

# C1QBP siRNA (m): sc-42881

## BACKGROUND

The human complement subcomponent C1q associates with C1r and C1s in order to yield the first component of the serum complement system (SCS). The SCS contains over 30 glycoproteins that influence physiological mechanisms of the body in response to immune complex (the classical pathway), carbohydrate (the lectin pathway) or bacterial (alternative pathway) initiation. C1q binding protein (C1QBP), also designated gC1q-R, p32 (p33) or HABP1 (hyaluronan-binding protein 1), is known to bind the globular heads of C1q molecules and inhibit C1 activation. C1QBP has been described as a complement receptor for C1q on B cells, neutrophils and mast cells. The C1QBP protein may form homodimers. C1QBP is expressed in vascular endothelial cells and has been found to be a multifunctional protein interacting with elements of complement, coagulation and kinin systems. In addition, C1QBP is a subunit of pre-mRNA splicing factor SF2/ASF.

## REFERENCES

1. Krainer, A.R., et al. 1991. Functional expression of cloned human splicing factor SF2: homology to RNA-binding proteins, U1 70K, and *Drosophila* splicing regulators. *Cell* 66: 383-394.
2. Deb, T.B., et al. 1996. Molecular cloning of human fibroblast hyaluronic acid-binding protein confirms its identity with P-32, a protein co-purified with splicing factor SF2. Hyaluronic acid-binding protein as P-32 protein, co-purified with splicing factor SF2. *J. Biol. Chem.* 271: 2206-2212.
3. Guo, N., et al. 1997. Assignment of C1QBP encoding the C1q globular domain binding protein (gC1q-R) to human chromosome 17 band p13.3 by *in situ* hybridization. *Cytogenet. Cell Genet.* 77: 283-284.
4. Dedio, J., et al. 1998. The multiligand-binding protein gC1q-R, putative C1q receptor, is a mitochondrial protein. *J. Immunol.* 160: 3534-3542.
5. Dedio, J., et al. 1999. Subcellular targeting of multiligand-binding protein gC1q-R. *Immunopharmacology* 45: 1-5.
6. Tye, A.J., et al. 2001. The human gC1qR/p32 gene, C1qBP. Genomic organization and promoter analysis. *J. Biol. Chem.* 276: 17069-17075.
7. Danet, G.H., et al. 2002. C1qRp defines a new human stem cell population with hematopoietic and hepatic potential. *Proc. Natl. Acad. Sci. USA* 99: 10441-10445.

## CHROMOSOMAL LOCATION

Genetic locus: C1qbp (mouse) mapping to 11 B4.

## PRODUCT

C1QBP 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see C1QBP shRNA Plasmid (m): sc-42881-SH and C1QBP shRNA (m) Lentiviral Particles: sc-42881-V as alternate gene silencing products.

For independent verification of C1QBP (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-42881A, sc-42881B and sc-42881C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

C1QBP siRNA (m) is recommended for the inhibition of C1QBP 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  $\mu$ M in 66  $\mu$ 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

C1QBP (74.5.2): sc-23885 is recommended as a control antibody for monitoring of C1QBP 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor C1QBP gene expression knockdown using RT-PCR Primer: C1QBP (m)-PR: sc-42881-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Seo, M., et al. 2010. Identification of novel cell migration-promoting genes by a functional genetic screen. *FASEB J.* 24: 464-478.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.