COA CHROM
DIAGNOSTICA

Sheep anti-human Platelet Factor 4 (PF4)

Whole IgG from Antiserum
10 mg

Product #: SAPF4-IG
Lot #: XXXX
Expiry date: XXXX

Store at –10 to -20°C

For Research Use Only.
Not for use in diagnostic procedures.

Description of Platelet Factor 4 (PF4)

Platelet Factor 4 (PF4) is a small high-affinity heparin binding protein localized in the α-granules of platelets and megacaryocytes. It is a member of a multigene "intercrine-cytokine" family that includes β-thromboglobulin, connective tissue activating peptide III, monocyte-derived neutrophil chemotactic factor and melanoma growth stimulatory factor. Human PF4 consists of 70 amino acids and has a mass of 7800 daltons. In the platelet, PF4 exists as a homo-tetramer in complex with a high-molecular weight proteoglycan carrier. PF4 is one of the most abundant proteins in the platelet α-granule and is considered platelet-specific, as its concentration in platelets is more than 20,000-fold greater than in plasma. The heparin neutralization activity of PF4 is believed to be due to the presence of four lysine residues interspersed among pairs of aliphatic residues in the C-terminal region of the molecule. During vessel injury, platelets are stimulated by thrombin or other agonists to release α-granule contents at the site of injury. Presumably the potent heparin neutralization activity of PF4 would reduce the anticoagulant activity of antithrombin, prolonging the action of thrombin and activated factor X to promote clot formation. Released PF4 also binds to heparin-like molecules on the surface of endothelial cells and hepatocytes, neutralizing the anticoagulant activity expressed by these cells. Some of the other activities attributable to PF4 include the potentiation of platelet aggregation, stimulation of fibroblast attachment to substrata, chemotactic activity with respect to neutrophils and inhibition of contact activation[1,2].

REFERENCES and REVIEWS

1. Rucinski B, Niewiarowski S, Strzyzewski M, Holt JC, Mayo KH; Human Platelet Factor 4 and its C-Terminal Peptides: Heparin Binding and Clearance from the Circulation; Thrombosis and Haemostasis 63, pp 493-498, 1990.

2. Biochemistry and Physiology of Secreted Platelet Proteins; in Hemostasis and Thrombosis, 3rd Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp. 546-566, J.B. Lippincott Co., Philadelphia PA, USA, 1994.

Product Specifications

Description:
Vial containing **XXXX** ml of whole IgG representing approximately 1 ml of antiserum. Total protein is 10 mg.

Format:
Whole IgG, clear liquid.

Host Animal:
Sheep

Immunogen:
Platelet Factor 4 purified from human platelet releasate.

Concentration:
IgG concentration is **XXXX** mg/ml, determined by absorbance using an extinction coefficient ($E^{1\%}_{280}$) of 13.4.

Buffer:
10 mM HEPES, pH 7.4, 150 mM NaCl, 50% (v/v) glycerol.

Storage:
Store between –10 and –20°C. Product will become viscous but will not freeze. Avoid storage in frost-free freezers. Keep vial tightly capped. Allow product to warm to room temperature and gently mix before use.

Specificity:
This antibody is specific for Platelet Factor 4 as demonstrated by immunoelectrophoresis and ELISA.

Applications:
Suitable as a source of antibodies to human Platelet Factor 4.

Neutralizing activity:
Not determined

Species Cross Reactivity:
Not Determined