

ChemR23 siRNA (h): sc-44633

BACKGROUND

The C-X3-C chemokine family is characterized by two cysteines separated by three amino acid residues. Fractalkine is a member of this chemokine family that binds CX3CR1, previously named V28, and chemokine β receptor-like 1 (CMKBL1) with high affinity, to induce either leukocyte adhesion and migration or chemotactic functions. CX3CR1 functions with CD4 as a co-receptor for the HIV-1 virus envelope protein, and patients homozygous for a variant haplotype of CX3CR1 progress to AIDS more rapidly than those with other haplotypes. Chemokine receptor-like 1 (also designated G protein-coupled receptor DEZ or ChemR23) belongs to the G protein-coupled receptor 1 family. It is an integral membrane protein functioning as a receptor, possibly a chemotactic peptide receptor. It also acts as a co-receptor for various SIV strains and for a primary HIV-1 strain. ChemR23 is highly expressed in developing osseous and cartilaginous tissue, brain, kidney, gastrointestinal tissues and myeloid tissue, as well as in adult parathyroid glands.

REFERENCES

1. Samson, M., et al. 1998. ChemR23, a putative chemoattractant receptor, is expressed in monocyte-derived dendritic cells and macrophages and is a co-receptor for SIV and some primary HIV-1 strains. *Eur. J. Immunol.* 28: 1689-1700.
2. Meder, W., et al. 2003. Characterization of human circulating TIG2 as a ligand for the orphan receptor ChemR23. *FEBS Lett.* 555: 495-499.
3. Hillman, R.T., et al. 2004. An unappreciated role for RNA surveillance. *Genome Biol.* 5: R8.

CHROMOSOMAL LOCATION

Genetic locus: CMKLR1 (human) mapping to 12q23.3.

PRODUCT

ChemR23 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ChemR23 shRNA Plasmid (h): sc-44633-SH and ChemR23 shRNA (h) Lentiviral Particles: sc-44633-V as alternate gene silencing products.

For independent verification of ChemR23 (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-44633A, sc-44633B and sc-44633C.

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

ChemR23 siRNA (h) is recommended for the inhibition of ChemR23 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

ChemR23 (H-6): sc-398769 is recommended as a control antibody for monitoring of ChemR23 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ChemR23 gene expression knockdown using RT-PCR Primer: ChemR23 (h)-PR: sc-44633-PR (20 μ l, 587 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wang, Y., et al. 2018. Chemerin/ChemR23 axis triggers an inflammatory response in keratinocytes through ROS-SIRT1-NF κ B signaling. *J. Cell. Biochem.* 120: 6459-6470.
2. Rennie, K.R., et al. 2020. Chemerin reactivates PTEN and suppresses PD-L1 in tumor cells via modulation of a novel CMKLR1-mediated signaling cascade. *Clin. Cancer Res.* 26: 5019-5035.

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.