



CCRL2 shRNA Plasmid (h): sc-77982-SH

BACKGROUND

CCRL2 (C-C chemokine receptor-like 2), also known as chemokine receptor X, human chemokine receptor (HCR), CRAM-A or CRAM-B, is a seven pass transmembrane protein expressed by monocytes, neutrophils, and dendritic cells of immunal tissues (predominantly spleen, fetal liver, bone marrow and lymph node). It shares over 40% homology with other C-C chemokine receptors but does not share the conserved DRY motif which is among the important motifs necessary for signalling and ligand-binding. C-C chemokine 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. CCRL2 responds to inflammatory chemokines and is upregulated in cells stimulated with lipopolysaccharide (LPS). It may function as a receptor for CCL2, CCL5, CCL7 and CCL8. In addition, CCRL2 may be involved in the pathogenesis of rheumatoid arthritis (RA).

REFERENCES

1. Fan, P., Kyaw, H., Su, K., Zeng, Z., Augustus, M., Carter, K.C. and Li, Y. 1998. Cloning and characterization of a novel human chemokine receptor. *Biochem. Biophys. Res. Commun.* 243: 264-268.
2. Margulies, B.J., Hauer, D.A. and Clements, J.E. 2001. Identification and comparison of eleven rhesus macaque chemokine receptors. *AIDS Res. Hum. Retroviruses* 17: 981-986.
3. Migeotte, I., Franssen, J.D., Goriely, S., Willems, F. and Parmentier, M. 2002. Distribution and regulation of expression of the putative human chemokine receptor HCR in leukocyte populations. *Eur. J. Immunol.* 32: 494-501.
4. Biber, K., Zuurman, M.W., Homan, H. and Boddeke, H.W. 2003. Expression of L-CCR in HEK 293 cells reveals functional responses to CCL2, CCL5, CCL7, and CCL8. *J. Leukoc. Biol.* 74: 243-251.
5. Galligan, C.L., Matsuyama, W., Matsukawa, A., Mizuta, H., Hodge, D.R., Howard, O.M. and Yoshimura, T. 2004. Up-regulated expression and activation of the 2004. Up-regulated expression and activation of the orphan chemokine receptor, CCRL2, in rheumatoid arthritis. *Arthritis Rheum.* 50: 1806-1814.
6. Sozzani, S. 2005. Dendritic cell trafficking: more than just chemokines. *Cytokine Growth Factor Rev.* 16: 581-592.
7. Locati, M., Torre, Y.M., Galliera, E., Bonecchi, R., Bodduluri, H., Vago, G., Vecchi, A. and Mantovani, A. 2005. Silent chemoattractant receptors: D6 as a decoy and scavenger receptor for inflammatory CC chemokines. *Cytokine Growth Factor Rev.* 16: 679-686.
8. Thio, C.L., Astemborski, J., Bashirova, A., Mosbrugger, T., Greer, S., Witt, M.D., Goedert, J.J., Hilgartner, M., Majeske, A., O'Brien, S.J., Thomas, D.L. and Carrington, M. 2006. Genetic protection against hepatitis B virus conferred by CCR5Δ32: evidence that CCR5 contributes to viral persistence. *J. Virol.* 81: 441-445.
9. Mantovani, A., Bonecchi, R. and Locati, M. 2006. Tuning inflammation and immunity by chemokine sequestration: decoys and more. *Nat. Rev. Immunol.* 6: 907-918.

CHROMOSOMAL LOCATION

Genetic locus: CCRL2 (human) mapping to 3p21.31.

PRODUCT

CCRL2 shRNA Plasmid (h) is a target-specific lentiviral vector plasmid encoding a 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each plasmid contains a puromycin resistance gene for the selection of cells stably expressing shRNA. Each vial contains 20 µg of lyophilized shRNA plasmid DNA. Suitable for up to 20 transfections. Also see CCRL2 siRNA (h): sc-77982 and CCRL2 shRNA (h) Lentiviral Particles: sc-77982-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized shRNA plasmid DNA at 4° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at 4° C for short term storage or -80° C for long term storage. Avoid repeated freeze thaw cycles.

Resuspend lyophilized shRNA plasmid DNA in 200 µl of the deionized water provided. Resuspension of the shRNA plasmid DNA in 200 µl of deionized water makes a 0.1 µg/µl solution in a 10 mM Tris, 1 mM EDTA buffered solution.

APPLICATIONS

CCRL2 shRNA Plasmid (h) is recommended for the inhibition of CCRL2 expression in human cells.

SUPPORT REAGENTS

For optimal shRNA Plasmid transfection efficiency, Santa Cruz Biotechnology's shRNA Plasmid Transfection Reagent: sc-108061 (0.2 ml) and shRNA Plasmid Transfection Medium: sc-108062 (20 ml) are recommended. Control shRNAs are available as 20 µg lyophilized plasmid DNA. Each encodes a scrambled shRNA sequence that will not lead to the specific degradation of any known cellular mRNA. Control shRNA Plasmids include: sc-108060, sc-108065 and sc-108066.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CCRL2 gene expression knockdown using RT-PCR Primer: CCRL2 (h)-PR: sc-77982-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.