

# C1q-C siRNA (h): sc-72202

## BACKGROUND

C1q, a subcomponent of the classical complement pathway, is composed of nine subunits that mediate classical complement activation and thereby play an important role in the immune response. Six of these subunits are disulfide-linked dimers of chains A and B, while three of these subunits, designated C1q-A through C1q-C, are disulfide-linked dimers of chain C. The presence of receptors for C1q on effector cells modulates its activity, which may be antibody-dependent or independent. Macrophages are the primary source of C1q, while anti-inflammatory drugs as well as cytokines differentially regulate expression of the mRNA, as well as the protein. However, its ability to modulate the interaction of platelets with collagen and immune complexes suggests C1q influences homeostasis as well as other immune activities, and perhaps thrombotic complications resulting from immune injury. Defects in C1q-A, C1q-B and C1q-C cause inactivation of the classical pathway, leading to a rare genetic disorder characterized by lupus-like symptoms.

## REFERENCES

1. Gulati, P., et al. 1994. Expression of the components and regulatory proteins of the classical pathway of complement in normal and diseased synovium. *Rheumatol. Int.* 14: 13-19.
2. Petry, F., et al. 1996. The mouse C1q genes are clustered on chromosome 4 and show conservation of gene organization. *Immunogenetics* 43: 370-376.
3. Peerschke, E.I., et al. 1998. Platelet receptors for the complement component C1q: implications for haemostasis and thrombosis. *Immunobiology* 199: 239-249.
4. Kishore, U. et al. 2000. C1q: structure, function, and receptors. *Immunopharmacology* 49: 159-170.
5. Faust, D., et al. 2002. *In vitro* modulation of C1q mRNA expression and secretion by interleukin-1, interleukin-6, and interferon- $\gamma$  in resident and stimulated murine peritoneal macrophages. *Immunobiology* 206: 368-376.
6. Faust, D., et al. 2002. Anti-inflammatory drugs modulate C1q secretion in human peritoneal macrophages *in vitro*. *Biochem. Pharmacol.* 64: 457-462.

## CHROMOSOMAL LOCATION

Genetic locus: C1QC (human) mapping to 1p36.12.

## PRODUCT

C1q-C 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see C1q-C shRNA Plasmid (h): sc-72202-SH and C1q-C shRNA (h) Lentiviral Particles: sc-72202-V as alternate gene silencing products.

For independent verification of C1q-C (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-72202A, sc-72202B and sc-72202C.

## RESEARCH USE

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

## 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

C1q-C siRNA (h) is recommended for the inhibition of C1q-C 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  $\mu$ 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

C1q-C (A-12): sc-365301 is recommended as a control antibody for monitoring of C1q-C 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™ Molecular Weight Standards: sc-2035, UltraCruz® 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® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor C1q-C gene expression knockdown using RT-PCR Primer: C1q-C (h)-PR: sc-72202-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.