



Goat anti-human Factor X (F.X)

Affinity-Purified IgG

0.5 mg

Product #: GAFX-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 X (F.X)

Factor X (F.X, Stuart Factor) is a vitamin K-dependent glycoprotein produced in the liver. The concentration of F.X in plasma is ~10 µg/ml (~170 nM). Factor X is expressed as a two-chain molecule with a molecular weight of 59 kDa. The light chain (17 kDa) of F.X contains a calcium-binding domain consisting of one hydroxy-aspartic acid and 11 γ-carboxyglutamic acid (gla) residues. These residues allow F.X to bind to membranes that contain acidic phospholipids in a calcium dependent manner. This is followed by two EGF-like domains. The heavy chain of F.X (42 kDa) consists of the catalytic domain, carbohydrate and the activation peptide. Activation of F.X to the active enzyme (F.Xa) results from cleavage at residue Arg⁵² in the heavy chain of F.X by a complex of F.IXa, cofactor VIIIa, calcium and negatively charged phospholipid surface (the tenase complex), or by the F.VIIa-tissue factor complex. Both activation pathways result in the release of the activation peptide from the N-terminal of the heavy chain. The F.Xa generated is a serine protease responsible for the activation of prothrombin to thrombin in the presence of a phospholipid membrane, calcium and cofactor Va. The activity of F.Xa in plasma is inhibited by antithrombin (ATIII), α₁antitrypsin, α₂macroglobulin and tissue factor pathway inhibitor (TFPI). The inhibitory activity of ATIII is stimulated approximately 1000-fold by heparin¹⁻³.

REFERENCES and REVIEWS

1. Ichinose A, Davie EW; The Blood Coagulation Factors: Their cDNAs, Genes, and Expression; in Hemostasis and Thrombosis, 3rd Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp 19-54, J.B. Lippincott Co., Philadelphia PA, USA, 1994.
2. Steinberg M, Nemerson Y; The Activation of Factor X; in Hemostasis and Thrombosis, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp 91-99, J.B. Lippincott Co., Philadelphia PA, USA, 1982.
3. Ellis V, Scully M, MacGregor I, Kakkar V; Inhibition of Human Factor Xa by Various Plasma Protease Inhibitors; Biochimica et Biophysica Acta 701, pp 24-31, 1982.

Product Specifications

Description:

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

Format:

Affinity-purified IgG, clear liquid.

Host Animal:

Goat

Immunogen:

Human Factor X 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 Factor X as demonstrated by immunoelectrophoresis and ELISA.

Applications:

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

Neutralizing activity:

Not determined.

Species Cross Reactivity: (immunodiffusion vs. citrated plasma)

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