SANTA CRUZ BIOTECHNOLOGY, INC.

Cxcl3 siRNA (r): sc-270377

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The Power to Question

BACKGROUND

Cxcl3 (chemokine (C-X-C motif) ligand 3), also known as Dcip1, is a 100 amino acid secreted protein belonging to the intercrine α (chemokine CxC) family. Acting as a ligand for IL-8RB, Cxcl3 has chemotactic activity for neutrophils and may play a role in inflammation. Induced by lipopolysaccharide, Cxcl3 exert its effects on endothelial cells in an autocrine fashion. It has been suggested that chemokines belonging to the CxC family could play an important role in the etiology of tendon xanthomas (TX), with Cxcl3 being a possible biological marker of onset and development of TX. Xanthomas are lesions characterized by accumulations of lipid-laden macrophages. Xanthomas can be a reflection of lipid metabolism alteration or a result of local cell dysfunction.

REFERENCES

1. Chevillard, G., et al. 2007. Identification of interleukin-1β regulated genes in uterine smooth muscle cells. Reproduction 134: 811-822.
2. Rainard, P., et al. 2008. The chemokine Cxcl3 is responsible for the constitutive chemotactic activity of bovine milk for neutrophils. Mol. Immunol. 45: 4020-4027.
3. Sandell, L.J., et al. 2008. Exuberant expression of chemokine genes by adult human articular chondrocytes in response to IL-1β. Osteoarthr. Cartil. 16: 1560-1571.
4. Cavanagh, P.C., et al. 2009. Gonadotropin-releasing hormone-regulated chemokine expression in human placentation. Am. J. Physiol., Cell Physiol. 297: C17-C27.
5. Bartling, T.R. and Drumm, M.L. 2009. Oxidative stress causes IL8 promoter hyperacetylation in cystic fibrosis airway cell models. Am. J. Respir. Cell Mol. Biol. 40: 58-65.
6. Martín-Fuentes, P., et al. 2009. Overexpression of the Cxcl3 gene in response to oxidized low-density lipoprotein is associated with the presence of tendon xanthomas in familial hypercholesterolemia. Biochem. Cell Biol. 87: 493-498.
7. Kogan-Sakin, I., et al. 2009. Prostate stromal cells produce CXCL-1, CXCL-2, Cxcl3 and IL-8 in response to epithelia-secreted IL-1. Carcinogenesis 30: 698-705.

CHROMOSOMAL LOCATION

Genetic locus: Cxcl3 (rat) mapping to 14p22.

PRODUCT

Cxcl3 siRNA (r) 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 Cxcl3 shRNA Plasmid (r): sc-270377-SH and Cxcl3 shRNA (r) Lentiviral Particles: sc-270377-V as alternate gene silencing products.

For independent verification of Cxcl3 (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270377A, sc-270377B and sc-270377C.

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

Cxcl3 siRNA (r) is recommended for the inhibition of Cxcl3 expression in rat 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

GROα/β/γ (A-6): sc-365870 is recommended as a control antibody for monitoring of Cxcl3 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 Cxcl3 gene expression knockdown using RT-PCR Primer: Cxcl3 (r)-PR: sc-270377-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.