Overview

Product name: Human Factor X ELISA Kit

Detection method: Colorimetric

Precision

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra-assay</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>20</td>
<td></td>
<td></td>
<td>3.2%</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td></td>
<td></td>
<td>3.4%</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td></td>
<td></td>
<td>3.7%</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>Inter-assay</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>20</td>
<td></td>
<td></td>
<td>6.2%</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td></td>
<td></td>
<td>6.8%</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td></td>
<td></td>
<td>7.2%</td>
</tr>
</tbody>
</table>

Sample type: Cell culture supernatant, Saliva, Milk, Urine, Serum, Plasma, Cerebral Spinal Fluid

Assay type: Sandwich (quantitative)

Sensitivity: $= 1.5 \text{ ng/ml}$

Range: $0.781 \text{ ng/ml} - 50 \text{ ng/ml}$

Recovery: 97.5%

Assay time: 4h 00m

Assay duration: Multiple steps standard assay

Species reactivity: Reacts with: Human

Product overview: Abcam's Human Factor $X$ in vitro ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Factor X concentrations in plasma, serum, milk, urine, saliva, cerebrospinal fluid and cell culture supernatants.
A Factor X specific antibody has been precoated onto 96-well plates and blocked. Standards or test samples are added to the wells and subsequently a Factor X specific biotinylated detection antibody is added and then followed by washing with wash buffer. Streptavidin-Peroxidase Complex 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 Factor X captured in plate.

The entire kit may be stored at -20°C for long term storage before reconstitution - Avoid repeated freeze-thaw cycles.

## Platform

Microplate

## Properties

### Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>100X Biotinylated Antibody</td>
<td>1 x 60µl</td>
</tr>
<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>Chromogen Substrate</td>
<td>1 x 7ml</td>
</tr>
<tr>
<td>Factor X Microplate (12 x 8 well strips)</td>
<td>1 unit</td>
</tr>
<tr>
<td>Factor X Standard</td>
<td>1 x 65ng</td>
</tr>
<tr>
<td>Sealing Tapes</td>
<td>3 units</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 11ml</td>
</tr>
</tbody>
</table>

## Function

Factor Xa is a vitamin K-dependent glycoprotein that converts prothrombin to thrombin in the presence of factor Va, calcium and phospholipid during blood clotting.

## Tissue specificity

Plasma; synthesized in the liver.

## Involvement in disease

Defects in F10 are the cause of factor X deficiency (FA10D) [MIM:227600]. A hemorrhagic disease with variable presentation. Affected individuals can manifest prolonged nasal and mucosal hemorrhage, menorrhagia, hematuria, and occasionally hemarthrosis. Some patients do not have clinical bleeding diathesis.

## 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.
N- and O-glycosylated.
The activation peptide is cleaved by factor IXa (in the intrinsic pathway), or by factor VIIa (in the extrinsic pathway).
The iron and 2-oxoglutarate dependent 3-hydroxylation of aspartate and asparagine is (R) stereospecific within EGF domains.

**Cellular localization**
Secreted.

**Images**

- **Standard curve with background signal subtracted (duplicates; +/- SD).**
  
  ![](image1.png)
  ELISA: Factor X Human ELISA kit (ab108832)

- **Factor X measured in undiluted culture supernatants with MCF7 levels below level of detection (duplicates +/- SD).**
  
  ![](image2.png)
  ELISA: Factor X Human ELISA kit (ab108832)

- **Factor X measured in biological fluids (duplicates +/- SD). Serum and plasma were tested at 1/300-1/3000; other samples at 1/1-1/30.**
  
  ![](image3.png)
  ELISA: Factor X Human ELISA kit (ab108832)
Representative Standard Curve using ab108832

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