

IL-18R siRNA (h): sc-45285

BACKGROUND

Interleukin-18 (IL-18) has been identified as a molecule that induces IFN- γ production and enhances NK cell cytotoxicity. IL-18 receptor (IL-18R) is a type I membrane protein present in lung, leukocytes, spleen, liver, thymus, prostate, small intestine, colon, placenta and heart, while absent from brain, skeletal muscle, pancreas and kidney. IL-18R is present in Hodgkin's disease cell lines, and does not bind IL-1 α or IL-1 β . The association of IL-18 to IL-18R leads to activation of NF κ B. At present two subunits of IL-18R have been characterized: IL-18R α and IL-18R β . IL-18R α has been described as the ligand-binding chain and IL-18R β as the signal-transduction chain.

REFERENCES

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4. Zhou, Y., Yamaguchi, E., Fukui, Y., Konno, S., Maeda, Y., Kimata, K. and Nishimura, M. 2005. Enhanced expression of interleukin-18 receptor α chain by CD4⁺ T cells in sarcoidosis. *Chest* 128: 2497-2503.
5. Krasna, E., Kolesár, L., Slavcev, A., Valhová, S., Kronosová, B., Jaresová, M. and Stríz, I. 2005. IL-18 receptor expression on epithelial cells is upregulated by TNF α . *Inflammation* 29: 33-37.
6. Asakawa, M., Kono, H., Amemiya, H., Matsuda, M., Suzuki, T., Maki, A. and Fujii, H. 2006. Role of interleukin-18 and its receptor in hepatocellular carcinoma associated with hepatitis C virus infection. *Int. J. Cancer* 118: 564-570.

CHROMOSOMAL LOCATION

Genetic locus: IL18R1 (human) mapping to 2q12.1.

PRODUCT

IL-18R 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 IL-18R shRNA Plasmid (h): sc-45285-SH and IL-18R shRNA (h) Lentiviral Particles: sc-45285-V as alternate gene silencing products.

For independent verification of IL-18R (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-45285A, sc-45285B and sc-45285C.

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

IL-18R siRNA (h) is recommended for the inhibition of IL-18R 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IL-18R gene expression knockdown using RT-PCR Primer: IL-18R (h)-PR: sc-45285-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Mo, C., Dai, Y., Kang, N., Cui, L. and He, W. 2012. Ectopic expression of human MutS homologue 2 on renal carcinoma cells is induced by oxidative stress with interleukin-18 promotion via p38 mitogen-activated protein kinase (MAPK) and c-Jun N-terminal kinase (JNK) signaling pathways. *J. Biol. Chem.* 287: 19242-19254.

PROTOCOLS

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