., Stepp, S.E., Verrett, P.C., Chuang, S.S., Boles, K.S., Lai, W.C., Ryan, J.C., Bennett, M., Kumar, V. and Mathew, P.A. 2000. Molecular characterization of the rat NK cell receptor 2B4. *Mol. Immunol.* 37: 735-744.

## CHROMOSOMAL LOCATION

Genetic locus: CD244 (human) mapping to 1q23.3.

## SOURCE

NK 2B4 (2B4.69) is a mouse monoclonal antibody raised against NK 2B4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

NK 2B4 (2B4.69) is recommended for detection of NK 2B4 of human 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)] and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for NK 2B4 siRNA (h): sc-42944, NK 2B4 shRNA Plasmid (h): sc-42944-SH and NK 2B4 shRNA (h) Lentiviral Particles: sc-42944-V.

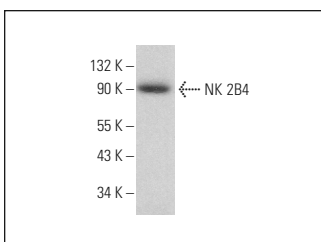
Molecular Weight of native-glycosylated NK 2B4: 48-86 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



NK 2B4 (2B4.69): sc-80900. Western blot analysis of NK 2B4 expression in HEL 92.1.7 whole cell lysate.

## STORAGE

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

## 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) for detailed protocols and support products.