abcam

Product datasheet

Native human Factor VIIa protein ab184890

Description

Product name	Native human Factor VIIa protein
Biological activity	Activity is determined via clotting assay. Factor VIIa, in the presence of calcium ions and Tissue factor, activates Factors IX and X to their enzymatically active forms, Factor IXa and Xa.
Purity	> 95 % SDS-PAGE. The Factor XIIa is removed using affinity chromatography.
Expression system	Native
Accession	P08709
Protein length	Full length protein
Animal free	No
Nature	Native
Species	Human
Predicted molecular weight	50 kDa
Additional sequence information	Prepared from purified Human Factor VII using Human Factor XIIa from human plasma.

Specifications

Our **Abpromise guarantee** covers the use of **ab184890** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Functional Studies SDS-PAGE
Form	Liquid

Preparation and Storage

Stability and Storage	Shipped on Dry Ice. Store at -80°C. pH: 7.40 Constituents: 0.32% Tris HCl, 0.58% Sodium chloride This product is an active protein and may elicit a biological response in vivo, handle with caution.

General Info

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]. A hemorrhagic disease with variable presentation. The clinical picture can be very severe, with the early occurrence of intracerebral hemorrhages or repeated hemarthroses, or, in contrast, moderate with cutaneous-mucosal hemorrhages (epistaxis, menorrhagia) or hemorrhages provoked by a surgical intervention. Finally, numerous subjects are completely asymptomatic despite very low factor VII levels.
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. O- and N-glycosylated. N-glycosylation at Asn-205 occurs cotranslationally and is mediated by STT3A-containing complexes, while glycosylation at Asn-382 is post-translational and is mediated STT3B-containing complexes before folding. O-fucosylated by POFUT1 on a conserved serine or threonine residue found in the consensus sequence C2-X(4,5)-[S/T]-C3 of EGF domains, where C2 and C3 are the second and third conserved cysteines.
Cellular localization	Secreted.