

CTRP1 siRNA (h): sc-62171

BACKGROUND

CTRP1 (also designated Complement C1q tumor necrosis factor-related protein 1 precursor, G protein-coupled receptor-interacting protein and GIP) is a 281 amino acid protein encoded by the human gene C1QTN1. CTRP1 is a member of the CTRP superfamily and is expressed at high levels in adipose tissues of obese Zucker diabetic fatty (fa/fa) rats. It consists of an N-terminal signal peptide sequence followed by a variable region, a collagen repeat domain and a C-terminal globular domain. CTRP1 expression is induced by proinflammatory cytokines, including TNF α and IL-1 β . Due to its cytokine induced nature, CTRP1 expression may be associated with a low-grade chronic inflammation status in adipose tissues.

REFERENCES

1. Wu, T.H., et al. 1997. Increased excretion of tumor necrosis factor α and interleukin-1 β in urine from patients with IgA nephropathy and Schönlein-Henoch purpura. *Nephron* 74: 79-88.
2. Branten, A.J., et al. 2002. Short-term effects of fish oil treatment on urinary excretion of high- and low-molecular weight proteins in patients with IgA nephropathy. *Clin. Nephrol.* 58: 267-274.
3. Bergmann, J., et al. 2005. IgA nephropathy and Hodgkin's disease: a rare coincidence. Case report and literature review. *Am. J. Kidney Dis.* 45: e16-e19.
4. Kim, K.Y., et al. 2006. Tumor necrosis factor α and interleukin-1 β increases CTRP1 expression in adipose tissue. *FEBS Lett.* 580: 3953-3960.
5. Khositseth, S., et al. 2007. IgA nephropathy associated with Hodgkin's disease in children: a case report, literature review and urinary proteome analysis. *Pediatr. Nephrol.* 22: 541-546.
6. Jeon, J.H., et al. 2008. A novel adipokine CTRP1 stimulates aldosterone production. *FASEB J.* 22: 1502-1511.

CHROMOSOMAL LOCATION

Genetic locus: C1QTNF1 (human) mapping to 17q25.3.

PRODUCT

CTRP1 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 CTRP1 shRNA Plasmid (h): sc-62171-SH and CTRP1 shRNA (h) Lentiviral Particles: sc-62171-V as alternate gene silencing products.

For independent verification of CTRP1 (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-62171A, sc-62171B and sc-62171C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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

CTRP1 siRNA (h) is recommended for the inhibition of CTRP1 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

CTRP1 (2E7): sc-81943 is recommended as a control antibody for monitoring of CTRP1 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 CTRP1 gene expression knockdown using RT-PCR Primer: CTRP1 (h)-PR: sc-62171-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.