SANTA CRUZ BIOTECHNOLOGY, INC.

NKp30 (CLH3): sc-33646

BACKGROUND

The immune response is the way the body recognizes and defends itself against microorganisms, viruses, and substances recognized as foreign and potentially harmful to the body. Innate immunity is the barrier that keeps foreign materials from entering the body and represents the first line of defense in the immune response. During the innate response to many inflammatory and infectious stimuli, dendritic cells (DCs) undergo a differentiation process termed maturation. Mature DCs activate antigen-specific naive T cells and resting human natural killer (NK) cells. NK cell receptors NKp30, NKp44 and NKp46, appear to play prominent roles in NK cell activation. The human NKp30 gene maps to chromosome 6p21.33 and encodes a 190 amino acid protein. The NKp30 protein contains a signal peptide followed by a 120 amino acid extracellular region that forms a V-type Ig-like domain with two potential N-linked glycosylation sites, a hydrophobic transmembrane region with a positively charged Arginine residue, and a 33 amino acid cytoplasmic tail lacking an immunoreceptor tyrosine-based activating motif (ITAM). NKp30 cooperates with NKp46 and/or NKp44 in the induction of NK-mediated cytotoxicity against the majority of target cells, where it represents the major triggering receptor in the killing of certain tumors.

REFERENCES

1. Pende, D., et al. 1999. Identification and molecular characterization of NKp30, a novel triggering receptor involved in natural cytotoxicity mediated by human natural killer cells. J. Exp. Med. 190: 1505-1516.
2. Sato, M., et al. 2001. Identification of novel single nucleotide substitutions in the NKp30 gene expressed in human natural killer cells. Tissue Antigens 58: 255-258.
3. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 109170. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Ferlazzo, G., et al. 2002. Human dendritic cells activate resting natural killer (NK) cells and are recognized via the NKp30 receptor by activated NK cells. J. Exp. Med. 195: 343-351.
5. LocusLink Report (LocusID: 7940). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: NCR3 (human) mapping to 6p21.33.

SOURCE

NKp30 (CLH3) is a mouse monoclonal antibody raised against recombinant rat NKp30-Fc protein.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NKp30 (CLH3) is available conjugated to either phycoerythrin (sc-33646 PE) or fluorescein (sc-33646 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

NKp30 (CLH3) is recommended for detection of NKp30 of mouse, rat and human origin by Western Blotting (starting dilution 1:500, 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 10^6 cells).

Suitable for use as control antibody for NKp30 siRNA (h): sc-42950, NKp30 shRNA Plasmid (h): sc-42950-SH and NKp30 shRNA (h) Lentiviral Particles: sc-42950-V.

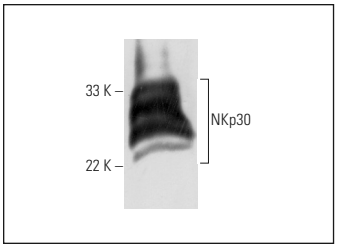
Molecular Weight of NKp30: 39 kDa.

Positive Controls: THP-1 cell lysate: sc-2238.

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



NKp30 (CLH3): sc-33646. Western blot analysis of NKp30 expression in transfected 293 cells.

SELECT PRODUCT CITATIONS

1. Wai, L.E., et al. 2011. Distinct roles for the NK cell-activating receptors in mediating interactions with dendritic cells and tumor cells. J. Immunol. 186: 222-229.

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 for detailed protocols and support products.