

CTRP4 siRNA (h): sc-77051

BACKGROUND

Members of the CTRP (complement C1q tumor necrosis factor-related protein) family are structurally related, although functionally diverse. CTRPs share TNF α -like globular domains and N-terminal glycine-X-Y repeats and also tend to form trimers that have the ability to congregate into higher order structures. CTRP4, also known as C1QTNF4 (C1q and tumor necrosis factor related protein 4) or ZACRP4, is a 329 amino acid secreted protein that contains 2 C1q domains and may play a role in immune homeostasis and various other events throughout the cell. The gene encoding CTRP4 maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

1. Polyak, K., et al. 1997. A model for p53-induced apoptosis. *Nature* 389: 300-305.
2. Katoh, M., et al. 2004. Identification and characterization of human TP53I5 and mouse Tp53i5 genes in silico. *Int. J. Oncol.* 25: 225-230.
3. Grossfeld, P.D., et al. 2004. The 11q terminal deletion disorder: a prospective study of 110 cases. *Am. J. Med. Genet. A* 129A: 51-61.
4. Loussouarn, G., et al. 2006. KCNQ1 K⁺ channel-mediated cardiac channelopathies. *Methods Mol. Biol.* 337: 167-183.
5. Taylor, T.D., et al. 2006. Human chromosome 11 DNA sequence and analysis including novel gene identification. *Nature* 440: 497-500.

CHROMOSOMAL LOCATION

Genetic locus: C1QTNF4 (human) mapping to 11p11.2.

PRODUCT

CTRP4 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 CTRP4 shRNA Plasmid (h): sc-77051-SH and CTRP4 shRNA (h) Lentiviral Particles: sc-77051-V as alternate gene silencing products.

For independent verification of CTRP4 (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-77051A, sc-77051B and sc-77051C.

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

CTRP4 siRNA (h) is recommended for the inhibition of CTRP4 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

CTRP4 (C-4): sc-514719 is recommended as a control antibody for monitoring of CTRP4 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 CTRP4 gene expression knockdown using RT-PCR Primer: CTRP4 (h)-PR: sc-77051-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.