

Human Factor VII ELISA Kit ab190810

Recombinant SimpleStep ELISA[®]

[1 References](#) [5 Images](#)

Overview

Product name Human Factor VII ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			6.2%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	4			6.5%

Sample type

Cell culture supernatant, Serum, Hep Plasma, EDTA Plasma, Cit plasma

Assay type

Sandwich (quantitative)

Sensitivity

0.16 ng/ml

Range

0.39 ng/ml - 25 ng/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	91	80% - 93%
Serum	89	82% - 96%
Hep Plasma	91	83% - 97%
EDTA Plasma	85	80% - 93%
Cit plasma	101	92% - 106%

Assay time

1h 30m

Assay duration

One step assay

Species reactivity**Reacts with:** Human**Product overview**

As of July 17, 2020, Human Factor VII ELISA kit has been re-developed with new recombinant monoclonal antibodies to provide improved performance and consistency. Please note the protocol has also been updated.

Human Factor VII ELISA Kit (ab190810) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Factor VII protein in cit plasma, hep plasma, serum, and edta plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Factor VII with 292 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.

Notes

Factor VII is a plasma serine protease involved in the coagulation cascade. Processed in the liver, it circulates in the bloodstream as a zymogen. During coagulation it is converted to factor VIIa by factor Xa, factor XIIa, factor IXa, or thrombin. Factor VIIa can then convert factor IX to IXa in the presence of tissue factor and calcium.

Platform

Microplate

Properties**Storage instructions**

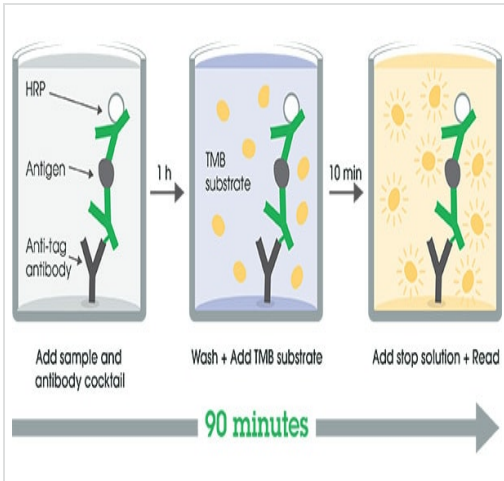
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human Factor VII Capture Antibody	1 x 600µl
10X Human Factor VII Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
Antibody Diluent 4BI	1 x 6ml
Human Factor VII Lyophilized Purified Protein (ab62386)	2 vials

Components	1 x 96 tests
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

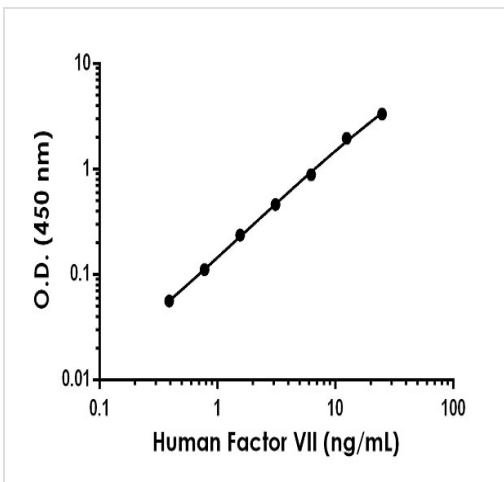
Function	Initiates the extrinsic pathway of blood coagulation. Serine protease that circulates in the blood in a zymogen form. Factor VII is converted to factor VIIa by factor Xa, factor XIIa, factor IXa, or thrombin by minor proteolysis. In the presence of tissue factor and calcium ions, factor VIIa then converts factor X to factor Xa by limited proteolysis. Factor VIIa will also convert factor IX to factor IXa in the presence of tissue factor and calcium.
Tissue specificity	Plasma.
Involvement in disease	Defects in F7 are the cause of factor VII deficiency (FA7D) [MIM:227500]. FA7D is a rare hereditary hemorrhagic disease. The clinical picture can be very severe, with the early occurrence of intracerebral hemorrhages or hemarthroses, or, in contrast, moderate with cutaneous-mucosal hemorrhages (epistaxis, menorrhagia) or hemorrhages provoked by a surgical intervention. Numerous subjects are completely asymptomatic despite a very low F7 level.
Sequence similarities	Belongs to the peptidase S1 family. Contains 2 EGF-like domains. Contains 1 Gla (gamma-carboxy-glutamate) domain. Contains 1 peptidase S1 domain.
Post-translational modifications	The vitamin K-dependent, enzymatic carboxylation of some glutamate residues allows the modified protein to bind calcium. The iron and 2-oxoglutarate dependent 3-hydroxylation of aspartate and asparagine is (R) stereospecific within EGF domains.
Cellular localization	Secreted.

Images



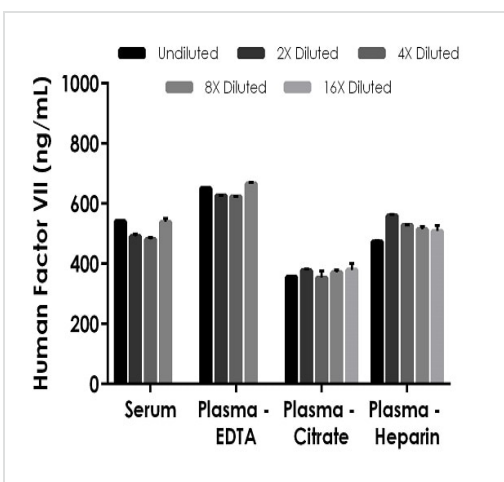
SimpleStep ELISA Protocol Diagram

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.



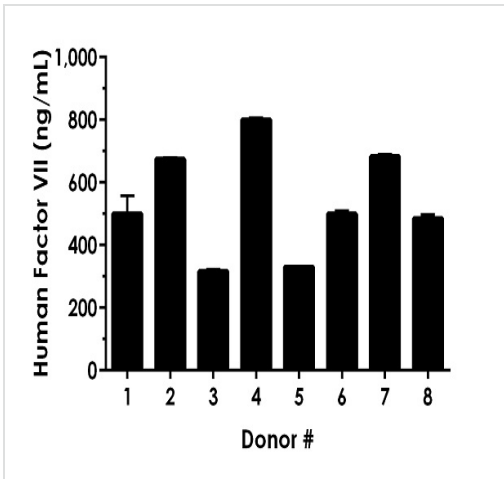
Example of human FVII standard curve in Sample Diluent NS + Enhancer.

The FVII 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 FVII in human serum and plasma samples.

The concentrations of FVII were measured in duplicates, interpolated from the FVII standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 2.5%, plasma (EDTA) 2.5%, plasma (citrate) 5% and serum (heparin) 5%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean FVII concentration was determined to be 513 ng/mL in serum, 642 ng/mL in plasma (EDTA), 368 ng/mL in plasma (citrate), and 517 ng/mL in plasma (heparin).



Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean FVII concentration was determined to be 536 ng/mL with a range of 316 – 800 ng/mL.

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

Powered by recombinant antibodies

 <p>Research with confidence Consistent and reproducible results</p>	 <p>Long-term and scalable supply Recombinant technology</p>
 <p>Success from the first experiment Confirmed specificity</p>	 <p>Ethical standards compliant Animal-free production</p>

Sandwich ELISA - Human Factor VII ELISA Kit
(ab190810)

To learn more about the advantages of recombinant antibodies see [here](#).

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