SANTA CRUZ BIOTECHNOLOGY, INC.

MDC siRNA (h): sc-39359

BACKGROUND

Chemokines have been implicated in the regulation of stem/progenitor cell proliferation and movement. The C-C chemokines TARC (for thymus and activation-regulated chemokine, also designated small inducible cytokine A17) and MDC (for macrophage-derived chemokine, also designated small induc-ible cytokine A22 or STCP-1, for stimulated T cell chemotactic protein 1), are expressed in the thymus and spleen. C-C chemokine receptor CCR4, expressed by T helper type 2 polarized cells, is a high affinity receptor for both TARC and MDC. TARC is important in the recognition of skin vasculature by circulating T cells and in directing lymphocytes that are involved in systemic as opposed to intestinal immunity to its target tissues. MDC is involved in chronic inflammation and dendritic cell and lymphocyte homing. MDC and TARC lack suppressive activity against immature subsets of myeloid progeni-tors, which have been stimulated to proliferate by multiple growth factors.

REFERENCES

1. Broxmeyer, H.E., et al. 1999. Effects of C-C, C-X-C, C and CX3C chemokines on proliferation of myeloid progenitor cells, and insights into SDF-1-induced chemotaxis of progenitors. Ann. N.Y. Acad. Sci. 872: 142-162.
2. Campbell, J.J., et al. 1999. The chemokine receptor CCR4 in vascular recognition by cutaneous but not intestinal memory T cells. Nature 400: 776-780.
3. Chvatchko, Y., et al. 2000. A key role for C-C chemokine receptor 4 in lipopolysaccharide-induced endotoxic shock. J. Exp. Med. 191: 1755-1764.
4. Matsukawa, A., et al. 2000. Pivotal role of the C-C chemokine, macrophage-derived chemokine, in the innate immune response. J. Immunol. 164: 5362-5368.
5. Galli, G., et al. 2000. Macrophage-derived chemokine production by activated human T cells *in vitro* and *in vivo:* preferential association with the production of type 2 cytokines. Eur. J. Immunol. 30: 204-210.

CHROMOSOMAL LOCATION

Genetic locus: CCL22 (human) mapping to 16q13.

PRODUCT

MDC 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 MDC shRNA Plasmid (h): sc-39359-SH and MDC shRNA (h) Lentiviral Particles: sc-39359-V as alter-nate gene silencing products.

For independent verification of MDC (h) gene silencing results, we also pro-vide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-39359A, sc-39359B and sc-39359C.

PROTOCOLS

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

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

MDC siRNA (h) is recommended for the inhibition of MDC expression in humousean 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 recom-mended. 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

MDC (4i23): sc-71555 is recommended as a control antibody for monitoring of MDC 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 MDC gene expres-sion knockdown using RT-PCR Primer: MDC (h)-PR: sc-39359-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.