

## PF-4 (PF63.1): sc-73638

### BACKGROUND

Platelet factor-4 (PF-4 or PF4) is a 70 amino acid protein that is released from the  $\alpha$ -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.

### REFERENCES

- Rybak, M.E., Gimbrone, M.A., Jr., Davies, P.F. and Handin, R.I. 1989. Interaction of platelet factor four with cultured vascular endothelial cells. *Blood* 73: 1534-1539.
- Eisman, R., Surrey, S., Ramachandran, B., Schwartz, E. and Poncz, M. 1990. Structural and functional comparison of the genes for human platelet factor 4 and PF4alt. *Blood* 76: 336-344.
- Watanabe, O., Natori, K., Tamari, M., Shiimoto, Y., Kubo, S. and Nakamura, Y. 1999. Significantly elevated expression of PF4 (platelet factor 4) and eotaxin in the NOA mouse, a model for atopic dermatitis. *J. Hum. Genet.* 44: 173-176.
- O'Donovan, N., Galvin, M. and Morgan, J.G. 1999. Physical mapping of the CXC chemokine locus on human chromosome 4. *Cytogenet. Cell Genet.* 84: 39-42.
- Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 173460. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

### CHROMOSOMAL LOCATION

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

### SOURCE

PF-4 (PF63.1) is a mouse monoclonal antibody raised against PF-4 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### STORAGE

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

### APPLICATIONS

PF-4 (PF63.1) is recommended for detection of PF-4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with  $\beta$  thromboglobulin/CXCL-7, IL-8/CXCL-8, MGSA/GRO $\alpha$ /CXCL-1 or IP-10/CXCL-10.

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.

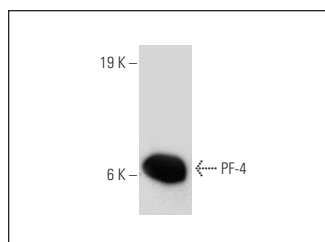
Molecular Weight of PF-4: 10 kDa.

Positive Controls: human platelet extract: sc-363773.

### RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 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 $\kappa$  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.

### DATA



PF-4 (PF63.1): sc-73638. Western blot analysis of PF-4 expression in human platelet extract.

### SELECT PRODUCT CITATIONS

- Sinclair, A., Park, L., Shah, M., Drotar, M., Calaminus, S., Hopcroft, E.M., Kinstrie, R., Guitart, A.V., Dunn, K., Abraham, S.A., Sansom, O., Michie, A.M., Machesky, L., Kranc, K.R., Graham, G.J., Pellicano, F. and Holyoake, T.L. 2016. CXCR2 and CXCL4 regulate survival and self-renewal of hematopoietic stem/progenitor cells. *Blood* 128: 371-383.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.