Overview

Product name: Human Von Willebrand Factor ELISA Kit (VWF)
Detection method: Colorimetric

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td>7.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td>9.9%</td>
</tr>
</tbody>
</table>

Sample type: Cell culture supernatant, Serum, Plasma
Assay type: Sandwich (quantitative)
Sensitivity: 0.5 mIU/ml
Range: 1.25 mIU/ml - 80 mIU/ml
Recovery: 101%
Assay time: 5h 00m
Assay duration: Multiple steps standard assay
Species reactivity: Reacts with: Human

Product overview
Human Von Willebrand Factor (VWF) in vitro ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Human Von Willebrand Factor in plasma, serum, and cell culture supernatants.

A Von Willebrand Factor specific antibody has been precoated onto 96-well plates and blocked. Standards or test samples are added to the wells and subsequently a Von Willebrand Factor specific biotinylated detection antibody is added and then followed by washing with wash buffer. Streptavidin-Peroxidase Conjugate 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 Von Willebrand Factor captured in plate.

Get higher sensitivity in only 90 minutes with Human Von Willebrand Factor ELISA Kit (ab189571) 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.

<table>
<thead>
<tr>
<th>Components</th>
<th>1 x 96 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>100X Streptavidin-Peroxidase Conjugate</td>
<td>1 x 80µl</td>
</tr>
<tr>
<td>10X Diluent N Concentrate</td>
<td>1 x 30ml</td>
</tr>
<tr>
<td>20X Wash Buffer Concentrate</td>
<td>2 x 30ml</td>
</tr>
<tr>
<td>50X Biotinylated Human Von Williebrand Factor Antibody</td>
<td>1 x 120µl</td>
</tr>
<tr>
<td>Chromogen Substrate</td>
<td>1 x 8ml</td>
</tr>
<tr>
<td>Sealing Tapes</td>
<td>3 units</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 12ml</td>
</tr>
<tr>
<td>Von Williebrand Factor Microplate (12 x 8 well strips)</td>
<td>1 unit</td>
</tr>
<tr>
<td>Von Williebrand Factor Standard</td>
<td>1 vial</td>
</tr>
</tbody>
</table>

**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 plasminic 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.

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### Images

VWF measured in biological fluids with background signal subtracted (duplicates +/- SD). There is limited cross-reactivity in mouse (< 2%) and rat samples (< 15%).

Example von Willebrand Factor standard curve – data provided for demonstration purposes only.

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