abcam

Product datasheet

Human Factor XII ELISA Kit ab108835

2 References 4 Images

Overview

Product name Human Factor XII ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Overall				5%

Inter-assay

Sample	n	Mean	SD	CV%
Overall				10.1%

Sample type Cell culture supernatant, Milk, Urine, Serum, Plasma

Assay type Sandwich (quantitative)

Sensitivity 0.0092 ng/ml

Range 0.391 ng/ml - 25 ng/ml

Recovery 98 %

Assay time 4h 00m

Assay duration Multiple steps standard assay

Species reactivity **Reacts with:** Human

Product overview Abcam's Factor XII Human *in vitro* ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Factor XII concentrations in plasma, serum, milk, urine and cell culture supernatants.

A Factor XII specific antibody has been precoated onto 96-well plates and blocked. Standards or test samples are added to the wells and subsequently a Factor XII specific biotinylated detection antibody is added and then followed by washing with wash buffer. Streptavidin-Peroxidase Complex is added and unbound conjugates are washed away with wash buffer. TMB is then used to visualize Streptavidin-Peroxidase enzymatic reaction. TMB is catalyzed by Streptavidin-Peroxidase to produce a blue color product that changes into yellow after adding acidic stop solution. The density of yellow coloration is directly proportional to the amount of Factor XII captured in plate.

Get results in 90 minutes with Human Factor XII ELISA Kit (**ab192144**) from our SimpleStep ELISA® range.

The entire kit may be stored at -20°C for long term storage before reconstitution - Avoid repeated freeze-thaw cycles.

Platform Microplate

Properties

Storage instructions Store at -20°C. Please refer to protocols.

Components	1 x 96 tests
100X Streptavidin-Peroxidase Conjugate	1 x 80µl
10X Diluent N Concentrate	1 x 30ml
20X Wash Buffer Concentrate	2 x 30ml
40X Biotinylated Human Factor XII Antibody	1 x 150µl
Chromogen Substrate	1 x 7ml
Factor XII Microplate (12 x 8 well strips)	1 unit
Factor XII Standard	1 vial
Sealing Tapes	3 units
Stop Solution	1 x 11ml

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.

Involvement in 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.

Sequence similarities 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.

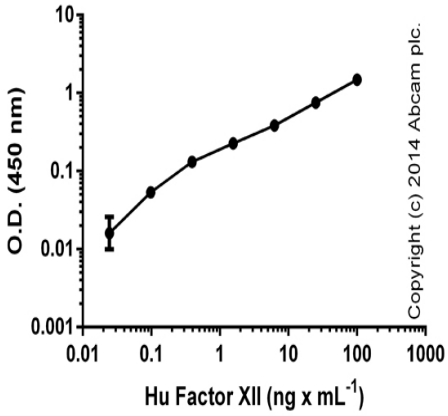
Post-translational modifications

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.

Cellular localization

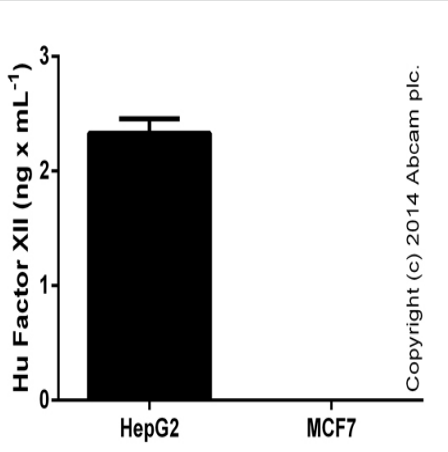
Secreted.

Images



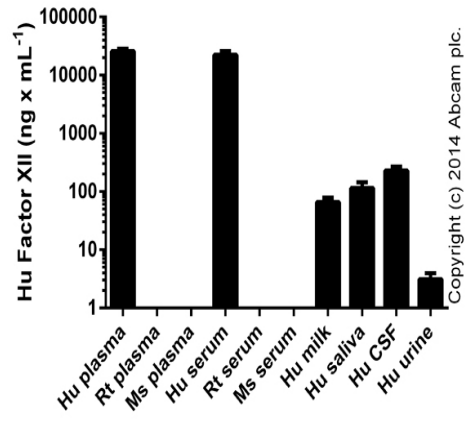
ELISA: Factor XII Human ELISA kit (ab108835)

Standard curve with background signal subtracted (duplicates; +/- SD).



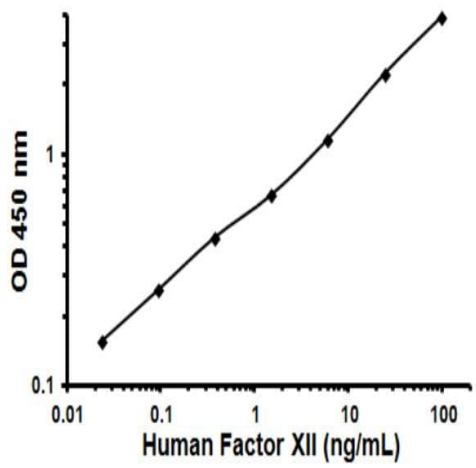
ELISA: Factor XII Human ELISA kit (ab108835)

Factor XII measured in undiluted culture supernatants, MCF-7 levels below level of detection (duplicates +/- SD).



ELISA: Factor XII Human ELISA kit (ab108835)

Factor XII measured in biological fluids (duplicates +/- SD). Human plasma and serum were tested in the dilution range of 1/100-1/4000; milk, saliva, CSF and urine were diluted 1/1-1/300.



Typical Standard Curve

Representative Standard Curve using ab108835.

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