

****REPRESENTATIVE DATASHEET****

Sheep anti-human Prothrombin Fragment 1

Affinity-Purified IgG

0.5 mg

Product #: SAFII-F1AP

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 Prothrombin (FII)

Prothrombin (factor II, FII) is a vitamin K-dependent glycoprotein produced in the liver. The concentration of prothrombin in plasma is ~100 µg/ml (~1.4 µM). Prothrombin is a single chain molecule with a molecular weight of 72 kDa. Prothrombin consists of a catalytic domain followed by two kringle structures and an amino-terminal domain containing 10 γ-carboxy-glutamic acid (gla) residues. These gla residues allow prothrombin to bind to membranes that contain acidic phospholipids in a calcium dependent manner. The binding to membranes is required for effective presentation of prothrombin as a substrate for activation by the prothrombinase complex, which consists of activated factor X, activated cofactor V and calcium on phospholipid membrane. Activation by prothrombinase occurs by sequential cleavage after residue Arg³²⁰ then after Arg²⁷¹ to produce the active protease α-thrombin (37 kDa) and the by-product prothrombin fragment 1.2 (35 kDa). The product thrombin further cleaves prothrombin fragment 1.2 after residue Arg¹⁵⁵ into individual prothrombin fragments 1 and 2. The activity of α-thrombin in plasma is inhibited primarily by antithrombin and the rate of inhibition is accelerated 1000-fold in the presence of optimal concentrations of heparin. Other physiological inhibitors of thrombin in the absence of heparin include α₂macroglobulin and α₁antitrypsin¹⁻³.

REFERENCES and REVIEWS

1. Mann KG; Prothrombin and Thrombin; in Hemostasis and Thrombosis, 3rd Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp. 184-199, J.B. Lippincott Co., Philadelphia PA, USA, 1994.
2. Mann KG; Prothrombin; Methods in Enzymology **45**, pp 123-156, 1976.
3. Downing MW, Bloom JW, Mann KG; Comparison of the Inhibition of Thrombin by Three Plasma Protease Inhibitors; Biochemistry **17**, pp 2649-2653, 1978.

Product Specifications

Description:

Vial containing XXXX ml of IgG purified by affinity-chromatography on immobilized prothrombin fragment 1. Total protein is 0.5 mg.

Format:

Affinity-purified IgG (APIgG), clear liquid.

Host Animal:

Sheep

Immunogen:

Human prothrombin purified from plasma.

Concentration:

APIgG 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 the fragment 1 region of prothrombin as demonstrated by immunoelectrophoresis and direct ELISA.

Applications:

Suitable as a source of enriched antibodies to human prothrombin fragment 1.

Neutralizing activity:

Not determined

Species Cross Reactivity: (immunodiffusion vs. citrated plasma)

Not determined

Related Products:

Cat #: SAFII-IG	Sheep anti-Prothrombin, whole IgG from antiserum
Cat #: SAFII-AP	Sheep anti-Prothrombin, affinity purified IgG
Cat #: SAFII-HRP	Sheep anti-Prothrombin, peroxidase labelled IgG
Cat #: SAFII-F2AP	Sheep anti-Prothrombin fragment 2, affinity purified IgG
Cat #: FII-EIA	Paired antibody set for ELISA of Prothrombin, 5 x 96 wells
Cat #: FII-DP	Human plasma deficient in Factor II, immune depleted
Cat #: INH2-DP	Coagulation Factor II inhibitor plasma
Cat #: INH2-LDP	Lyophilized Coagulation Factor II inhibitor plasma

Visit our site (www.affinitybiologicals.com) for details.

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