SANTA CRUZ BIOTECHNOLOGY, INC.

MIP-1γ siRNA (m): sc-62618

BACKGROUND

Chemokines are members of a superfamily of small 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 four subfamilies. In C-C (or β) subfamily, the first two cysteines are adjacent. C-C chemokines are chemoattractants and activators for monocytes and T cells. C-C subfamily members include macrophage inflammatory protein (MIP)-1α, MIP-1β, MIP-1γ, MIP-2, MIP-3α, MIP-3β, MIP-4, HCC-1, MIP-5 (or HCC-2), RANTES, MCP-1/2/3 (and the murine homologs JE and MARC), I-309, murine C10 and TCA3. MIP-1γ is strongly expressed in osteoclasts where it stimulates cytoplasmic motility and polarization through the chemokine receptor, CKR-1. This suggests that MIP-1γ may play an important role in the survival and differention of osteoclasts and the regulation of bone resorption. Expression of MIP-1γ in osteoclasts is induced by RANKL.

REFERENCES

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4. Chen, D., et al. 2003. Viral IL-10 gene transfer inhibits the expression of multiple chemokine and chemokine receptor genes induced by inflammatory or adaptive immune stimuli. Am. J. Transplant. 3: 1538-1549.
5. Okamatsu, Y., et al. 2004. MIP-1γ promotes receptor-activator-of-NFκB-ligand-induced osteoclast formation and survival. J. Immunol. 173: 2084-2090.
6. Maurer, M. and von Stebut, E. 2004. Macrophage inflammatory protein-1. Int. J. Biochem. Cell Biol. 36: 1882-1886.
7. Hernandez-Hansen, V., et al. 2005. Increased expression of genes linked to FcεRI signaling and to cytokine and chemokine production in Lyn-deficient mast cells. J. Immunol. 175: 7880-7888.
8. Klein, M., et al. 2006. Protein expression pattern in experimental pneumococcal meningitis. Microbes Infect. 8: 974-983.
9. Yang, M., et al. 2006. Chemokine and chemokine receptor expression during colony stimulating factor-1-induced osteoclast differentiation in the toothless osteopetrotic rat: a key role for CCL9 (MIP-1γ) in osteoclastogenesis *in vivo* and *in vitro*. Blood 107: 2262-2270.

CHROMOSOMAL LOCATION

Genetic locus: Ccl9 (mouse) mapping to 11 C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

MIP-1γ 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 MIP-1γ shRNA Plasmid (m): sc-62618-SH and MIP-1γ shRNA (m) Lentiviral Particles: sc-62618-V as alternate gene silencing products.

For independent verification of MIP-1γ (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-62618A, sc-62618B and sc-62618C.

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

MIP-1γ siRNA (m) is recommended for the inhibition of MIP-1γ 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.

GENE EXPRESSION MONITORING

MIP-1γ (X-18): sc-74228 is recommended as a control antibody for monitoring of MIP-1γ 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MIP-1γ gene expression knockdown using RT-PCR Primer: MIP-1γ (m)-PR: sc-62618-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.