

# CKR-1 siRNA (h): sc-39880

## BACKGROUND

C-C or  $\beta$  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. However, this receptor family has also been shown to facilitate viral infection. CKR-1 (C-C chemokine receptor type 1), also known as CMKBR1, CMKR1, SCYAR1, or HM145, is a 355 amino acid member of the C-C chemokine receptor family. Localized to the cell membrane, CKR-1 is widely expressed and functions as a receptor for proteins such as MIP-1 $\alpha$  and MIP-1 $\delta$ , thereby influencing intracellular calcium levels and affecting signal transduction throughout the cell. Additionally, CKR-1 plays an important role in stem cell proliferation.

## REFERENCES

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2. Deng, H., et al. 1996. Identification of a major coreceptor for primary isolates of HIV-1. *Nature* 381: 661-666.
3. Dragic, T., et al. 1996. HIV-1 entry into CD4<sup>+</sup> cells is mediated by the chemokine receptor C-C CKR-5. *Nature* 381: 667-673.
4. Feng, Y., et al. 1996. HIV-1 entry cofactor: functional cDNA cloning of a seven-transmembrane, G protein-coupled receptor. *Science* 272: 872-877.
5. Alkhatib, G., et al. 1996. C-C CKR-5: a RANTES, MIP-1 $\alpha$ , MIP-1 $\beta$  receptor as a fusion cofactor for macrophagetropic HIV-1. *Science* 272: 1955-1958.
6. Choe, H., et al. 1996. The  $\beta$ -chemokine receptors CCR3 and CCR5 facilitate infection by primary HIV-1 isolates. *Cell* 85: 1135-1148.
7. Doranz, B.J., et al. 1996. A dual-tropic primary HIV-1 isolate that uses fusin and the  $\beta$ -chemokine receptors CKR-5, CKR-3, and CKR-2b as fusion cofactors. *Cell* 85: 1149-1158.
8. Baba, M., et al. 1997. Identification of CCR6, the specific receptor for a novel lymphocyte-directed CC chemokine LARC. *J. Biol. Chem.* 272: 14893-14898.

## CHROMOSOMAL LOCATION

Genetic locus: CCR1 (human) mapping to 3p21.31.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

CKR-1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CKR-1 shRNA Plasmid (h): sc-39880-SH and CKR-1 shRNA (h) Lentiviral Particles: sc-39880-V as alternate gene silencing products.

For independent verification of CKR-1 (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-39880A, sc-39880B and sc-39880C.

## 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

CKR-1 siRNA (h) is recommended for the inhibition of CKR-1 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  $\mu$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CKR-1 gene expression knockdown using RT-PCR Primer: CKR-1 (h)-PR: sc-39880-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.