

****REPRESENTATIVE DATASHEET******Sheep anti-human Factor VII (F.VII)**

Peroxidase Conjugated IgG

0.2 mg

Product #: SAFVII-HRP-ASR**Lot #:** XXXX**Expiry date:** XXXX**DOM:** XXXX

Store at -10 to -20°C

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Analytical and performance characteristics are not established.

Description of Factor VII (F.VII)

Factor VII (F.VII, also known as Stable Factor and Proconvertin) is a vitamin K-dependent glycoprotein produced in the liver. Plasma concentration of F.VII is normally ~0.5 µg/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 a 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-dependent 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 a 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-dependent 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 XXXX 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 F.VII purified from plasma.

Concentration:

IgG-HRP concentration is XXXX 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 F.VII as demonstrated by immunoelectrophoresis and ELISA.

Rz Ratio (Reinheitzzahl, A₄₀₃/A₂₈₀):

XXXX as determined spectrophotometrically.

Precautions:

Unused solution should be disposed of according to current local, State and Federal Regulations. For a Material Safety Data Sheet for this product contact Affinity Biologicals Inc.

Visit our site (www.affinitybiologicals.com) for other related products.

Limited Warranty: This product is warranted to perform in accordance with its labeling and literature. Affinity Biologicals Inc. disclaims any implied warranty of merchantability or fitness for any other purposes, and in no event will Affinity Biologicals Inc. be liable for any consequential damages arising out of aforesaid express warranty.

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