SANTA CRUZ BIOTECHNOLOGY, INC.

# KIR3DL3 siRNA (h): sc-60892

## BACKGROUND

NKAT (NK-associated transcripts) gene products, known as killer immunoglobulin-like receptors or KIRs, downregulate the cytotoxicity of NK cells upon recognition of specific class I major histocompatibility complex (MHC) molecules on target cells. KIR3DL3, the most centromeric gene in the KIR gene cluster, maps to chromosome 19. The 410 amino acid KIR3DL3 (also designated KIRC1, KIR3DL7, KIR44 and CD158Z) protein has three Ig domains, an N-terminal signal sequence, a transmembrane region lacking a positively charged residue, and a long cytoplasmic tail containing an immunoreceptor tyrosine-based inhibitory motif (ITIM), but lacks the stalk region found in other KIRs. KIR3DL3 exhibits low or undetectable levels of expression in peripheral blood NK cells. However, demethylation treatment readily induces KIR3DL3 expression in NK cells, indicating that low KIR3DL3 expression in peripheral blood is due to sustained DNA methylation of a functional promoter.

## REFERENCES


1. Torkar, M., et al. 1999. Isotypic variation of novel immunoglobulin-like transcript/killer cell inhibitory receptor loci in the leukocyte receptor complex. Eur. J. Immunol. 28: 3959-3967.
2. Yawata, M., et al. 2003. Variation within the human killer cell immunoglobulin-like receptor (KIR) gene family. Crit. Rev. Immunol. 22: 463-482.
3. Parham, P. 2004. Killer cell immunoglobulin-like receptor diversity: balancing signals in the natural killer cell response. Immunol. Lett. 92: 11-13.
4. Hao, L. and Nei, M. 2005. Rapid expansion of killer cell immunoglobulin-like re and their coevolution with MHC Class I genes. Gene 347: 149-159.
5. Trompeter, H.I., et al. 2005. Three structurally and functionally divergent kinds of promoters regulate expression of clonally distributed killer cell Ig-like receptors (KIR), of KIR2DL4, and of KIR3DL3. J. Immunol. 174: 4135-4143.
6. Trundley, A.E., et al. 2006. Molecular characterization of KIR3DL3. Immunogenetics 57: 904-916.
7. Jones, D.C., et al. 2006. Nature of allelic sequence polymorphism at the KIR3DL3 locus. Immunogenetics 58: 614-627.


## CHROMOSOMAL LOCATION

Genetic locus: KIR3DL3 (human) mapping to 19q13.42.

## PRODUCT

KIR3DL3 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 KIR3DL3 shRNA Plasmid (h): sc-60892-SH and KIR3DL3 shRNA (h) Lentiviral Particles: sc-60892-V as alternate gene silencing products.

For independent verification of KIR3DL3 (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-60892A, sc-60892B and sc-60892C.

## 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

KIR3DL3 siRNA (h) is recommended for the inhibition of KIR3DL3 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

KIR3DL1 (B-8): sc-377220 is recommended as a control antibody for monitoring of KIR3DL3 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).

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) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor KIR3DL3 gene expression knockdown using RT-PCR Primer: KIR3DL3 (h)-PR: sc-60892-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## 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.