

Properdin (P-14): sc-67796

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., Gullstrand, B., Westberg, J., Sjöholm, A.G., Uhlen, M. and Truedsson, L. 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., Mach, J. and Le Doussal, J.M. 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., Fijen, C.A., Schipper, M.G., de Galan, L., Kuijper, E.J. and Mannens, M.M. 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. and Hofsteenge, J. 2000. Properdin, the positive regulator of complement, is highly C-mannosylated. *J. Biol. Chem.* 275: 28569-28574.
5. Jelezarova, E., Vogt, A. and Lutz, H.U. 2000. Interaction of C3b₂-IgG complexes with complement proteins Properdin, factor B and factor H: implications for amplification. *Biochem. J.* 349: 217-223.
6. Perdikoulis, M.V., Kishore, U. and Reid, K.B. 2001. Expression and characterisation of the Thrombospondin type I repeats of human Properdin. *Biochim. Biophys. Acta* 1548: 265-277.
7. Bongrazio, M., Pries, A.R. and Zakrzewicz, A. 2003. The endothelium as physiological source of Properdin: role of wall shear stress. *Mol. Immunol.* 39: 669-675.
8. Hourcade, D.E. 2006. The role of Properdin in the assembly of the alternative pathway C3 convertases of complement. *J. Biol. Chem.* 281: 2128-2132.
9. Sprong, T., Roos, D., Weemaes, C., Neeleman, C., Geesing, C.L., Mollnes, T.E. and van Deuren, M. 2006. Deficient alternative complement pathway activation due to factor D deficiency by two novel mutations in the complement factor D gene in a family with meningococcal infections. *Blood* 107: 4865-4870.

CHROMOSOMAL LOCATION

Genetic locus: Cfp (mouse) mapping to X A3.

SOURCE

Properdin (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Properdin of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-67796 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Properdin (P-14) is recommended for detection of Properdin of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Properdin siRNA (m): sc-62863, Properdin shRNA Plasmid (m): sc-62863-SH and Properdin shRNA (m) Lentiviral Particles: sc-62863-V.

Molecular Weight of Properdin monomer: 53 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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


 MONOS
 Satisfaction
 Guaranteed

Try **Properdin (D-3): sc-393723**, our highly recommended monoclonal alternative to Properdin (P-14).