

CD46 siRNA (h): sc-35004

BACKGROUND

CD46, also called membrane cofactor protein (MCP), is a transmembrane glycoprotein that exists as a non-disulfide-linked dimer. CD46 regulates the complement cascade by inhibiting C3b and C4b deposited on self tissue. CD46 is a cofactor that binds to C3b and C4b, allowing their degradation by a plasma serine protease called factor I. This function resides in the complement control protein repeats (CCPs), with CCP1-4 essential for regulation. CD46 is widely distributed on thymocytes, T cells, B cells, monocytes, granulocytes, NK cells, platelets, endothelial cells, epithelial cells, fibroblasts, placenta and sperm, but not on erythrocytes. It is the major high affinity receptor for measles virus and human herpes virus. Mouse cells ubiquitously express CRRY, which is a functional ortholog of human decay-accelerating factor (DAF; CD55) and membrane cofactor protein (MCP; CD46).

REFERENCES

1. Iwata, K., et al. 1995. Diversity of sites for measles virus binding and for inactivation of complement C3b and C4b on membrane cofactor protein CD46. *J. Biol. Chem.* 270: 15148-15152.
2. Liszewski, M.K., et al. 1996. Control of the complement system. *Adv. Immunol.* 61: 201-283.
3. Liszewski, M.K., et al. 1996. Membrane cofactor protein (MCP; CD46). Isoforms differ in protection against the classical pathway of complement. *J. Immunol.* 156: 4415-4421.

CHROMOSOMAL LOCATION

Genetic locus: CD46 (human) mapping to 1q32.2.

PRODUCT

CD46 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 CD46 shRNA Plasmid (h): sc-35004-SH and CD46 shRNA (h) Lentiviral Particles: sc-35004-V as alternate gene silencing products.

For independent verification of CD46 (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-35004A, sc-35004B and sc-35004C.

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

CD46 siRNA (h) is recommended for the inhibition of CD46 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

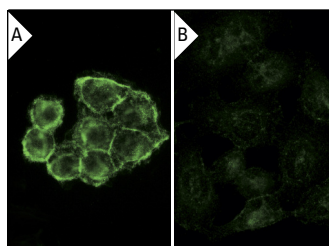
CD46 (C-10): sc-166159 is recommended as a control antibody for monitoring of CD46 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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 CD46 gene expression knockdown using RT-PCR Primer: CD46 (h)-PR: sc-35004-PR (20 μ l, 503 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



CD46 siRNA (h): sc-35004. Immunofluorescence staining of methanol-fixed, control HeLa (A) and CD46 siRNA silenced HeLa (B) cells showing diminished membrane staining in the siRNA silenced cells. Cells probed with CD46 (H-294): sc-9098.

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.