SANTA CRUZ BIOTECHNOLOGY, INC.

# ILT-7 siRNA (h): sc-97217

## BACKGROUND

ILT-7 (immunoglobulin-like transcript 7), also known as LILRA4 (leukocyte immunoglobulin-like receptor subfamily A member 4) and CD85g (CD85 antigen-like family member G), is a 499 amino acid single pass transmembrane protein that is expressed on the surfaces of neutrophils, monocytes and eosinophils. Containing four immunoglobulin-like domains, ILT-7 belongs to a novel immunoglobulin receptor superfamily that act as inhibitory and stimulatory cell surface immune receptors. Specifically, ILT-7 may act as a receptor for class I MHC antigens, in which ligand binding to the receptor leads to activation of eosinophils and the release of leukotriene C4, RNase 2 and IL-4. ILT-7 signaling may enable a negative immune response feedback following viral infection.

## REFERENCES


1. Rissoan, M.C., et al. 2002. Subtractive hybridization reveals the expression of immunoglobulin-like transcript 7, Eph-B1, granzyme B, and 3 novel transcripts in human plasmacytoid dendritic cells. Blood 100: 3295-3303.
2. Tedla, N., et al. 2003. Activation of human eosinophils through leukocyte immunoglobulin-like receptor 7. Proc. Natl. Acad. Sci. USA 100: 1174-1179.
3. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607517. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Ju, X.S., et al. 2004. Immunoglobulin-like transcripts ILT2, ILT3 and ILT7 are expressed by human dendritic cells and down-regulated following activation. Gene 331: 159-164.
5. Zhan, X. and Desiderio, D.M. 2006. Nitroproteins from a human pituitary adenoma tissue discovered with a nitrotyrosine affinity column and tandem mass spectrometry. Anal. Biochem. 354: 279-289.
6. Cao, W., et al. 2006. Plasmacytoid dendritic cell-specific receptor ILT7-FcεRIγ inhibits Toll-like receptor-induced interferon production. J. Exp. Med. 203: 1399-1405.
7. Cho, M., et al. 2008. SAGE library screening reveals ILT7 as a specific plasmacytoid dendritic cell marker that regulates type I IFN production. Int. Immunol. 20: 155-164.


## CHROMOSOMAL LOCATION

Genetic locus: LILRA4 (human) mapping to 19q13.42.

## PRODUCT

ILT-7 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 ILT-7 shRNA Plasmid (h): sc-97217-SH and ILT-7 shRNA (h) Lentiviral Particles: sc-97217-V as alternate gene silencing products.

For independent verification of ILT-7 (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-97217A, sc-97217B and sc-97217C.

## 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

ILT-7 siRNA (h) is recommended for the inhibition of ILT-7 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

ILT (H-5): sc-515288 is recommended as a control antibody for monitoring of ILT-7 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 ILT-7 gene expression knockdown using RT-PCR Primer: ILT-7 (h)-PR: sc-97217-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.