

CD88 siRNA (m): sc-42814

BACKGROUND

CD88, also known as C5a receptor (C5aR), is a G protein-coupled integral membrane protein. CD88, which is expressed on neutrophils, monocytes, macrophages, hepatocytes and mast cells, as well as on various epithelial and endothelial cells, serves as a receptor for the inflammatory peptide C5a. Research studies suggest a role for CD88 in the inflammatory response. The binding of C5a to CD88 has been shown to elicit increased production of acute phase proteins in liver. In brain, an increased production of CD88 has been shown to be associated with inflammation. Research also indicates a role for C5a/C5aR in the pathogenesis of rheumatoid arthritis, as well as a heightened responsiveness of human bronchial epithelial cells (HBECs) to C5a upon exposure of these cells to cigarette smoke and other environmental irritants.

REFERENCES

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- Fureder, W., et al. 1995. Differential expression of complement receptors on human basophils and mast cells. Evidence for mast cell heterogeneity and CD88/C5aR expression on skin mast cells. *J. Immunol.* 155: 3152-3160.
- Elsner, J., et al. 1996. Detection of C5a receptors on human eosinophils and inhibition of eosinophil effector functions by anti-C5a receptor (CD88) antibodies. *Eur. J. Immunol.* 26: 1560-1564.
- Gasque, P., et al. 1997. Expression of the receptor for complement C5a (CD88) is upregulated on reactive astrocytes, microglia and endothelial cells in the inflamed human central nervous system. *Am. J. Pathol.* 150: 31-41.
- Kiener, H.P., et al. 1998. Expression of the C5a receptor (CD88) on synovial mast cells in patients with rheumatoid arthritis. *Arthritis Rheum.* 41: 233-245.

CHROMOSOMAL LOCATION

Genetic locus: C5ar1 (mouse) mapping to 7 A2.

PRODUCT

CD88 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CD88 shRNA Plasmid (m): sc-42814-SH and CD88 shRNA (m) Lentiviral Particles: sc-42814-V as alternate gene silencing products.

For independent verification of CD88 (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-42814A, sc-42814B and sc-42814C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CD88 siRNA (m) is recommended for the inhibition of CD88 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 μ M in 66 μ l. 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

CD88 (R63): sc-53797 is recommended as a control antibody for monitoring of CD88 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 CD88 gene expression knockdown using RT-PCR Primer: CD88 (m)-PR: sc-42814-PR (20 μ l). 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.