



CKR-2 siRNA (m): sc-44766

BACKGROUND

C-C or β 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-2 (C-C chemokine receptor type 2) is a 374 amino acid multi-pass membrane protein that belongs to the C-C chemokine receptor family and is expressed as two isoforms, designated CKR-2A and CKR-2B. Both CKR-2 isoforms function as receptors for a variety of proteins, including MCP-1 and MCP-3, thereby influencing intracellular calcium levels and affecting signal transduction throughout the cell.

REFERENCES

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- Deng, H., et al. 1996. Identification of a major co-receptor for primary isolates of HIV-1. *Nature* 381: 661-666.
- Dragic, T., et al. 1996. HIV-1 entry into CD4⁺ cells is mediated by the chemokine receptor CC-CKR-5. *Nature* 381: 667-673.
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- Doranz, B.J., et al. 1996. A dual-tropic primary HIV-1 isolate that uses fusin and the β chemokine receptors CKR-5, CKR-3, and CKR-2B as fusion cofactors. *Cell* 85: 1149-1158.
- Baba, M., et al. 1997. Identification of CCR6, the specific receptor for a novel lymphocyte-directed C-C chemokine LARC. *J. Biol. Chem.* 272: 14893-14898.

CHROMOSOMAL LOCATION

Genetic locus: Ccr2 (mouse) mapping to 9 F4.

PRODUCT

CKR-2 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 CKR-2 shRNA Plasmid (m): sc-44766-SH and CKR-2 shRNA (m) Lentiviral Particles: sc-44766-V as alternate gene silencing products.

For independent verification of CKR-2 (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-44766A, sc-44766B and sc-44766C.

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-2 siRNA (m) is recommended for the inhibition of CKR-2 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 CKR-2 gene expression knockdown using RT-PCR Primer: CKR-2 (m)-PR: sc-44766-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Chang, T.T., et al. 2021. A novel resolution of diabetes: C-C chemokine motif ligand 4 is a common target in different types of diabetes by protecting pancreatic islet cell and modulating inflammation. *Front. Immunol.* 12: 650626.
- Fang, W.B., et al. 2012. CCL2/CCR2 chemokine signaling coordinates survival and motility of breast cancer cells through Smad3 protein- and p42/44 mitogen-activated protein kinase (MAPK)-dependent mechanisms. *J. Biol. Chem.* 287: 36593-36608.

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.