abcam

Product datasheet

Human Fibrinogen ELISA Kit - high sensitivity ab241383

Recombinant SimpleStep ELISA

10 Images

Overview

Product name Human Fibrinogen ELISA Kit - high sensitivity

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
serum	8			3.4%

Inter-assay

Sample	n	Mean	SD	CV%
serum	3			11.7%

Sample type Cell culture supernatant, Saliva, Milk, Urine, Serum, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 29 pg/ml

Range 125 pg/ml - 8000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	94	93% - 95%
Saliva	101	98% - 104%
Milk	103	102% - 105%
Urine	100	99% - 100%
Serum	91	90% - 94%
Hep Plasma	95	95% - %

Sample type	Average %	Range
EDTA Plasma	93	91% - 94%
Cit plasma	94	91% - 96%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human

Product overview Human Fibrinogen ELISA Kit - high sensitivity (ab241383) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Fibrinogen protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, milk, saliva, serum, and urine. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Fibrinogen with 29 pg/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.

ASSAY SPECIFICITY

This kit recognizes both native and recombinant human Fibrinogen protein in serum, plasma, urine, saliva, milk, and cell culture supernatant only.

Cell and tissue extract samples have not been tested with this kit.

CROSS REACTIVITY

The following recombinant proteins were prepared at 50 ng/mL and 8,000 pg/mL and assayed for cross reactivity and no cross reactivity was observed: Human Fibrinogen alpha, Human Fibrinogen beta, Human Fibrinogen gamma, Human Factor XII, Human Plasmin, Human Thrombin, Rat Fibrinogen

The following recombinant proteins were prepared at 50 ng/mL and 8,000 pg/mL and assayed for cross reactivity.

Human D-Dimer: 27% cross-reactivity

SPECIES REACTIVITY

This kit recognizes human Fibrinogen protein.

Native purified mouse Fibrinogen was prepared at 8,000 pg/mL and assayed for cross reactivity. 100% cross reactivity was observed.

Other species reactivity was determined by measuring 1:670 diluted serum samples of various species, interpolating the protein concentrations from the human standard curve, and expressing the interpolated concentrations as a percentage of the protein concentration in human serum assayed at the same dilution.

Reactivity < 3% was determined for the following species: Rat

Platform Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human Fibrinogen Capture Antibody	1 x 600µl
10X Human Fibrinogen Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BI	1 x 6ml
Human Fibrinogen Lyophilized Purified Protein (ab84410)	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

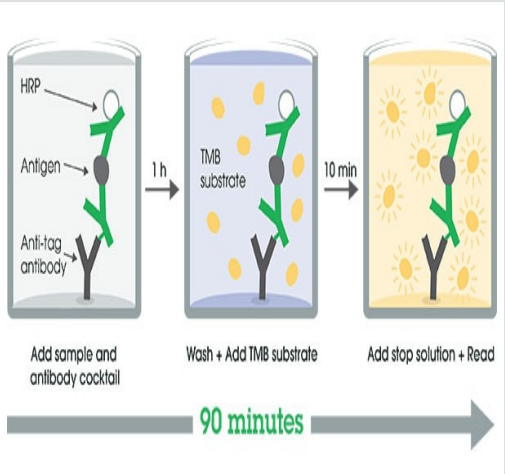
Function Fibrinogen has a double function: yielding monomers that polymerize into fibrin and acting as a cofactor in platelet aggregation.

Tissue specificity Plasma.

Involvement in disease Defects in FGA are a cause of congenital afibrinogenemia (CAFBN) [MIM:202400]. This is a rare autosomal recessive disorder characterized by bleeding that varies from mild to severe and by

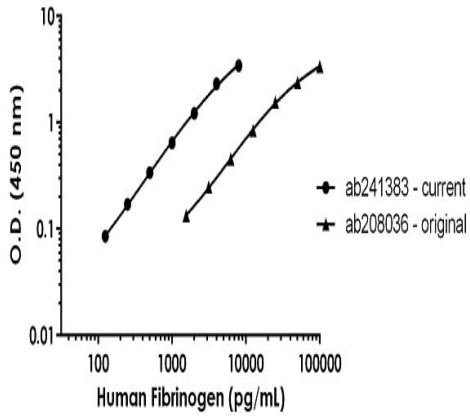
	complete absence or extremely low levels of plasma and platelet fibrinogen. Note=The majority of cases of afibrinogenemia are due to truncating mutations. Variations in position Arg-35 (the site of cleavage of fibrinopeptide a by thrombin) leads to alpha-dysfibrinogenemias. Defects in FGA are a cause of amyloidosis type 8 (AMYL8) [MIM:105200]; also known as systemic non-neuropathic amyloidosis or Ostertag-type amyloidosis. AMYL8 is a hereditary generalized amyloidosis due to deposition of apolipoprotein A1, fibrinogen and lysozyme amyloids. Viscera are particularly affected. There is no involvement of the nervous system. Clinical features include renal amyloidosis resulting in nephrotic syndrome, arterial hypertension, hepatosplenomegaly, cholestasis, petechial skin rash.
Sequence similarities	Contains 1 fibrinogen C-terminal domain.
Domain	A long coiled coil structure formed by 3 polypeptide chains connects the central nodule to the C-terminal domains (distal nodules). The long C-terminal ends of the alpha chains fold back, contributing a fourth strand to the coiled coil structure.
Post-translational modifications	The alpha chain is not glycosylated. Forms F13A-mediated cross-links between a glutamine and the epsilon-amino group of a lysine residue, forming fibronectin-fibrinogen heteropolymers. About one-third of the alpha chains in the molecules in blood were found to be phosphorylated. Conversion of fibrinogen to fibrin is triggered by thrombin, which cleaves fibrinopeptides A and B from alpha and beta chains, and thus exposes the N-terminal polymerization sites responsible for the formation of the soft clot. The soft clot is converted into the hard clot by factor XIIIA which catalyzes the epsilon-(gamma-glutamyl)lysine cross-linking between gamma chains (stronger) and between alpha chains (weaker) of different monomers. Phosphorylation sites are present in the extracellular medium.
Cellular localization	Secreted.

Images



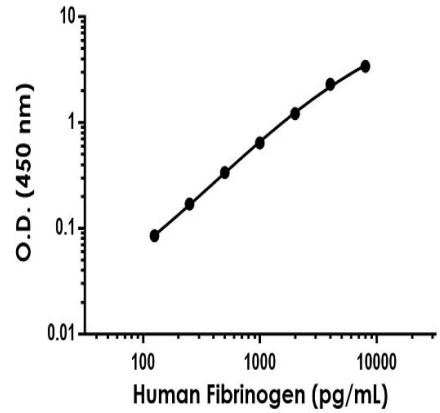
Other - Human Fibrinogen ELISA Kit - high sensitivity (ab241383)

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.



Human Fibrinogen Standard Curve Comparison

Standard Curve comparison between human Fibrinogen current (new) SimpleStep ELISA kit and original ELISA kit (ab208036). The current SimpleStep ELISA kit shows increased sensitivity.



Example of human Fibrinogen standard curve in Sample Diluent NS.

The Fibrinogen 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.

Standard Curve Measurements			
Concentration (pg/mL)	O.D 450 nm		Mean O.D
	1	2	
0	0.116	0.114	0.115
125	0.199	0.202	0.201
250	0.285	0.287	0.286
500	0.457	0.450	0.454
1,000	0.748	0.768	0.758
2,000	1.314	1.360	1.337
4,000	2.392	2.457	2.424
8,000	3.515	3.550	3.533

Example of human Fibrinogen standard curve in Sample Diluent NS.

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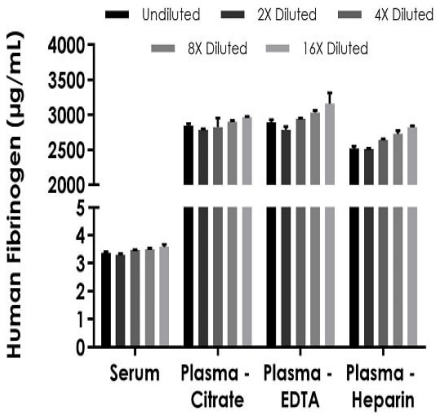
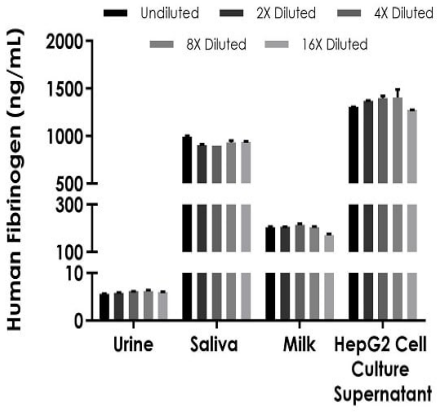


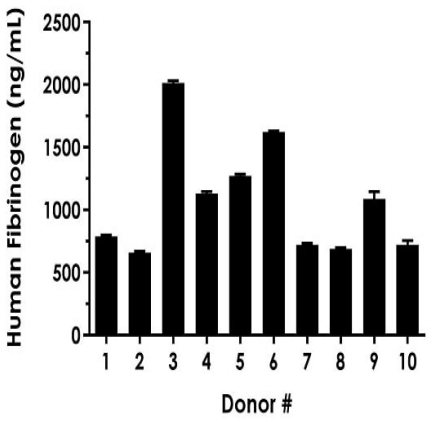
Interpolated concentrations of native Fibrinogen in human serum and plasma samples.

The concentrations of Fibrinogen were measured in duplicates, interpolated from the Fibrinogen standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:670, plasma (citrate) 1:5x10^5, plasma (EDTA) 1:5x10^5, and plasma (heparin) 1:5x10^5. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Fibrinogen concentration was determined to be 3.45 µg/mL in serum, 2.86 mg/mL in plasma (citrate), 2.96 mg/mL in plasma (EDTA), and 2.64 mg/mL in plasma (heparin).



Interpolated concentrations of native Fibrinogen in human urine, saliva, milk and cell culture supernatant samples.

The concentrations of Fibrinogen were measured in duplicates, interpolated from the Fibrinogen standard curves and corrected for sample dilution. Undiluted samples are as follows: urine 1:1.7, saliva 1:133, milk 1:133 and HepG2 supernatant 1:500. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Fibrinogen concentration was determined to be 5.93 ng/mL in urine, 934.5 ng/mL in saliva, 199.7 ng/mL in milk and 1.35 µg/mL in HepG2 supernatant.



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

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Fibrinogen concentration was determined to be 1,070 ng/mL with a range of 647 – 2,027 ng/mL.

Dilution Factor	Interpolated value	60% Human Urine	1:133 Human Saliva	1:133 Human Milk	1:500 HepG2 Cell Culture Supernatant
Undiluted	pg/mL	3,36	7,458	1,535	2,610
	% Expected value	**100**	**100**	**100**	**100**
2	pg/mL	1,749	3,389	771	1,371
	% Expected value	**105**	**91**	**101**	**105**
4	pg/mL	920	1,689	401	701
	% Expected value	**110**	**91**	**105**	**107**
8	pg/mL	462	875	190	351
	% Expected value	**111**	**94**	**99**	**108**
16	pg/mL	223	441	80	159
	% Expected value	**107**	**95**	**84**	**98**

Linearity of dilution.

Linearity of dilution is determined based on interpolated values from the standard curve. Linearity of dilution defines a sample concentration interval in which interpolated target concentrations are directly proportional to sample dilution.

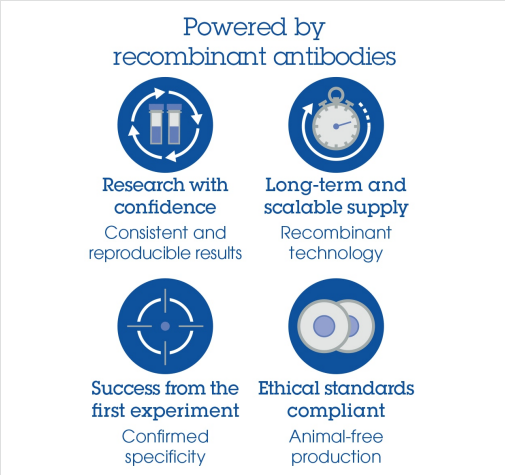
Native Fibrinogen was measured in the following biological samples in a 2-fold dilution series. Sample dilutions are made in Sample Diluent NS.

Dilution Factor	Interpolated value	1:670 Human Serum	1:5x10^5 Human Plasma (Citrate)	1:5x10^5 Human Plasma (EDTA)	1:5x10^5 Human Plasma (Heparin)
Undiluted	pg/mL	5,054	5,693	5,787	5,035
	% Expected value	**100**	**100**	**100**	**100**
2	pg/mL	2,473	2,787	2,786	2,510
	% Expected value	**98**	**98**	**96**	**100**
4	pg/mL	1,305	1,411	1,473	1,322
	% Expected value	**103**	**99**	**102**	**105**
8	pg/mL	656	726	758	682
	% Expected value	**104**	**102**	**105**	**108**
16	pg/mL	336	371	395	353
	% Expected value	**106**	**104**	**109**	**112**

Linearity of dilution.

Linearity of dilution is determined based on interpolated values from the standard curve. Linearity of dilution defines a sample concentration interval in which interpolated target concentrations are directly proportional to sample dilution.

Native Fibrinogen was measured in the following biological samples in a 2-fold dilution series. Sample dilutions are made in Sample Diluent NS.



Sandwich ELISA - Human Fibrinogen ELISA Kit - high sensitivity (ab241383)

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

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