



CD68 siRNA (h): sc-35019

BACKGROUND

CD68, which is homologous to the mouse antigen macrophage, belongs to a family of acidic, highly glycosylated lysosomal glycoproteins (LGPs) that includes LAMP-1 and LAMP-2. CD68 is found in cytoplasmic granules and in the cytoplasm of various non-hematopoietic tissues including liver and kidney tubules and glomeruli. CD68 is also found, to a lesser extent, on the surface of macrophages, monocytes, neutrophils, basophils and large lymphocytes. LGPs are major components of lysosomal membranes and may act to protect the membranes from attack by hydrolases.

REFERENCES

1. Pulford, K.A., et al. 1990. Distribution of the CD68 macrophage/myeloid associated antigen. *Int. Immunol.* 2: 973-980.
2. Fukuda, M. 1991. Lysosomal membrane glycoproteins. Structure, biosynthesis, and intracellular trafficking. *J. Biol. Chem.* 266: 21327-21330.
3. Holness, C.L., et al. 1993. Molecular cloning of CD68, a human macrophage marker related to lysosomal glycoproteins. *Blood* 81: 1607-1613.
4. Ramprasad, M.P., et al. 1995. The 94- to 97-kDa mouse macrophage membrane protein that recognizes oxidized low density lipoprotein and phosphatidylserine-rich liposomes is identical to macrophage, the mouse homologue of human CD68. *Proc. Natl. Acad. Sci. USA* 92: 9580-9584.
5. Strobl, H., et al. 1995. Flow cytometric analysis of intracellular CD68 molecule expression in normal and malignant haemopoiesis. *Br. J. Haematol.* 90: 774-782.

CHROMOSOMAL LOCATION

Genetic locus: CD68 (human) mapping to 17p13.1.

PRODUCT

CD68 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CD68 shRNA Plasmid (h): sc-35019-SH and CD68 shRNA (h) Lentiviral Particles: sc-35019-V as alternate gene silencing products.

For independent verification of CD68 (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-35019A, sc-35019B and sc-35019C.

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

CD68 shRNA Plasmid (h) is recommended for the inhibition of CD68 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 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

CD68 (KP1): sc-20060 is recommended as a control antibody for monitoring of CD68 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 CD68 gene expression knockdown using RT-PCR Primer: CD68 (h)-PR: sc-35019-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Amagai, R., et al. 2023. The antimicrobial peptide cathelicidin exerts immunomodulatory effects via scavenger receptors. *Int. J. Mol. Sci.* 24: 875.

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.