

## IL-18R siRNA (m): sc-45286

### BACKGROUND

Interleukin-18 (IL-18) has been identified as a molecule that induces IFN- $\gamma$  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, and absent from brain, skeletal muscle, pancreas and kidney. IL-18R is present in Hodgkin's disease cell lines, and does not bind IL-1 $\alpha$  or IL-1 $\beta$ . The association of IL-18 to IL-18R leads to activation of NF $\kappa$ B. At present two subunits of IL-18R have been characterized: IL-18R $\alpha$  and IL-18R $\beta$ . IL-18R $\alpha$  has been described as the ligand-binding chain and IL-18R $\beta$  as the signal-transduction chain.

### REFERENCES

1. Torigoe, K., Ushio, S., Okura, T., Kobayashi, S., Tanai, M., Kunikata, T., Murakami, T., Sanou, O., Kojima, H., Fujii, M., Ohta, T., Ikeda, M., Ikegami, H. and Kurimoto, M. 1997. Purification and characterization of the human interleukin-18 receptor. *J. Biol. Chem.* 272: 25737-25742.
2. Strand, M.L., Wahlgren, A., Svechnikov, K., Zetterström, C., Setchell, B.P. and Söder, O. 2005. Interleukin-18 is expressed in rat testis and may promote germ cell growth. *Mol. Cell. Endocrinol.* 240: 64-73.
3. Vermot-Desroches, C., Subiger, O., Guenot, F., Sergent, E., Bonnin, B. and Wijdenes, J. 2005. Monoclonal antibodies specific for the IL-18 receptor. *Cell. Immunol.* 236: 101-104.
4. Zhou, Y., Yamaguchi, E., Fukui, Y., Konno, S., Maeda, Y., Kimata, K. and Nishimura, M. 2005. Enhanced expression of interleukin-18 receptor  $\alpha$  chain by CD4<sup>+</sup> 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 $\alpha$ . *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 (mouse) mapping to 1 B.

### PRODUCT

IL-18R siRNA (m) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IL-18R shRNA Plasmid (m): sc-45286-SH and IL-18R shRNA (m) Lentiviral Particles: sc-45286-V as alternate gene silencing products.

For independent verification of IL-18R (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-45286A, sc-45286B and sc-45286C.

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

### APPLICATIONS

IL-18R siRNA (m) is recommended for the inhibition of IL-18R expression in mouse 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  $\mu$ M in 66  $\mu$ 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

IL-18R (DB08): sc-80051 is recommended as a control antibody for monitoring of IL-18R 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 IL-18R gene expression knockdown using RT-PCR Primer: IL-18R (m)-PR: sc-45286-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.