

IL-8RA siRNA (m): sc-40027

BACKGROUND

IL-8 has been shown to function as a potent neutrophil chemostatic and activating peptide and is an important mediator of inflammatory diseases. Two distinct human IL-8 receptors, designated IL-8RA and IL-8RB have been characterized. Both are expressed at a high level on neutrophils and to a lesser extent on monocytes and myeloid cell lines. In addition, the IL-8RA subunit is expressed in T cells such as the Jurkat cell line. Both IL-8Rs are members of the seven-transmembrane domain rhodopsin superfamily of receptors and as such, couple G proteins for signal transduction. The two receptors share 77% amino acid identity. IL-8RA exhibits high-affinity binding for IL-8 and low-affinity MGSA binding, whereas IL-8RB has high-affinity binding for both IL-8 and MGSA.

REFERENCES

1. Holmes, W.E., et al. 1991. Structure and functional expression of a human interleukin-8 receptor. *Science* 253: 1278-1280.
2. Murphy, P.M. and Tiffany, H.L. 1991. Cloning of complementary DNA encoding a functional human interleukin-8 receptor. *Science* 253: 1280-1283.
3. Koch, A.E., et al. 1992. Interleukin-8 as a macrophage-derived mediator of angiogenesis. *Science* 258: 1789-1801.
4. Lee, J., et al. 1992. Characterization of two high affinity human interleukin-8 receptors. *J. Biol. Chem.* 267: 16283-16287.
5. Hebert, C.A. and Baker, J.B. 1993. Interleukin-8: a review. *Cancer Invest.* 11: 743-750.
6. Kupper, R.W., et al. 1993. G protein activation by IL-8 and related cytokines in human neutrophil plasma membranes. *Biochem. J.* 282: 429-434.
7. Moser, B., et al. 1993. Expression of transcripts for two interleukin 8 receptors in human phagocytes, lymphocytes and melanoma cells. *Biochem. J.* 294: 285-292.
8. Barnett, M.L., et al. 1993. Characterization of interleukin-8 receptors in human neutrophil membranes: regulation by guanine nucleotides. *Biochem. Biophys. Acta* 1177: 275-282.

CHROMOSOMAL LOCATION

Genetic locus: *Cxcr1* (mouse) mapping to 1 C3.

PRODUCT

IL-8RA 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IL-8RA shRNA Plasmid (m): sc-40027-SH and IL-8RA shRNA (m) Lentiviral Particles: sc-40027-V as alternate gene silencing products.

For independent verification of IL-8RA (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-40027A, sc-40027B and sc-40027C.

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-8RA siRNA (m) is recommended for the inhibition of IL-8RA 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 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-8RA gene expression knockdown using RT-PCR Primer: IL-8RA (m)-PR: sc-40027-PR (20 μ l). 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.