

# C8 $\gamma$ siRNA (h): sc-92621

## BACKGROUND

The complement cascade is a multi-protein system that functions to clear pathogens from an infected host. Part of the innate (unchanging) immune system, the complement cascade consists of proteins and inactive zymogens that are present in blood and are stimulated by one of several triggers. Once stimulated, the cascade relays amplified responses throughout the body, ultimately activating the cell-killing membrane attack complex which can insert itself into the cell membrane and cause the cell to lyse. C8 $\gamma$  (complement component 8,  $\gamma$  polypeptide), also known as C8C or C8G, is one of three polypeptides (along with C8 $\alpha$  and C8 $\beta$ ) that constitutes C8, a component of the complement system. Consisting of 202 amino acids, C8 $\gamma$  is a secreted protein that is able to bind retinol and belongs to the lipocalin family and calycin superfamily.

## REFERENCES

- Hunt, L.T., et al. 1987. The homology of complement factor C8 $\gamma$  chain and  $\alpha$ -1-microglobulin. *Biochem. Biophys. Res. Commun.* 149: 282-288.
- Haefliger, J.A., et al. 1987. Structural homology of human complement component C8 $\gamma$  and plasma protein HC: identity of the cysteine bond pattern. *Biochem. Biophys. Res. Commun.* 149: 750-754.
- Ng, S.C., et al. 1987. The eighth component of human complement: evidence that it is an oligomeric serum protein assembled from products of three different genes. *Biochemistry* 26: 5229-5233.
- Kaufman, K.M., et al. 1989. Chromosomal assignment of genes encoding the  $\alpha$ ,  $\beta$ , and  $\gamma$  subunits of human complement protein C8: identification of a close physical linkage between the  $\alpha$  and the  $\beta$  loci. *Genomics* 5: 475-480.
- Chan, P., et al. 1994. Comparative mapping of lipocalin genes in human and mouse: the four genes for complement C8 $\gamma$  chain, prostaglandin-D-synthase, oncogene-24p3, and progesterone-associated endometrial protein map to HSA9 and MMU2. *Genomics* 23: 145-150.

## CHROMOSOMAL LOCATION

Genetic locus: C8G (human) mapping to 9q34.3.

## PRODUCT

C8 $\gamma$  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 C8 $\gamma$  shRNA Plasmid (h): sc-92621-SH and C8 $\gamma$  shRNA (h) Lentiviral Particles: sc-92621-V as alternate gene silencing products.

For independent verification of C8 $\gamma$  (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-92621A, sc-92621B and sc-92621C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

C8 $\gamma$  siRNA (h) is recommended for the inhibition of C8 $\gamma$  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

C8 $\gamma$  (H-10): sc-515150 is recommended as a control antibody for monitoring of C8 $\gamma$  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 C8 $\gamma$  gene expression knockdown using RT-PCR Primer: C8 $\gamma$  (h)-PR: sc-92621-PR (20  $\mu$ 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.