SANTA CRUZ BIOTECHNOLOGY, INC.

CCL23 siRNA (h): sc-45634

BACKGROUND

Small inducible Cytokine A23 precursor (CCL23), or CK-β-8, is a chemokine that binds to the receptor CCR1. It is involved in the immune response and inhibits production of polymorphonuclear leukocytes (PMNs) and monocytes in bone marrow. In addition, CCL23 has a splice variant, CK-β-8-1, and both variants chemoattract lymphocytes, monoctyes and neutrophils. CCL23 also promotes angiogenesis and endothelial cell migration via its actions on the CCR1 receptor. Proinflammatory proteases cleave an N-terminal domain of CCL23, improving the potency of its CCR1-mediated signaling up to 1000-fold *in vitro*. N-truncated CCL23 is found in high levels in synovial fluids of rheumatoid arthritis patients, suggesting a role of protease release during an inflammatory response. High levels of CCL23 mRNA expression occur in human fetal bone osteoblasts and chondrocytes, indicating a possible role for CCL23 in the recruitment of osteoclast precursors to the sites of bone reabsorption.

REFERENCES

1. Youn, B.S., et al. 1998. Characterization of CK-β-8 and CK-β-8-1: two alternatively spliced forms of human β-chemokine, chemoattractants for neutrophils, monocytes, and lymphocytes, and potent agonists at CC chemokine receptor 1. Blood 91: 3118-3126.
2. Votta, B.J., et al. 2000. CK-β-8 [CCL23], a novel CC chemokine, is chemotactic for human osteoclast precursors and is expressed in bone tissues. J. Cell. Physiol. 183: 196-207.
3. Clark, V.J., et al. 2004. Haplotype structure and linkage disequilibrium in chemokine and chemokine receptor genes. Hum. Genomics 1: 255-273.
4. Shih, C.H., et al. 2005. CCL23/myeloid progenitor inhibitory factor-1 inhibits production and release of polymorphonuclear leukocytes and monocytes from the bone marrow. Exp. Hematol. 33: 1101-1108.
5. Hwang, J., et al. 2005. Human CC chemokine CCL23, a ligand for CCR1, induces endothelial cell migration and promotes angiogenesis. Cytokine 30: 254-263.
6. Berahovich, R.D., et al. 2005. Proteolytic activation of alternative CCR1 ligands in inflammation. J. Immunol. 174: 7341-7351.

CHROMOSOMAL LOCATION

Genetic locus: CCL23 (human) mapping to 17q12.

PRODUCT

CCL23 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CCL23 shRNA Plasmid (h): sc-45634-SH and CCL23 shRNA (h) Lentiviral Particles: sc-45634-V as alternate gene silencing products.

For independent verification of CCL23 (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-45634A, sc-45634B and sc-45634C.

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

CCL23 siRNA (h) is recommended for the inhibition of CCL23 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 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.

GENE EXPRESSION MONITORING

CCL23 (H-2): sc-393897 is recommended as a control antibody for monitoring of CCL23 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 CCL23 gene expression knockdown using RT-PCR Primer: CCL23 (h)-PR: sc-45634-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.