

Properdin (D-3): sc-393723

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. and Hofsteenge, J. 2000. Properdin, the positive regulator of complement, is highly C-mannosylated. *J. Biol. Chem.* 275: 28569-28574.

CHROMOSOMAL LOCATION

Genetic locus: Cfp (mouse) mapping to X A1.3.

SOURCE

Properdin (D-3) is a mouse monoclonal antibody raised against amino acids 281-464 mapping at the C-terminus of Properdin of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Properdin (D-3) is available conjugated to agarose (sc-393723 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393723 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393723 PE), fluorescein (sc-393723 FITC), Alexa Fluor® 488 (sc-393723 AF488), Alexa Fluor® 546 (sc-393723 AF546), Alexa Fluor® 594 (sc-393723 AF594) or Alexa Fluor® 647 (sc-393723 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393723 AF680) or Alexa Fluor® 790 (sc-393723 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

Properdin (D-3) is recommended for detection of Properdin of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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.

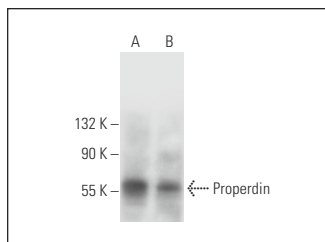
Molecular Weight of Properdin monomer: 53 kDa.

Positive Controls: I-11.15 whole cell lysate: sc-364370 or SP2/0 whole cell lysate: sc-364795.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Properdin (D-3): sc-393723. Western blot analysis of Properdin expression in I-11.15 (A) and SP2/0 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Panayiotou, E., et al. 2017. C1q ablation exacerbates amyloid deposition: a study in a transgenic mouse model of ATTRV30M amyloid neuropathy. *PLoS ONE* 12: e0175767.
2. Liu, P.Y., et al. 2023. Infiltrating myeloid cell-derived Properdin markedly promotes microglia-mediated neuroinflammation after ischemic stroke. *J. Neuroinflammation* 20: 260.

RESEARCH USE

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

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