abcam

Product datasheet

Human Von Willebrand Factor ELISA Kit ab223864

Recombinant SimpleStep ELISA

1 References 5 Images

Overview

Product name Human Von Willebrand Factor ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	3			3.4%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	5			6.4%

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

Assay type Sandwich (quantitative)

Sensitivity 0.079 ng/ml

Range 0.469 ng/ml - 30 ng/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	101	94% - 107%
Cell culture media	88	80% - 95%
Hep Plasma	95	89% - 102%
EDTA Plasma	92	86% - 97%
Cit plasma	98	83% - 118%

Assay time 1h 30m

Assay duration One step assay

Species reactivity

Reacts with: Human, Rhesus monkey
Does not react with: Cow

Product overview

Human Von Willebrand Factor ELISA Kit (ab223864) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Von Willebrand Factor protein in cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Von Willebrand Factor with 0.079 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.

Notes

Von Willebrand Factor is critical in the maintenance of hemostasis, it promotes adhesion of platelets to the sites of vascular injury by forming a molecular bridge between sub-endothelial collagen matrix and platelet-surface receptor complex GPIb-IX-V. Von Willebrand Factor also acts as a chaperone for coagulation factor VIII, delivering it to the site of injury, stabilizing its heterodimeric structure and protecting it from premature clearance from plasma.

Platform

Microplate (12 x 8 well strips)

Properties

Storage instructions

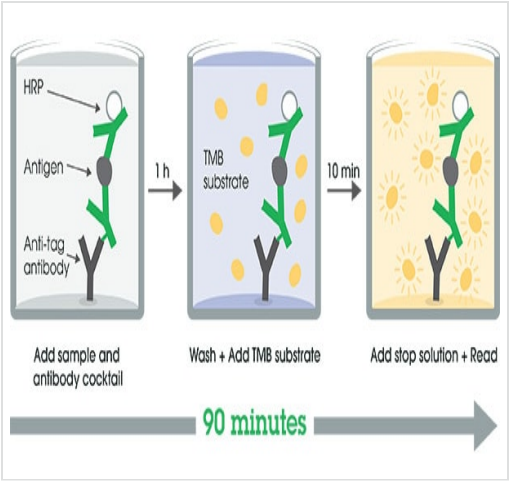
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 5BI	1 x 6ml
Human Von Willabrand Factor Capture Antibody (Lyophilized)	1 vial
10X Human Von Willabrand Factor Detector Antibody	1 x 600µl
Human Von Willabrand Factor Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit

Components	1 x 96 tests
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

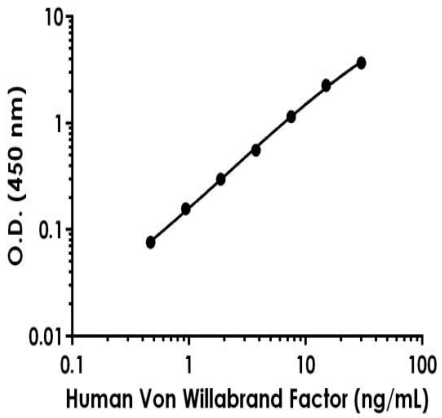
Function	Important in the maintenance of hemostasis, it promotes adhesion of platelets to the sites of vascular injury by forming a molecular bridge between sub-endothelial collagen matrix and platelet-surface receptor complex GPIb-IX-V. Also acts as a chaperone for coagulation factor VIII, delivering it to the site of injury, stabilizing its heterodimeric structure and protecting it from premature clearance from plasma.
Tissue specificity	Plasma.
Involvement in disease	Defects in VWF are the cause of von Willebrand disease (VWD) [MIM:277480]. VWD defines a group of hemorrhagic disorders in which the von Willebrand factor is either quantitatively or qualitatively abnormal resulting in altered platelet function. Symptoms vary depending on severity and disease type but may include prolonged bleeding time, deficiency of factor VIII and impaired platelet adhesion. Type I von Willebrand disease is the most common form and is characterized by partial quantitative plasmatic deficiency of an otherwise structurally and functionally normal Willebrand factor; type II is associated with a qualitative deficiency and functional anomalies of the Willebrand factor; type III is the most severe form and is characterized by total or near-total absence of Willebrand factor in the plasma and cellular compartments, also leading to a profound deficiency of plasmatic factor VIII.
Sequence similarities	Contains 1 CTCK (C-terminal cystine knot-like) domain. Contains 4 TIL (trypsin inhibitory-like) domains. Contains 3 VWFA domains. Contains 3 VWFC domains. Contains 4 VWFD domains.
Domain	The von Willebrand antigen 2 is required for multimerization of vWF and for its targeting to storage granules.
Post-translational modifications	All cysteine residues are involved in intrachain or interchain disulfide bonds. N- and O-glycosylated.
Cellular localization	Secreted. Secreted > extracellular space > extracellular matrix. Localized to storage granules.

Images



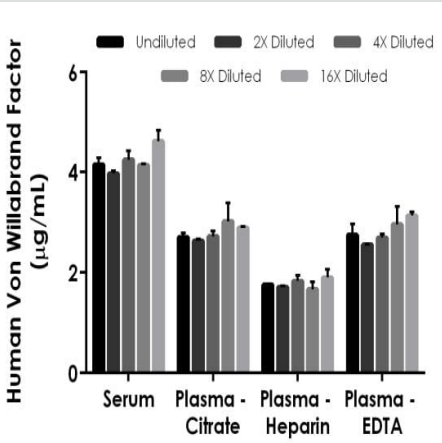
SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.

Other - Human Von Willebrand Factor ELISA Kit (ab223864)



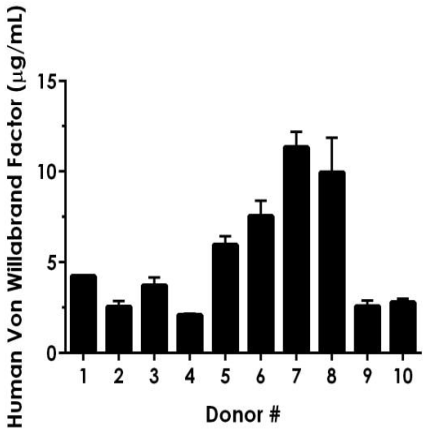
Background-subtracted data values (mean +/- SD) are graphed.

Example of human Von Willebrand Factor standard curve in Sample Diluent NS



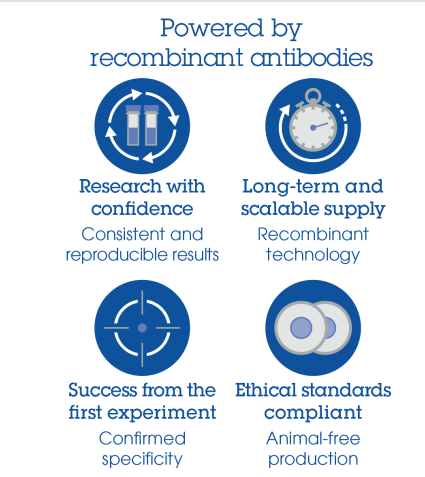
The concentrations of Von Willebrand Factor were measured in duplicates, interpolated from the Von Willebrand Factor standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:500, plasma (citrate) 1:500, plasma (heparin) 1:500, and plasma (EDTA) 1:500. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Von Willebrand Factor concentration was determined to be 4.226 µg/mL in neat serum, 2.793 µg/mL in neat plasma (citrate), 1.774 µg/mL in neat plasma (heparin), and 2.819 µg/mL in neat plasma (EDTA).

Interpolated concentrations of native Von Willebrand Factor in human serum and plasma samples



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 Von Willebrand Factor concentration was determined to be 5.280 µg/mL with a range of 2.088 – 11.35 µg/mL.



Sandwich ELISA - Human Von Willebrand Factor ELISA Kit (ab223864)

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

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