SANTA CRUZ BIOTECHNOLOGY, INC.

# NKp44 siRNA (h): sc-72170

## BACKGROUND

Natural killer (NK) cells direct cytotoxicity against tumor or virally infected cells. NK cell-mediated cytotoxicity is stimulated by several activating receptors associated with the signaling adapter DNAX activation 12/killer cell-activating receptor-associated protein (DAP12). NKp44 is a natural cytotoxicity receptor that is expressed on IL-2-activated human NK cells and may contribute to the increased efficiency of NK cells to mediate tumor cell lysis. NKp44 is composed of one Ig-like extracellular domain, a transmembrane segment and a cytoplasmic domain. Prolactin upregulates and cortisol downregulates the surface expression of NKp44 at the transcriptional level. A cellular ligand for NKp44 (NKp44L) is expressed during HIV-1 infection and is correlated with the progression of $CD4^+$ T cell depletion and an increase of viral load. This implicates NKp44 as a therapeutic agent that may aid in the progress towards a vaccine for HIV-1 infection.

## REFERENCES


1. Cantoni, C., et al. 2003. The three-dimensional structure of the human NK cell receptor NKp44, a triggering partner in natural cytotoxicity. Structure 11: 725-734.
2. De Maria, A., et al. 2003. The impaired NK cell cytolytic function in viremic HIV-1 infection is associated with a reduced surface expression of natural cytotoxicity receptors (NKp46, NKp30 and NKp44). Eur. J. Immunol. 33: 2410-2418.
3. Campbell, K.S., et al. 2004. NKp44 triggers NK cell activation through DAP12 association that is not influenced by a putative cytoplasmic inhibitory sequence. J. Immunol. 172: 899-906.


## CHROMOSOMAL LOCATION

Genetic locus: NCR2 (human) mapping to 6p21.1.

## PRODUCT

NKp44 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NKp44 shRNA Plasmid (h): sc-72170-SH and NKp44 shRNA (h) Lentiviral Particles: sc-72170-V as alternate gene silencing products.

For independent verification of NKp44 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72170A, sc-72170B and sc-72170C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

NKp44 siRNA (h) is recommended for the inhibition of NKp44 expression in human cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## GENE EXPRESSION MONITORING

NKp44 (8F12): sc-59342 is recommended as a control antibody for monitoring of NKp44 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NKp44 gene expression knockdown using RT-PCR Primer: NKp44 (h)-PR: sc-72170-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Lai, H.C., et al. 2012. Activation of NK cell cytotoxicity by the natural compound 2,3-butanediol. J. Leukoc. Biol. 92: 807-814.
2. Lu, C.C., et al. 2014. NK cells kill mycobacteria directly by releasing perforin and granulysin. J. Leukoc. Biol. 96: 1119-1129.
3. Chang, C.J., et al. 2014. Ganoderma lucidum stimulates NK cell cytotoxicity by inducing NKG2D/NCR activation and secretion of perforin and granulysin. Innate Immun. 20: 301-311.
4. Lu, C.C., et al. 2016. Immunomodulatory properties of medicinal mushrooms: differential effects of water and ethanol extracts on NK cell-mediated cytotoxicity. Innate Immun. 22: 522-533.


## 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.