

**\*\*REPRESENTATIVE DATASHEET\*\***

## Sheep anti-human Factor VII (FVII)

Affinity-Purified IgG

0.5 mg

**Product #:** SAFVII-AP

**Lot #:** XXXX

**Expiry date:** XXXX

Store at -10 to -20°C

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For Research Use Only.

Not for use in diagnostic procedures.

## Description of Factor VII (FVII)

Factor VII (FVII, also known as Stable Factor and Proconvertin) is a vitamin K-dependent glycoprotein produced in the liver. Plasma concentration of FVII is normally ~0.5 µg/ml (10 nM) in plasma. A deficiency of FVII 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 FVII function. In its zymogen form FVII 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 FVII to bind divalent metal ions and participate in calcium-dependent binding interactions. FVII and activated FVII (FVIIa) bind to tissue factor exposed at the site of vascular injury. FIXa, FXa or FVIIa rapidly activate tissue factor-bound FVII to FVIIa in the presence of calcium and phospholipid. Thrombin and FXIIa are able to activate FVII in the fluid phase in the absence of cofactors. The activation of the single chain zymogen FVII occurs by proteolysis after residue Arg<sup>152</sup>, 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, FVIIa is able to activate FX and FIX. Free FVIIa in plasma is remarkably stable, but the activity of FVIIa/TF complex is regulated by Tissue Factor Pathway Inhibitor (TFPI) in the presence of FXa, and also by Antithrombin (ATIII) in the presence of heparin<sup>1-3</sup>.

## 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, 3<sup>rd</sup> Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp. 81-93, J.B. Lippincott Co., Philadelphia PA, USA, 1994.

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## Product Specifications

### Description:

Vial containing XXXX ml of IgG purified by affinity-chromatography on immobilized FVII.

Total protein is 0.5 mg.

### Format:

Affinity-purified IgG (APIgG), clear liquid.

### Host Animal:

Sheep

### Immunogen:

Human FVII purified from plasma.

### Concentration:

APIgG concentration is XXXX mg/ml, determined by absorbance using an extinction coefficient (E<sup>1%<sub>280</sub></sup>) 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 factor VII as demonstrated by immunoelectrophoresis and ELISA.

### Applications:

Suitable as a source of enriched antibodies to human FVII.

### Neutralizing activity:

Not determined.

### Species Cross Reactivity:

Not determined.

### Related Products:

Cat #: SAFVII-IG	Sheep anti-human FVII, whole IgG from antiserum
Cat #: SAFVII-HRP	Sheep anti-human FVII, IgG-peroxidase
Cat #: FVII-EIA	Paired antibody set for ELISA of FVII, 5 x 96 wells
Cat #: FVII-DP	Human plasma deficient in FVII, immune depleted
Cat #: FVII-AG	VisuLize FVII Antigen ELISA Kit

Visit our site ([www.affinitybiologicals.com](http://www.affinitybiologicals.com)) for details.

**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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