



Goat anti-human Factor XI (F.XI)

Peroxidase conjugated IgG

0.2 mg

Product #: GAFXI-HRP

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, α_2 antiplasmin, α_1 antitrypsin 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. Wuillemin 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.

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:

Goat

Immunogen:

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

Applications:

Suitable as a source of peroxidase-labeled antibodies to F.XI.

Rz Ratio (Reinheitszahl, A_{403}/A_{280}):

XXXX as determined spectrophotometrically.