

**\*\*REPRESENTATIVE DATASHEET\*\*****Sheep anti-human Prothrombin (FII)**

Peroxidase Conjugated IgG

0.2 mg

**Product #:** SAFII-HRP**Lot #:** XXXX**Expiry date:** XXXX

Store at -10 to -20°C

1348 Sandhill Drive. Ancaster, Ontario, Canada L9G 4V5  
905-304-9896 • 800-903-6020 • fax 905-304-9897

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 Arg<sup>320</sup> then after Arg<sup>271</sup> 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 Arg<sup>155</sup> 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 α<sub>2</sub>macroglobulin and α<sub>1</sub>antitrypsin<sup>1-3</sup>.

**REFERENCES and REVIEWS**

1. Mann KG; Prothrombin and Thrombin; in Hemostasis and Thrombosis, 3<sup>rd</sup> 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 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 prothrombin 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 prothrombin as demonstrated by immunoelectrophoresis and ELISA.

**Applications:**

Suitable as a source of peroxidase-labeled antibodies to human prothrombin.

**Rz Ratio (Reinheitszahl, A<sub>403</sub>/A<sub>280</sub>):**

XXXX as determined spectrophotometrically.

**Related Products:**

Cat #: SAFII-IG	Sheep anti-human FII, IgG from antiserum
Cat #: SAFII-AP	Sheep anti-human FII, affinity purified IgG
Cat #: FII-EIA	Paired antibody set for ELISA of FII, 5 x 96 wells
Cat #: FII-DP	Human plasma deficient in FII, immune depleted

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.

Manufactured in Canada by:  
**AFFINITY BIOLOGICALS INC.**  
1348 Sandhill Drive  
Ancaster ON CANADA L9G 4V5  
Tel: (905) 304-9896  
(800) 903-6020  
Fax: (905) 304-9897  
[info@affinitybiologicals.com](mailto:info@affinitybiologicals.com)