

# Mouse Coagulation Factor VII / FVII / F7 Protein (His Tag)

Catalog Number: 50034-M08S



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

AI132620; Cf7; FVII

### Protein Construction:

A DNA sequence encoding the mouse FVII (NP\_034302.2) (Met 1-Leu 446) was fused with the a polyhistidine tag at the C-terminus.

**Source:** Mouse

**Expression Host:** CHO Stable Cells

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE

### Bio Activity:

Measured by its binding ability in a functional ELISA. Immobilized mouse F7-his at 10 µg/ml (100 µl/well) can bind biotinylated mouse F3-his (Cat: 50413-M08H). The EC<sub>50</sub> of biotinylated mouse F3-his (Cat: 50413-M08H) is 0.1-0.3 µg/ml.

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Val 25 & Ala 42

### Molecular Mass:

The mature form of mouse FVII consists of 416 amino acids after removal of the signal peptide and the propeptid, and has a predicted molecular mass of 47 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rm FVII is approximately 56-63 kDa due to glycosylation.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

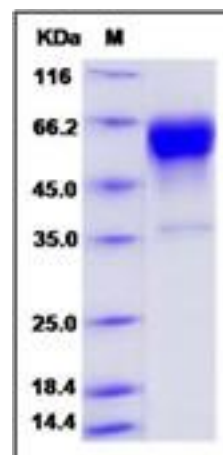
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Coagulation factor VII, also known as Serum prothrombin conversion accelerator, Factor VII, F7 and FVII, is a member of the peptidase S1 family. Factor VII is one of the central proteins in the coagulation cascade. It is an enzyme of the serine protease class, and Factor VII (FVII) deficiency is the most frequent among rare congenital bleeding disorders. Factor VII contains two EGF-like domains, one Gla (gamma-carboxy-glutamate) domain and one peptidase S1 domain. The main role of factor VII is to initiate the process of coagulation in conjunction with tissue factor (TF). Tissue factor is found on the outside of blood vessels, normally not exposed to the blood stream. The action of the Factor VII is impeded by tissue factor pathway inhibitor (TFPI), which is released almost immediately after initiation of coagulation. Factor VII is vitamin K dependent and is produced in the liver. Upon vessel injury, tissue factor is exposed to the blood and circulating Factor VII. Once bound to TF, FVII is activated to FVIIa by different proteases, among which are thrombin (factor IIa), factor Xa, IXa, XIIa, and the FVIIa-TF complex itself. Recombinant activated factor VII (rFVIIa) is a haemostatic agent, which was originally developed for the treatment of haemophilia patients with inhibitors against factor FVIII or FIX. FVIIa binds specifically to endothelial protein C receptor (EPCR), a known cellular receptor for protein C and activated protein C, on the endothelium. rFVIIa is a novel hemostatic agent, originally developed for the treatment of hemorrhage in hemophiliacs with inhibitors, which has been successfully used recently in an increasing number of nonhemophilic bleeding conditions.

## References

1. Franchini M, *et al.* (2007) Potential role of recombinant activated factor VII for the treatment of severe bleeding associated with disseminated intravascular coagulation: a systematic review. *Blood Coagul Fibrinolysis.* 18(7): 589-93.
2. Lapcorella M, *et al.* (2008) Factor VII deficiency: defining the clinical picture and optimizing therapeutic options. *Haemophilia.* 14(6): 1170-5.
3. Grottko O, *et al.* (2010) Activated recombinant factor VII (rFVIIa). *Best Pract Res Clin Anaesthesiol.* 24(1): 95-106.

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