



## CD206 siRNA (h): sc-45360

### BACKGROUND

CD206, also known as macrophage mannose receptor type C (MMR or MRC1), is a type I membrane receptor protein. It is a phagocytic and endocytic receptor that can recognize carbohydrate ligands in target molecules. The extracellular portion of the protein includes eight C-type carbohydrate recognition domains (CRD) which are clustered together to achieve higher affinity binding to saccharides. CD206 is found on macrophages and on endothelial cells of the liver and is the only known example of a C-type lectin that contains multiple C-type CRDs. CD206 mediates the endocytosis of glycoproteins by macrophages and binds high-mannose structures on the surface of potentially pathogenic viruses, fungi and bacteria, enabling them to be neutralized by phagocytic engulfment. During inflammation, CD206 is crucial for rapid clearance of several mannose-bearing serum glycoproteins but does not regulate the initiation of inflammation. CD206 is primarily expressed in mature tissue macrophages and immature dendritic cells, as well as hepatic and lymphatic endothelial cells, retinal pigmented epithelium (RPE) and mesangial cells.

### REFERENCES

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- Harris, N., et al. 1992. Characterization of the murine macrophage mannose receptor: demonstration that the downregulation of receptor expression mediated by interferon- $\gamma$  occurs at the level of transcription. *Blood* 80: 2363-2373.
- Taylor, M.E., et al. 1992. Contribution to ligand binding by multiple carbohydrate-recognition domains in the macrophage mannose receptor. *J. Biol. Chem.* 267: 1719-1726.
- Eichbaum, Q., et al. 1994. Assignment of the human macrophage mannose receptor gene (MRC1) to 10p13 by *in situ* hybridization and PCR-based somatic cell hybrid mapping. *Genomics* 22: 656-658.
- Harris, N., et al. 1994. The exon-intron structure and chromosomal localization of the mouse macrophage mannose receptor gene *Mrc1*: identification of a Ricin-like domain at the N-terminus of the receptor. *Biochem. Biophys. Res. Commun.* 198: 682-692.
- Stahl, P.D., et al. 1998. The mannose receptor is a pattern recognition receptor involved in host defense. *Curr. Opin. Immunol.* 10: 50-55.

### CHROMOSOMAL LOCATION

Genetic locus: MRC1 (human) mapping to 10p12.33; *Mrc1* (mouse) mapping to 2 A2.

### PRODUCT

CD206 siRNA (h) is a pool of 3 target-specific 20-25 nt siRNAs designed to knock down gene expression. Each vial contains 3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections.

For independent verification of CD206 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3 nmol of lyophilized siRNA. These include: sc-45360A, sc-45360B and sc-45360C.

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

### APPLICATIONS

CD206 siRNA (h) is recommended for the inhibition of CD206 expression in human cells.

CD206 (C-20): sc-34577 is recommended as a control antibody for Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) protein detection using the recommended secondary reagents listed below.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### 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  $\mu$ M in 60  $\mu$ 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. Semi-quantitative RT-PCR may be performed using RT-PCR Primer: CD206 (h)-PR: sc-45360-PR (20  $\mu$ l).

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.