

CCL14 siRNA (h): sc-45580

BACKGROUND

Chemokines are members of a superfamily of inducible, secreted, pro-inflammatory cytokines. Members of the chemokine family exhibit 20 to 50% homology in their predicted amino acid sequences and are divided into 4 subfamilies. CCL14 belongs to the intercrine β (chemokine C-C) family. CCL14 has weak activities on human monocytes and acts via receptors that also recognize MIP-1 α . CCL14 also enhances the proliferation of CD34 myeloid progenitor cells. The processed form of CCL14, designated HCC-1(9-74), is a chemotactic factor that attracts monocytes, eosinophils and T cells and is a ligand for CCR1, CCR3 and CCR5. Various membrane-associated and soluble proteases selectively cleave specific chemokines. Precursor plasma chemokines (CXCL7, CCL14) need to be proteolytically processed to obtain receptor affinity.

REFERENCES

1. Munch, J., et al. 2002. Hemofiltrate CC chemokine 1[9-74] causes effective internalization of CCR5 and is a potent inhibitor of R5-tropic human immunodeficiency virus type 1 strains in primary T cells and macrophages. *Antimicrob. Agents Chemother.* 46: 982-990.
2. Forssmann, U., et al. 2004. N-nonanoyl-CC chemokine ligand 14, a potent CC chemokine ligand 14 analogue that prevents the recruitment of eosinophils in allergic airway inflammation. *J. Immunol.* 173: 3456-3466.
3. Shen, Y., et al. 2004. Distinct gene expression profiles in different B-cell compartments in human peripheral lymphoid organs. *BMC Immunol.* 5: 20.
4. Van Damme, J., et al. 2004. Chemokine-protease interactions in cancer. *Semin. Cancer Biol.* 14: 201-208.

CHROMOSOMAL LOCATION

Genetic locus: CCL14 (human) mapping to 17q12.

PRODUCT

CCL14 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 CCL14 shRNA Plasmid (h): sc-45580-SH and CCL14 shRNA (h) Lentiviral Particles: sc-45580-V as alternate gene silencing products.

For independent verification of CCL14 (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-45580A, sc-45580B and sc-45580C.

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

CCL14 siRNA (h) is recommended for the inhibition of CCL14 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

CCL14 (E-12): sc-376152 is recommended as a control antibody for monitoring of CCL14 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 CCL14 gene expression knockdown using RT-PCR Primer: CCL14 (h)-PR: sc-45580-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

1. Chai, Z.T., et al. 2021. AXL overexpression in tumor-derived endothelial cells promotes vessel metastasis in patients with hepatocellular carcinoma. *Front. Oncol.* 11: 650963.

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.