



Sheep Anti-Human Factor VII (F.VII) Peroxidase Conjugated IgG (0.2 mg)

Catalogue: SAFVII-HRP

Lot: SAMPLE

Expiry date: **/****

Store at -10 to -20°C.

For Research Use Only.

Not for use in diagnostic procedures.

Description of Factor VII (F.VII)

Factor VII (F.VII, also known as Stable Factor and Proconvertin) is a vitamin K-dependant glycoprotein produced in the liver. Plasma concentration of F.VII is normally around ~0.5 ug/ml (10 nM) in plasma. A deficiency of F.VII is associated with bleeding in a clinical pattern similar to haemophilia, but is inherited as an autosomal recessive trait. The deficiency can be characterized by a quantitative (low activity and low antigen) or qualitative (low activity and normal antigen) defect in F.VII function. In its zymogen form F.VII is a single chain molecule of ~50 kDa. It contains two EGF-like domains and an amino-terminal domain containing 10 γ -carboxyglutamic acid (Gla) residues. These Gla residues allow F.VII to bind divalent metal ions and participate in calcium-dependant binding interactions. F.VII and activated F.VII (F.VIIa) bind to tissue factor exposed at the site of vascular injury. F.IXa, F.Xa or F.VIIa rapidly activate tissue factor bound F.VII to F.VIIa in the presence of calcium and phospholipid. Thrombin and F.XIIa are able to activate F.VII in the fluid phase in the absence of cofactors. The activation of the single chain zymogen F.VII occurs by proteolysis after residue Arg¹⁵², resulting in a two-chain active serine protease consisting of 30 kDa heavy chain and an 18 kDa light chain. In complex with tissue factor, phospholipid and calcium, F.VIIa is able to activate F.X and F.IX. Free F.VIIa in plasma is remarkably stable, but the activity of F.VIIa/TF complex is regulated by Tissue Factor Pathway Inhibitor (TFPI) in the presence of F.Xa, and also by Antithrombin (ATIII) in the presence of heparin¹⁻³.

References and Reviews

1. Rao LVM, Bajaj SP, Rapaport SI; Activation of Human Factor VII During Clotting in Vitro; Blood 65, pp 218-226, 1985.
2. Lawson, JH, Butenas S, Ribarik N, Mann KG; Complex-Dependant Inhibition of Factor VIIa by Antithrombin III and Heparin; JBC 268 pp 767-770, 1993.

3. Nemerson Y, in Hemostasis and Thrombosis, 3rd Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp. 81-93, J.B. Lippincott Co., Philadelphia PA, USA, 1994.

Product Specifications

Description:

Vial containing 0.100 ml of whole IgG conjugated to horseradish peroxidase (HRP) through carbohydrate groups. Total protein is 0.2 mg.

Format:

IgG-HRP conjugate as a clear, slightly red-brown liquid.

Host Animal:

Sheep

Immunogen:

Human Factor VII purified from plasma.

Concentration:

IgG-HRP concentration is 2.00 mg/ml, determined by absorbance using an extinction coefficient ($E_{280}^{1\%}$) of 14.

Buffer:

A buffered stabilizer solution containing 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. Avoid exposure to sodium azide as this is an inhibitor of peroxidase activity.

Specificity:

Prior to conjugation, this antibody was specific for factor VII as demonstrated by immunoelectrophoresis and ELISA.

Applications:

Suitable as a source of peroxidase-labelled antibodies to human F.VII.

Related Products

SAFVII-IG	Sheep anti-Human FVII, IgG from antiserum
SAFVII-AP	Sheep anti-Human FVII, affinity-purified IgG
FVII-EIA	Paired antibody set for ELISA of FVII, 5 x 96
FVII-DP	Human plasma deficient in FVII, immune depl

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