

IL-8RB siRNA (h): sc-40028

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

- Holmes, W.E., et al. 1991. Structure and functional expression of a human interleukin-8 receptor. *Science* 253: 1278-1280.
- Murphy, P.M., et al. 1991. Cloning of complementary DNA encoding a functional human interleukin-8 receptor. *Science* 253: 1280-1283.
- Lee, J., et al. 1992. Characterization of two high affinity human interleukin-8 receptors. *J. Biol. Chem.* 267: 16283-16287.
- Koch, A.E., et al. 1992. Interleukin-8 as a macrophage-derived mediator of angiogenesis. *Science* 258: 1789-1801.
- Hébert, C.A., et al. 1993. Interleukin-8: a review. *Cancer Invest.* 11: 743-750.
- Kupper, R.W., et al. 1993. G protein activation by interleukin 8 and related cytokines in human neutrophil plasma membranes. *Biochem. J.* 282: 429-434.

CHROMOSOMAL LOCATION

Genetic locus: CXCR2 (human) mapping to 2q35.

PRODUCT

IL-8RB 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-8RB shRNA Plasmid (h): sc-40028-SH and IL-8RB shRNA (h) Lentiviral Particles: sc-40028-V as alternate gene silencing products.

For independent verification of IL-8RB (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-40028A, sc-40028B and sc-40028C.

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-8RB siRNA (h) is recommended for the inhibition of IL-8RB 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

IL-8RB (E-2): sc-7304 is recommended as a control antibody for monitoring of IL-8RB 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 λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-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 λ BP-FITC: sc-516185 or m-IgG λ BP-PE: sc-516186 (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 IL-8RB gene expression knockdown using RT-PCR Primer: IL-8RB (h)-PR: sc-40028-PR (20 μ l, 536 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Al-Alwan, L.A., et al. 2013. Differential roles of CXCL2 and CXCL3 and their receptors in regulating normal and asthmatic airway smooth muscle cell migration. *J. Immunol.* 191: 2731-2741.
- Al-Alwan, L.A., et al. 2014. CXCL1 inhibits airway smooth muscle cell migration through the decoy receptor Duffy antigen receptor for chemokines. *J. Immunol.* 193: 1416-1426.
- Hosono, M., et al. 2017. CXCL8 derived from tumor-associated macrophages and esophageal squamous cell carcinomas contributes to tumor progression by promoting migration and invasion of cancer cells. *Oncotarget* 8: 106071-106088.

RESEARCH USE

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