**Product Overview**

**Product name**  
Factor VII Human Chromogenic Activity Assay Kit

**Sample type**  
Cell culture supernatant, Serum, Plasma

**Assay type**  
Quantitative

**Sensitivity**  
< 0.001 U/ml

**Assay time**  
3h 00m

**Species reactivity**  
Reacts with: Human

**Product overview**

Factor VII Human Chromogenic Activity Assay Kit (ab108830) has been developed to determine human FVII activity in plasma, serum and cell culture supernatants. The assay couples immunofunctional and indirect amidolytic assay. A polyclonal antibody specific for Human FVII has been pre-coated onto a microplate and active FVII is bound to the immobilized antibody. The assay measures the ability of lipoprotein TF/FVIIa to activate factor X (FX) to factor Xa. The amidolytic activity of the TF/FVIIa complex is quantitated by the amount of FXa produced using a highly specific FXa substrate releasing a yellow para-nitroaniline (pNA) chromophore. The change in absorbance of the pNA at 405 nm is directly proportional to the FVII enzymatic activity.

**Notes**

Factor VII (FVII) is a vitamin K-dependent plasma glycoprotein that is synthesized in the liver and circulates in blood as a single-chain inactive zymogen with a molecular mass of 50 kDa. Upon tissue damage and vascular injury, the cell surface receptor and cofactor tissue factor (TF) binds and allosterically activates FVII to its active form, FVIIa. The TF/FVIIa complex catalyzes the conversion of both factor IX to factor IXa and factor X to factor Xa to initiate coagulation via the extrinsic pathway. Very low levels of FVII are associated with severe coagulation disorders. Elevated plasma levels of FVII coagulant activity constitute an independent risk factor for fatal outcomes of coronary heart disease in middle-aged men.

**Properties**

**Storage instructions**  
Store at -20°C. Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X Diluent M Concentrate</td>
<td>1 x 20ml</td>
</tr>
<tr>
<td>20X Wash Buffer Concentrate</td>
<td>1 x 30ml</td>
</tr>
</tbody>
</table>
## Components

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assay Diluent</td>
<td>1 x 30ml</td>
</tr>
<tr>
<td>FXa Substrate</td>
<td>2 units</td>
</tr>
<tr>
<td>Human FVII Microplate</td>
<td>1 x 96 units</td>
</tr>
<tr>
<td>Human FVII Standard</td>
<td>1 unit</td>
</tr>
<tr>
<td>Human FX</td>
<td>1 unit</td>
</tr>
<tr>
<td>rhTF (lipoprotein)</td>
<td>1 unit</td>
</tr>
<tr>
<td>Sealing Tapes</td>
<td>3 units</td>
</tr>
</tbody>
</table>

## Images

**Factor VII measured in biological fluids showing quantity (IU) per mL of tested sample**

**Standard Curve**

*Functional Studies - Factor VII Human Chromogenic Activity Kit (ab108830)*
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