

Rabbit Anti-Human Factor X (F.X) Peroxidase Conjugated IgG 0.2 mg

Catalogue: RAFX-HRP
Lot No: SAMPLE
Expiry date: **/****
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 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 hydroxyaspartic 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

Acta 701, pp 24-31, 1982.

PRODUCT SPECIFICATIONS

Description:

Vial containing 0.100 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:

Rabbit

Immunogen:

Human Factor X purified from plasma.

Concentration:

IgG-HRP concentration is 2.00 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 Factor X as demonstrated by immunoelectrophoresis and ELISA.

Applications:

Suitable as a source of peroxidase-labelled antibodies to F.X.

RELATED PRODUCTS

GAFX-IG Goat Anti-Human F.X, whole IgG from antiserum
GAFX-AP Goat Anti-Human F.X, affinity purified IgG
GAFX-HRP Goat Anti-Human F.X, peroxidase labelled IgG
SAFX-IG Sheep Anti-Human F.X, IgG from antiserum
SAFX-AP Sheep Anti-Human F.X, affinity purified IgG
FX-EIA Paired antibodies set for ELISA of F.X, 5 x 96 wells
FX-DP Human plasma deficient in F.X, immune depleted

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