



## Goat anti-human Factor XII (F.XII)

Affinity Purified IgG

0.5 mg

**Product #:** GAFXII-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 XII (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 µg/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 Arg<sup>353</sup> produces the enzyme αF.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 αF.XIIa by kallikrein produces the 28 kDa fragment βF.XIIa (Hageman factor fragment). βF.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<sub>2</sub>antiplasmin, α<sub>2</sub>macroglobulin and antithrombin, even in the presence of therapeutic levels of heparin<sup>1-3</sup>.

### REFERENCES and REVIEWS

1. DeLa Cadena R, Watchfogel YT, Colman RW, in Hemostasis and Thrombosis, 3<sup>rd</sup> Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp. 219-240, J.B. Lippincott Co., Philadelphia, 1994.
2. Tankersley DL, Alving BM, Finlayson JS; Preparation of βF.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 XXXX ml of IgG purified by affinity-chromatography on immobilized F.XII. Total protein is 0.5 mg.

#### Format:

Affinity-purified IgG (APIgG), clear liquid.

#### Host Animal:

Goat

#### Immunogen:

Human Factor XII 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 XII as demonstrated by immunoelectrophoresis and ELISA.

#### Applications:

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

#### Neutralizing activity:

Not determined.

#### Species Cross Reactivity: (immunodiffusion vs. citrated plasma)

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