

\*\*REPRESENTATIVE DATASHEET\*\*



## Goat anti-human Factor XI (FXI)

Biotinylated Affinity-Purified IgG

0.1 mg

**Product #:** GAF11-APBIO

**Lot #:** XXXX

**Expiry date:** XXXX

Store at 2°C to 8°C

For Research Use Only.

Not for use in diagnostic procedures.

### Description of Factor XI (FXI)

Factor XI (FXI, plasma thromboplastin antecedent) is a coagulation protein produced in the liver that circulates in plasma at approximately 5 µg/mL (30 nM). The mass of FXI is 160 kDa as determined by SDS-PAGE under non-reducing conditions and 80 kDa upon reduction. FXI consists of two identical 80 kDa subunits linked by disulphide bonds. Each subunit consists of a tandem repeat of four apple domains followed by a serine protease catalytic domain. Cleavage of FXI by activated factor XII or thrombin converts each subunit into a two-chain form and generates two active sites per FXIa molecule. The mass of FXIa is 160 kDa unreduced, but upon reduction FXIa migrates as a heavy chain of 50 kDa and a light chain of 30 kDa. The catalytic site of FXIa resides in the light chain. In plasma, FXI or FXIa circulates in non-covalent 1:1 complex with high molecular weight kininogen, which acts as a cofactor in the activation of FXI by activated factor XII. The activity of FXIa is regulated by platelets and by several proteinase inhibitors including, in order of decreasing importance, C1-inhibitor,  $\alpha_2$ antiplasmin,  $\alpha_1$ antitrypsin and antithrombin. Heparin has relatively little effect on the rate of inhibition of FXIa by antithrombin. The only known natural substrate for activated FXI (FXIa) is factor IX (Christmas factor) and the only cofactor required for this reaction is ionized calcium<sup>1-3</sup>.

### REFERENCES and REVIEWS

1. Willemin WA, Minnema M, Meijers JCM, Roem D, Erenberg AJM, Nuijens JH, ten Cate H, Hack EC; Inactivation of Factor XIa in Human Plasma Assessed by Measuring Factor XIa-Protease Inhibitor Complexes: Major Role for C1-Inhibitor. *Blood* 85:1517, 1995.
2. DeLa Cadena R, Watchfogel YT, Colman RW, in Hemostasis and Thrombosis, 3<sup>rd</sup> Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp. 219-240, J.B. Lippincott Co., Philadelphia, 1994.
3. Baglia FA, Seaman FS, Walsh, PN; The Apple 1 and 4 domains of Factor XI Act to Synergistically Promote the Surface-Mediated Activation of Factor XI by Factor XIIa. *Blood* 85:2078, 1995.

### Product Specifications

**Description:**

Vial containing XXXX mL of affinity-purified IgG conjugated to biotin. Total protein is 0.1 mg.

**Format:**

APIgG-biotin conjugate as a clear, colourless liquid.

**Host Animal:**

Goat

**Immunogen:**

Human Factor XI purified from plasma.

**Concentration:**

APIgG-biotin concentration is XXXX mg/mL, determined by absorbance using an extinction coefficient ( $E^{1\%}_{280}$ ) of 14.

**Buffer:**

Phosphate-buffered saline containing 1 mg/mL bovine albumin and 0.1% sodium azide, pH 7.4.

**Storage:**

Store at 2°C to 8°C.

**Specificity:**

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

**Applications:**

Suitable as a source of biotinylated antibodies to human FXI.

**Incorporation of Biotin:**

XXXX moles biotin per mole IgG as determined by HABA assay.