

Crry siRNA (m): sc-42795

BACKGROUND

Human membrane cofactor protein (MCP), also designated CD46, is a widely distributed complement regulator. In mouse, expression of MCP is largely restricted to testis, while a related widely expressed protein (Crry) appears to perform the regulatory activity of MCP. Crry (for murine complement receptor-related gene Y), protects the body from damage inflicted by inflammation and modulates renal interstitial disease induced by proteinuria. A functional ortholog of human decay-accelerating factor (DAF, CD55) and membrane cofactor protein (MCP, CD46), Crry protects cells from homologous complement by inhibiting the complement proteins C3 and C4 convertases from marking foreign cells for destruction. Sequence analysis suggests that Crry may be the mouse genetic homolog of the CD35 antigen encoded by the human gene CR1. Manipulation of Crry may play a role in treating central nervous conditions such as traumatic brain injury or stroke. Deletion of the gene encoding Crry may play a role in miscarriages.

REFERENCES

- Kurtz, C.B., et al. 1990. The murine complement receptor gene family. IV. Alternative splicing of Cr2 gene transcripts predicts two distinct gene products that share homologous domains with both human CR2 and CR1. *J. Immunol.* 144: 3581-3591.
- Molina, H., et al. 2002. Complement-mediated clearance of erythrocytes: mechanism and delineation of the regulatory roles of Crry and DAF. Decay-accelerating factor. *Blood* 100: 4544-4549.
- Aslam, M., et al. 2003. The extended multidomain solution structures of the complement protein Crry and its chimeric conjugate Crry-Ig by scattering, analytical ultracentrifugation and constrained modelling: implications for function and therapy. *J. Mol. Biol.* 329: 525-550.
- Lee, Y.L., et al. 2004. The embryotrophic activity of oviductal cell-derived complement C3b and iC3b, a novel function of complement protein in reproduction. *J. Biol. Chem.* 279: 12763-12768.
- Muhlfeld, A.S., et al. 2004. Overexpression of complement inhibitor Crry does not prevent cryoglobulin-associated membranoproliferative glomerulonephritis. *Kidney Int.* 65: 1214-1223.
- Gelderman, K.A., et al. 2004. Tumor-specific inhibition of membrane-bound complement regulatory protein Crry with bispecific monoclonal antibodies prevents tumor outgrowth in a rat colorectal cancer lung metastases model. *Cancer Res.* 64: 4366-4372.
- Ohta, R., et al. 2004. Mouse complement receptor-related gene Y/p65-neutralized tumor vaccine induces antitumor activity *in vivo*. *J. Immunol.* 173: 205-213.
- Antic Stankovic, J., et al. 2004. The role of rat Crry, a complement regulatory protein, in proliferation of thymocytes. *Life Sci.* 75: 3053-3062.
- He, C., et al. 2005. Complement inhibitors targeted to the proximal tubule prevent injury in experimental nephrotic syndrome and demonstrate a key role for C5b-9. *J. Immunol.* 174: 5750-5757.

CHROMOSOMAL LOCATION

Genetic locus: Cr11 (mouse) mapping to 1 H6.

PRODUCT

Crry 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 Crry shRNA Plasmid (m): sc-42795-SH and Crry shRNA (m) Lentiviral Particles: sc-42795-V as alternate gene silencing products.

For independent verification of Crry (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-42795A, sc-42795B and sc-42795C.

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

Crry siRNA (m) is recommended for the inhibition of Crry 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

Crry (TLD-1C11): sc-53530 is recommended as a control antibody for monitoring of Crry 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Crry gene expression knockdown using RT-PCR Primer: Crry (m)-PR: sc-42795-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.