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ILT-3 siRNA (h): sc-44997

BACKGROUND

Leukocyte immunoglobulin-like receptors (ILTs, also known as LIRs) are members of the immunoglobulin superfamily of glycoproteins and are predominantly expressed by monocytes, B cells, dendritic cells, natural killer (NK) cells, peripheral blood leukocytes and tissues such as placenta, lung and liver. ILT-3 (immunoglobulin-like transcript 3), also known as HM18, LIR5, CD85K, LIR-5, LILRB5 or LILRB4, is a 484 amino acid single-pass type I membrane protein that functions as an inhibitory receptor. ILT-3 is expressed on immune cells and binds to MHC class I molecules on antigen-presenting cells. ILT-3 transduces a negative signal that inhibits stimulation of an immune response and inhibits receptor-mediated phosphorylation of cellular proteins and mobilization of intracellular calcium ions. ILT-3 contains three cytoplasmic immunoreceptor tyrosine-based inhibitory motifs (ITIMs), which induce inhibitory signaling cascades.

REFERENCES

1. LeMaout, J., et al. 2005. HLA-G upregulates ILT-2, ILT-3, ILT-4, and KIR2DL4 in antigen presenting cells, NK cells, and T cells. *FASEB J.* 19: 662-664.
2. Kim-Schulze, S., et al. 2006. Regulation of ILT-3 gene expression by processing of precursor transcripts in human endothelial cells. *Am. J. Transplant.* 6: 76-82.
3. Suci-Foca, N. and Cortesini, R. 2007. Central role of ILT-3 in the T suppressor cell cascade. *Cell. Immunol.* 248: 59-67.
4. Colovai, A.I., et al. 2007. Expression of inhibitory receptor ILT-3 on neoplastic B cells is associated with lymphoid tissue involvement in chronic lymphocytic leukemia. *Cytometry B Clin. Cytom.* 72: 354-362.
5. Suci-Foca, N., et al. 2007. Soluble Ig-like transcript 3 inhibits tumor allograft rejection in humanized SCID mice and T cell responses in cancer patients. *J. Immunol.* 178: 7432-7441.
6. Cortesini, R. 2007. Pancreas cancer and the role of soluble immunoglobulin-like transcript 3 (ILT-3). *JOP* 8: 697-703.

CHROMOSOMAL LOCATION

Genetic locus: LILRB4 (human) mapping to 19q13.42.

PRODUCT

ILT-3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ILT-3 shRNA Plasmid (h): sc-44997-SH and ILT-3 shRNA (h) Lentiviral Particles: sc-44997-V as alternate gene silencing products.

For independent verification of ILT-3 (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-44997A, sc-44997B and sc-44997C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ILT-3 siRNA (h) is recommended for the inhibition of ILT-3 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 μ M in 66 μ l. 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-3 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-3 gene expression knockdown using RT-PCR Primer: ILT-3 (h)-PR: sc-44997-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.