



Sheep anti-human Factor XI (F.XI)

Affinity Purified IgG

0.5 mg

Product #: SAFXI-AP

Lot #: XXXX

Expiry date: XXXX

Store at -10 to -20°C

For Research Use Only.

Not for use in diagnostic procedures.

Description of Factor XI (F.XI)

Factor XI (F.XI, 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 F.XI is 160 kDa as determined by SDS-PAGE under non-reducing conditions and 80 kDa upon reduction. F.XI 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 F.XI by activated factor XII or thrombin converts each subunit into a two-chain form and generates two active sites per F.XIa molecule. The mass of F.XIa is 160 kDa unreduced, but upon reduction F.XIa migrates as a heavy chain of 50 kDa and a light chain of 30 kDa. The catalytic site of F.XIa resides in the light chain. In plasma, F.XI or F.XIa circulates in non-covalent 1:1 complex with high molecular weight kininogen, which acts as a cofactor in the activation of F.XI by activated factor XII. The activity of F.XIa is regulated by platelets and by several proteinase inhibitors including, in order of decreasing importance, C1-inhibitor, α₂antiplasmin, α₁antitrypsin and antithrombin. Heparin has relatively little effect on the rate of inhibition of F.XIa by antithrombin. The only known natural substrate for activated F.XI (F.XIa) is factor IX (Christmas factor) and the only cofactor required for this reaction is ionized calcium¹⁻³.

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, 3rd 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.

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Product Specifications

Description:

Vial containing XXXX ml of IgG purified by affinity-chromatography on immobilized F.XI. Total protein is 0.5 mg.

Format:

Affinity-purified IgG (APIgG), clear liquid.

Host Animal:

Sheep

Immunogen:

Human Factor XI 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 F.XI as demonstrated by immunoelectrophoresis and ELISA.

Applications:

Suitable as a source of enriched antibodies to human F.XI.

Neutralizing activity:

XXXX Bethesda Units/ml IgG against normal plasma. One Bethesda unit/ml is defined as the amount of inhibitor that resulted in 50% residual F.XI activity after 2 hours at 37°C (Kasper CK *et al*, *Thromb Diath Haemorrh* **34**:869, 1975).

Species Cross Reactivity: (immunodiffusion vs. citrated plasma)

Human:	XXXX	Mouse:	XXXX	Rat:	XXXX
Rabbit:	XXXX	Pig:	XXXX	Dog:	XXXX