

CKR-8 siRNA (h): sc-39890

BACKGROUND

C-C or b chemokine family members are characterized by a pair of adjacent cysteine residues and serve as potent chemoattractants and activators of monocytes and T cells. C-C chemokine receptor family members include CKR-1, CKR-2A, CKR-2B, CKR-3, CKR-4, CKR-5, CKR-6, CKR-7, CKR-8, CKR-9, CKR-10 and the Duffy blood group antigen. Each of these receptors are G protein-coupled, seven pass transmembrane domain proteins, whose major physiological role is to function in the chemotaxis of T cells and phagocytic cells to areas of inflammation. CKR-8 is expressed on monocytes and type 2 T lymphocytes that are found in lymphoid tissues, such as thymus, spleen and lymph nodes. CKR-8 is a receptor for I-309 and the monocyte inflammatory protein-1 (vMIP-I) and is thought to mediate the activation, migration and proliferation of lymphoid cells. CKR-9, also designated GPR-9-6, is a receptor for the thymus expressed chemokine TECK. CKR-9 and TECK are thought to have a specialized role in the immune response because both are highly expressed by T lymphocytes in the small intestine, while T lymphocytes in several other tissues are CKR-9/TECK negative.

REFERENCES

1. Deng, H., et al. 1996. Identification of a major co-receptor for primary isolates of HIV-1. *Nature* 381: 661-666.
2. Dragic, T., et al. 1996. HIV-1 entry into CD4⁺ cells is mediated by the chemokine receptor C-C-CKR-5. *Nature* 381: 667-673.
3. Feng, Y., et al. 1996. HIV-1 entry co-factor: functional cDNA cloning of a seven-transmembrane, G protein-coupled receptor. *Science* 272: 872-877.
4. Alkhatib, G., et al. 1996. C-C CKR-5: a RANTES, MIP-1, MIP-1 receptor as a fusion cofactor for macrophage-tropic HIV-1. *Science* 272: 1955-1958.
5. Choe, H., et al. 1996. The b-chemokine receptors CCR3 and CCR5 facilitate infection by primary HIV-1 isolates. *Cell* 85: 1135-1148.
6. Bernardini, G., et al. 1998. Identification of the C-C chemokine TARC and macrophage inflammatory protein-1 β as novel functional ligands for the CCR8 receptor. *Eur. J. Immunol.* 28: 582-588.
7. Napolitano, M. and Santoni, A. 1999. Structure and function of the C-C chemokine receptor (CCR) 8. *Forum* 9: 315-324.
8. Kunkel, E.J., et al. 2000. Lymphocyte C-C chemokine receptor 9 and epithelial thymus-expressed chemokine (TECK) expression distinguish the small intestinal immune compartment: epithelial expression of tissue-specific chemokines as an organizing principle in regional immunity. *J. Exp. Med.* 192: 761-768.
9. Papadakis, K.A., et al. 2000. The role of thymus-expressed chemokine and its receptor CCR9 on lymphocytes in the regional specialization of the mucosal immune system. *J. Immunol.* 165: 5069-5076.

CHROMOSOMAL LOCATION

Genetic locus: CCR8 (human) mapping to 3p22.2.

PROTOCOLS

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

PRODUCT

CKR-8 siRNA (h) is a pool of 2 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 CKR-8 shRNA Plasmid (h): sc-39890-SH and CKR-8 shRNA (h) Lentiviral Particles: sc-39890-V as alternate gene silencing products.

For independent verification of CKR-8 (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-39890A and sc-39890B.

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

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

CKR-8 (Z-12): sc-73847 is recommended as a control antibody for monitoring of CKR-8 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 CKR-8 gene expression knockdown using RT-PCR Primer: CKR-8 (h)-PR: sc-39890-PR (20 μ l, 524 bp). 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.