abcam

Product datasheet

Human Factor XII ELISA Kit ab192144

リコンビナント SimpleStep ELISA

2 References 画像数 8

製品の概要

製品名 Human Factor XII ELISA Kit

検出方法 Colorimetric

再現性

Intra-Assay（同時再現性）

サンプル	N	平均値	SD	CV%
plasma	8			3%

Inter-Assay（日差再現性）

サンプル	N	平均値	SD	CV%
plasma	3			5.5%

サンプルの種類 Cell culture supernatant, Urine, Serum, Hep Plasma, EDTA Plasma, Cit plasma

アッセイタイプ Sandwich (quantitative)

検出感度 0.1 ng/ml

検出範囲 0.23 ng/ml - 15 ng/ml

添加回収試験

特定サンプルでの回収試験

サンプルの種類	平均 %	測定範囲
Cell culture supernatant	93	88% - 98%
Urine	107	104% - 110%
Serum	109	98% - 118%
Hep Plasma	105	100% - 109%
EDTA Plasma	120	117% - 123%
Cit plasma	110	108% - 116%

全工程の試験時間	1h 30m
ステップ	One step assay
種交差性	**交差種:** Human
製品の概要	**As of April 2020, Human Factor XII ELISA kit has been re-developed. We have identified new recombinant monoclonal antibodies to provide improved performance and consistency.** Human Factor XII ELISA Kit (ab192144) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Factor XII protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Factor XII with 0.1 ng/ml sensitivity. SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits: - Single-wash protocol reduces assay time to 90 minutes or less - High sensitivity, specificity and reproducibility from superior antibodies - Fully validated in biological samples - 96-wells plate breakable into 12 x 8 wells strips A 384-well SimpleStep ELISA® microplate (**ab203359**) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.
特記事項	Factor XII is a 80 kDa plasma serine protease involved in the coagulation cascade. Factor XII is activated by proteolysis and the product, Factor XIIa, goes on to activate Factor XI and prekallikrein in in vitro models of blood cogulation. Its involvement in the beginning of the coagulation cascade is only seen in in vitro studies, and is thought to have no effect on coagulation initiation in vivo. While Factor XII deficiency in humans is asymptomatic, Factor XII plays a role in later stages of clot formation. Deficiency of Factor XII affects the in vitro measurements of partial thromboplastin time in human blood, and its absence decreases the susceptibility of mice to thrombosis.
試験プラットフォーム	Microplate

製品の特性

保存方法	Store at +4°C. Please refer to protocols.

内容	1 x 96 tests	10 x 96 tests	1 x 384 tests
10X Human Factor XII Capture Antibody	1 x 600µl	1 x 6000µl	1 x 600µl
10X Human Factor XII Detector Antibody	1 x 600µl	1 x 6000µl	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 200ml	1 x 20ml

内容	1 x 96 tests	10 x 96 tests	1 x 384 tests
384 well CaptSure™ microplates	0 x 0 unit	0 x 0 unit	1 unit
Antibody Diluent 4BR	1 x 6ml	10 x 6µl	1 x 6ml
Human Factor XII Lyophilized Purified Protein (ab62423)	2 vials	2 x 10 vials	2 vials
Plate Seals	1 unit	1 x 10 units	1 unit
Sample Diluent NS (ab193972)	1 x 50ml	2 x 250ml	2 x 250ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	1 x 10 units	0 x 0 unit
Stop Solution	1 x 12ml	1 x 120ml	2 x 12ml
TMB Development Solution	1 x 12ml	1 x 120ml	2 x 12ml

機能

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.

関連疾患

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.

配列類似性

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.

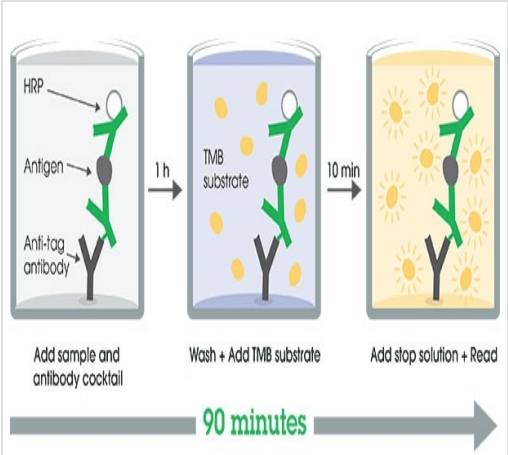
翻訳後修飾

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.

細胞内局在

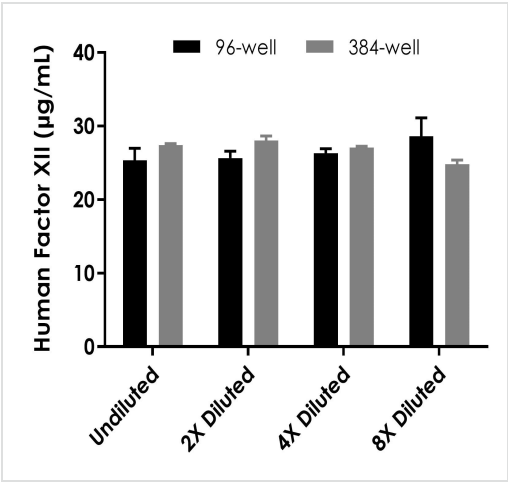
Secreted.

画像



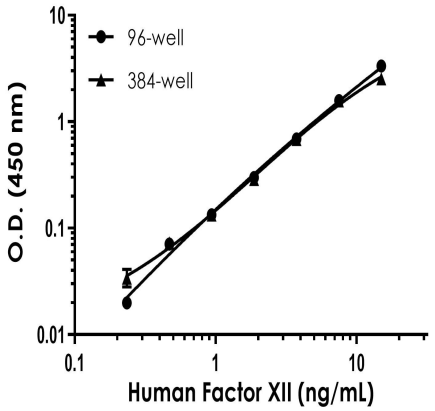
SimpleStep ELISA Protocol Diagram

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



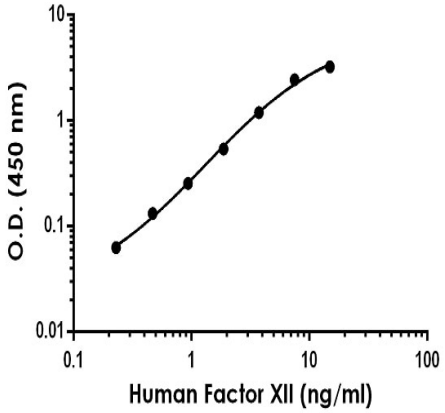
Interpolated concentrations of human Factor XII in serum in 96-well vs. 384-well plates.

Interpolated concentration of native Factor XII was measured in duplicate at different sample concentrations in 96-well vs. 384-well plates. Undiluted samples are 1:6,600 serum. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). Sample dilutions are made in Sample Diluent NS.



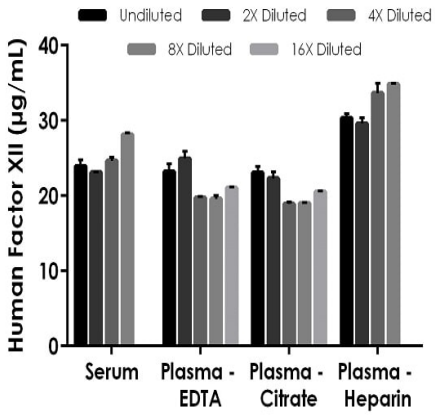
Example of human Factor XII standard curve in Sample Diluent NS in 96-well vs. 384-well plate.

Example of human Factor XII standard curve in 96-well vs. 384-well plate. Background-subtracted data values (mean +/- SD) are graphed.



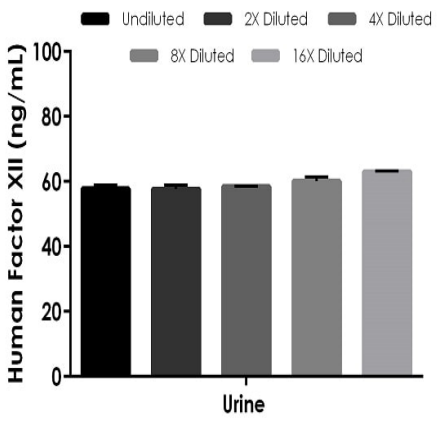
Example of human Factor XII standard curve in Sample Diluent NS.

The Factor XII standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



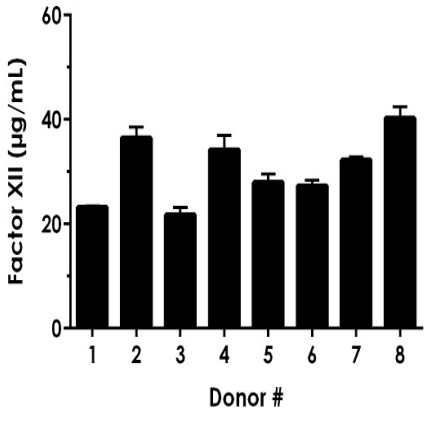
Interpolated concentrations of native Factor XII in human serum, plasma and cell culture supernatant samples.

The concentrations of Factor XII were measured in duplicates, interpolated from the Factor XII standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:6,600, plasma (EDTA) 1:1,600, plasma (citrate) 1:1,600 and plasma (heparin) 1:8,000. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Factor XII concentration was determined to be 25.0 µg/mL in serum, 21.7 µg/mL in plasma (EDTA), 21.0 µg/mL in plasma (citrate), and 32.1 µg/mL in plasma (heparin).



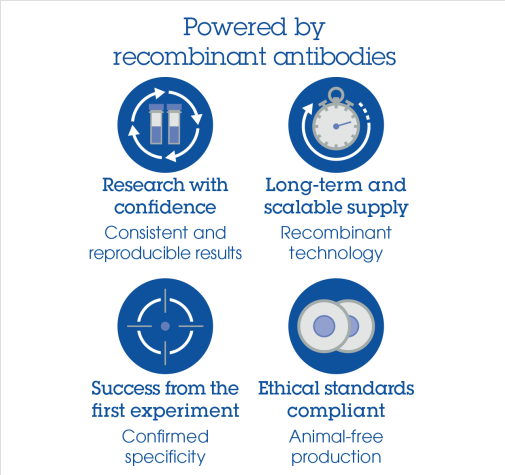
Interpolated concentrations of native Factor XII in human urine samples.

The concentrations of Factor XII were measured in duplicates, interpolated from the Factor XII standard curves and corrected for sample dilution. Undiluted samples are as follows: urine 12.5%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Factor XII concentration was determined to be 60.7 ng/mL in urine 12.5%.



Serum from eight individual healthy human female donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Factor XII concentration was determined to be 30.4 µg/mL with a range of 21.8 – 40.3 µg/mL.



Sandwich ELISA - Human Factor XII ELISA Kit (ab192144)

To learn more about the advantages of recombinant antibodies see **here**.

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