SANTA CRUZ BIOTECHNOLOGY, INC.

CKR-1 siRNA (m): sc-39881

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-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-1α and MIP-1δ, thereby influencing intracellular calcium levels and affecting signal transduction throughout the cell. Additionally, CKR-1 plays an important role in stem cell proliferation.

REFERENCES

1. Schweickart, V.L., et al. 1994. Cloning of human and mouse EBI1, a lymphoid-specific G protein-coupled receptor encoded on human chromosome 17q12-q21.2. Genomics 23: 643-650.
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+ 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-1α, MIP-1β receptor as a fusion cofactor for macrophagetropic HIV-1. Science 272: 1955-1958.
6. Choe, H., et al. 1996. The β-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 β-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 (mouse) mapping to 9 F4.

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.

PRODUCT

CKR-1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CKR-1 shRNA Plasmid (m): sc-39881-SH and CKR-1 shRNA (m) Lentiviral Particles: sc-39881-V as alternate gene silencing products.

For independent verification of CKR-1 (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-39881A, sc-39881B and sc-39881C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CKR-1 siRNA (m) is recommended for the inhibition of CKR-1 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 µM in 66 µl. 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 (m)-PR: sc-39881-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.