

Properdin siRNA (h): sc-72082

BACKGROUND

The serum complement system (SCS), containing over 30 glycoproteins, influences physiological mechanisms of the body in response to immune complex (the classical pathway), carbohydrate (the lectin pathway) or bacterial (alternative pathway) initiation. Properdin, also known as complement factor P (CFP), PFC, BFP or PFD, is a secreted glycoprotein that participates in positively regulating the alternative pathway of the SCS. Properdin exists as a cyclic polymer with six Thrombospondin type-1 domains and binds to C3 and C5 convertase complexes (C3bBb and (C3b)_nBb) functioning to assist in their stabilization. Properdin is also required for the deposition of C3b onto the surface of pathogens. Mutations in the gene encoding Properdin can result in Properdin deficiency (PFD), a disease characterized by higher susceptibility to bacterial infections.

REFERENCES

1. Fredrikson, G.N., et al. 1998. Expression of Properdin in complete and incomplete deficiency: normal *in vitro* synthesis by monocytes in two cases with Properdin deficiency type II due to distinct mutations. *J. Clin. Immunol.* 18: 272-282.
2. Vuagnat, B.B., et al. 2000. Activation of the alternative pathway of human complement by autologous cells expressing transmembrane recombinant Properdin. *Mol. Immunol.* 37: 467-478.
3. van den Bogaard, R., et al. 2000. Molecular characterisation of 10 Dutch Properdin type I deficient families: mutation analysis and X-inactivation studies. *Eur. J. Hum. Genet.* 8: 513-518.
4. Hartmann, S., et al. 2000. Properdin, the positive regulator of complement, is highly C-mannosylated. *J. Biol. Chem.* 275: 28569-28574.
5. Jelezarova, E., et al. 2000. Interaction of C3b(2)—IgG complexes with complement proteins Properdin, factor B and factor H: implications for amplification. *Biochem. J.* 349: 217-223.

CHROMOSOMAL LOCATION

Genetic locus: CFP (human) mapping to Xp11.23.

PRODUCT

Properdin 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 Properdin shRNA Plasmid (h): sc-72082-SH and Properdin shRNA (h) Lentiviral Particles: sc-72082-V as alternate gene silencing products.

For independent verification of Properdin (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-72082A, sc-72082B and sc-72082C.

PROTOCOLS

See our web site at www.scbt.com or our catalog 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

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

Properdin (C-4): sc-365664 is recommended as a control antibody for monitoring of Properdin 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Properdin gene expression knockdown using RT-PCR Primer: Properdin (h)-PR: sc-72082-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.