

PF-4 (D-7): sc-398979

BACKGROUND

Platelet factor-4 (PF-4 or PF4) is a 70 amino acid protein that is released from the α -granules of activated platelets and binds with high affinity to heparin. Platelets secrete low-molecular-weight PF-4, which binds to and neutralizes heparin and related sulfated glycosaminoglycans (GAGs). Its major physiologic role appears to be neutralization of heparin-like molecules on the endothelial surface of blood vessels, thereby inhibiting local antithrombin III activity and promoting coagulation. As a strong chemoattractant for neutrophils and fibroblasts, PF-4 probably has a role in inflammation and wound repair. Both PF4 and eotaxin, a specific chemoattractant for eosinophils, have been shown to exhibit stronger expression in spleens of adult NOA mice (an animal model of allergic or atopic dermatitis) than in younger mice, parallel to the increase in ulcerative skin lesions in older mice. This suggests that PF4 and eotaxin may play important roles in the etiology of atopic dermatitis. PF-4 is encoded by a small inducible gene (SIG), so called because of its small size and its stimulation with platelet activation. The gene which encodes PF-4 maps to human chromosome 4q13.3.

CHROMOSOMAL LOCATION

Genetic locus: PF4 (human) mapping to 4q13.3.

SOURCE

PF-4 (D-7) is a mouse monoclonal antibody raised against amino acids 27-66 mapping at the N-terminus of PF-4 of human origin.

PRODUCT

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

PF-4 (D-7) is available conjugated to agarose (sc-398979 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398979 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398979 PE), fluorescein (sc-398979 FITC), Alexa Fluor® 488 (sc-398979 AF488), Alexa Fluor® 546 (sc-398979 AF546), Alexa Fluor® 594 (sc-398979 AF594) or Alexa Fluor® 647 (sc-398979 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398979 AF680) or Alexa Fluor® 790 (sc-398979 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PF-4 (D-7) is recommended for detection of precursor and mature chain of PF-4 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 PF-4 siRNA (h): sc-39364, PF-4 shRNA Plasmid (h): sc-39364-SH and PF-4 shRNA (h) Lentiviral Particles: sc-39364-V.

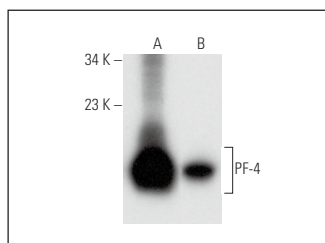
Molecular Weight of PF-4: 10 kDa.

Positive Controls: human platelet extract: sc-363773 or human spleen extract: sc-363779.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



PF-4 (D-7): sc-398979. Western blot analysis of PF-4 expression in human spleen tissue extract (A) and human platelet extract (B).

SELECT PRODUCT CITATIONS

- Middleton, E.A., et al. 2020. Neutrophil extracellular traps contribute to immunothrombosis in COVID-19 acute respiratory distress syndrome. *Blood* 136: 1169-1179.
- Ebeyer-Masotta, M., et al. 2022. Heparin-functionalized adsorbents eliminate central effectors of immunothrombosis, including platelet factor 4, high-mobility group box 1 protein and histones. *Int. J. Mol. Sci.* 23: 1823.
- de Buhr, N., et al. 2022. Insights into immunothrombotic mechanisms in acute stroke due to vaccine-induced immune thrombotic thrombocytopenia. *Front. Immunol.* 13: 879157.

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 for detailed protocols and support products.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA