10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Factor XIIa heavy chain Rabbit pAb

Catalog # AP99771

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	P00748
Other Accession	P00748
Reactivity	Human
Predicted	Rat, Mouse, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	67792
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Coagulation factor XIIa heavy chain
Epitope Specificity	31-130/615
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the peptidase S1 family.Contains 2 EGF-like domains. Contains 1 fibronectin type-I domain. Contains 1 fibronectin type-II domain. Contains 1 kringle domain. Contains 1 peptidase S1 domain.
SUBUNIT	Interacts with HRG; the interaction, which is enhanced in the presence of zinc ions and inhibited by heparin-binding, inhibits factor XII autoactivation and contact-initiated coagulation.
Post-translational modifications	Factor XII is activated by kallikrein in alpha-factor XIIa, which is then further converted by trypsin into beta-factor XIIa. Alpha-factor XIIa is composed of the NH2-terminal heavy chain (Coagulation factor XIIa heavy chain) and the COOH-terminal light chain (Coagulation factor XIIa light chain), connected by a disulfide bond. Beta-factor XIIa is composed of 2 chains linked by a disulfide bond, a light chain (Beta-factor XIIa part 2), corresponding to the COOH-terminal light chain (Coagulation factor XIIa light chain) and a nonapeptide (Beta-factor XIIa part 1). O- and N-glycosylated. The O-linked polysaccharides were not identified, but are probably the mucin type linked to GalNAc.
DISEASE	Defects in F12 are the cause of factor XII deficiency (FA12D) [MIM:234000]; also known as Hageman factor deficiency. This trait is an asymptomatic anomaly of in vitro blood coagulation. Its diagnosis is based on finding a low plasma activity of the factor in coagulating assays. It is usually only accidentally discovered through pre-operative blood tests. F12 deficiency is divided into two categories, a cross-reacting material (CRM)-negative group (negative F12 antigen detection) and a CRM-positive group (positive F12 antigen detection). Defects in F12 are the cause of hereditary angioedema type 3 (HAE3) [MIM:610618]; also known as estrogen-related HAE or hereditary angioneurotic edema with normal C1 inhibitor concentration and function. HAE is characterized by episodic local subcutaneous edema, and submucosal edema involving the upper respiratory and gastrointestinal tracts. HAE3 occurs exclusively in women and is precipitated or worsened by high estrogen levels (e.g. during pregnancy or treatment with oral

	contraceptives). It differs from HAE types 1 and 2 in that both concentration and function of C1 inhibitor are normal.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes coagulation factor XII which circulates in blood as a zymogen. This single chain zymogen is converted to a two-chain serine protease with an heavy chain (alpha-factor XIIa) and a light chain. The heavy chain contains two fibronectin-type domains, two epidermal growth factor (EGF)-like domains, a kringle domain and a proline-rich domain, whereas the light chain contains only a catalytic domain. On activation, further cleavages takes place in the heavy chain, resulting in the production of beta-factor XIIa light chain and the alpha-factor XIIa light chain becomes beta-factor XIIa heavy chain. Prekallikrein is cleaved by factor XII to form kallikrein, which then cleaves factor XII first to alpha-factor XIIa and then to beta-factor XIIa. The active factor XIIa participates in the initiation of blood coagulation, fibrinolysis, and the generation of bradykinin and angiotensin. It activates coagulation factors VII and XI. Defects in this gene do not cause any clinical symptoms and the sole effect is that whole-blood clotting time is prolonged. [provided by RefSeq, Jul 2008].

Additional Information

Gene ID	2161
Other Names	HAE3; HAEX; HAF; FA12_HUMAN; F12; Hageman factor (HAF); 3.4.21.38; Q5M879_RAT; coagulation factor XII; coagulation factor XII (Hageman factor); Plasma coagulation Factor XIIa
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	F12
Function	Factor XII is a serum glycoprotein that participates in the initiation of blood coagulation, fibrinolysis, and the generation of bradykinin and angiotensin. Prekallikrein is cleaved by factor XII to form kallikrein, which then cleaves factor XII first to alpha-factor XIIa and then trypsin cleaves it to beta-factor XIIa. Alpha-factor XIIa activates factor XI to factor XIa (PubMed:2019570, PubMed:21304106, PubMed:8427954).
Cellular Location	Secreted.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.