



Goat Anti-Human Factor XII (F.XII) Whole IgG from antiserum (5.00 mg)

Catalogue No: **GAFXII-IG**

Lot No: **SAMPLE**

Expiry date: ****/******

Store at **-10 to -20°C**.

For Research Use Only ~ Not for use in diagnostic procedures.

Description of Factor FXII (F.XII)

Factor XII (F.XII, Hageman factor) is a 76 kDa, single chain glycoprotein produced in the liver. In plasma, F.XII circulates as a protease zymogen at a concentration of approximately 30 ug/ml (400 nM). Upon vascular injury F.XII binds to negatively charged extravascular surfaces such as cartilage and skin, which facilitate activation of the zymogen to the active serine protease. Cleavage of F.XII by kallikrein after residue Arg³⁵³ produces the enzyme α F.XIIa, consisting of a 28 kDa light chain containing the protease domain, and a 52 kDa heavy chain containing the anionic surface-binding domain. Substrates for surface bound F.XIIa include the zymogens prekallikrein (PK) and factor XI (F.XI) as well as the procofactor high-molecular weight kininogen (HK). The activation of these substrates results in positive feedback activation of F.XII. Further cleavage of α F.XIIa by kallikrein produces the 28 kDa fragment of β F.XIIa (Hageman factor fragment). β F.XIIa has reduced procoagulant activity as it lacks the anionic surface-binding domain, but is capable of fluid-phase activation of PK, factor VII and complement C1. The activity of F.XIIa in plasma is regulated predominantly by C1-Inhibitor, with relatively minor contributions by α_2 antiplasmin, α_2 macroglobulin and Antithrombin, even in the presence of therapeutic levels of heparin¹⁻³.

References and Reviews

1. De La Cadene R, Watchtfoegel 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 PA, USA, 1994.
2. Tankersley DL, Alving BM, Finlayson JS; Preparation of β F.XIIa (Hageman Factor Fragment) from Human Plasma. Thrombosis Research 25 pp 307-317, 1982..
3. Pixley RA, Schapira M, Coleman RW; The regulation of Human Factor XIIa by Plasma Proteinase Inhibitors. JBC 260, pp 1723-1729, 1985.

Product Specifications

Description:

Vial containing 1.000 ml of whole IgG representing approximately 1 ml of antiserum. Total protein is 5.00 mg.

Format:

Whole IgG clear liquid.

Host Animal:

Goat

Immunogen:

Human Factor XII purified from plasma.

Concentration:

IgG concentration is 5.0 mg/ml, determined by absorbance using an extinction coefficient ($E_{280}^{1\%}$) of 13.4.

Buffer:

10 mM HEPES, 0.15 NaCl, 50% (v/v) glycerol, pH 7.4.

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 XII as demonstrated by immunoelectrophoresis and ELISA.

Applications:

Suitable as a source of antibodies to human Factor XII.

Neutralizing activity:

Not determined.

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Enzyme Research Laboratories Ltd
Glomargan House . Charter Court . Enterprise Park
Swansea . SA7 9DD . UK.
Tel: +44 (0)1792 686070
Email: info@enzymeresearch.co.uk
Website: www.enzymeresearch.co.uk