SANTA CRUZ BIOTECHNOLOGY, INC.

eotaxin-3 siRNA (h): sc-63312

BACKGROUND

Chemokines have been implicated in the regulation of stem/progenitor cell proliferation and movement. C-C chemokines myeloid progenitor inhibitory factor-1 (MPIF)-1 and eotaxin-2 (also known as MPIF-2, CK β-6 or small inducible cytokine A24) both map to chromosome 7q11.23. MPIF-1 has chemotactic activity on dendritic cells derived from either peripheral blood monocytes or cord blood $CD34^+$ progenitors. It is also a potent suppressor of bone marrow low proliferative potential colony-forming cells. Eotaxin-2, which promotes chemotaxis and Ca^{2+} mobilization in human eosinophils, exerts its activity solely through the CCR3 receptor. In addition, eotaxin-2 lacks suppressive activity against immature subsets of myeloid progenitors, which have been stimulated to proliferate by multiple growth factors. A related C-C chemokine, eotaxin-3, shares only 33% amino acid identity with eotaxin-2, but shares many characteristics with eotaxin-2. Eotaxin-3 induces migration of eosinophils and basophils at a 10-fold higher concentration than eotaxin-2. The gene which encodes eotaxin-3 maps to human chromosome 7q11.23.

REFERENCES

1. Patel, V.P., et al. 1997. Molecular and functional characterization of two novel human C-C chemokines as inhibitors of two distinct classes of myeloid progenitors. J. Exp. Med. 185: 1163-1172.
2. White, J.R., et al. 1997. Cloning and functional characterization of a novel human CC chemokine that binds to the CCR3 receptor and activates human eosinophils. J. Leukoc. Biol. 62: 667-675.
3. Broxmeyer, H.E., et al. 1999. Effects of CC, CXC, 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.
4. Nardelli, B., et al. 1999. Dendritic cells and MPIF-1: chemotactic activity and inhibition of endogenouschemokine production by IFN-γ and CD40 ligation. J. Leukoc. Biol. 65: 822-828.
5. Kitaura, M., et al. 1999. Molecular cloning of a novel human CC chemokine (eotaxin-3) that is a functional ligand of CC chemokine receptor 3. J. Biol. Chem. 274: 27975-27980.
6. Guo, R.F., et al. 1999. Molecular cloning and characterization of a novel human CC chemokine, SCYA26. Genomics 58: 313-317.

CHROMOSOMAL LOCATION

Genetic locus: CCL26 (human) mapping to 7q11.23.

PRODUCT

eotaxin-3 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 eotaxin-3 shRNA Plasmid (h): sc-63312-SH and eotaxin-3 shRNA (h) Lentiviral Particles: sc-63312-V as alternate gene silencing products.

For independent verification of eotaxin-3 (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-63312A, sc-63312B and sc-63312C.

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

eotaxin-3 siRNA (h) is recommended for the inhibition of eotaxin-3 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

eotaxin-3 (500-M32): sc-65349 is recommended as a control antibody for monitoring of eotaxin-3 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 eotaxin-3 gene expression knockdown using RT-PCR Primer: eotaxin-3 (h)-PR: sc-63312-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.