

Recombinant Mouse F7, His-tagged

Cat. No. F7-8662M Lot. No. (See product label)

SPECIFICATION

Product Overview

A DNA sequence encoding the mouse F (NP_034302.2) (Met 1-Leu 446) was fused with the a polyhistidine tag at the C-terminus.

Species

Mouse

Source

Human Cells

ProteinLength

1-446 a.a.

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. 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. The use of warfarin or similar anticoagulants impairs its function. 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. The most important substrates for FVIIa-TF are Factor X and Factor IX.

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

Predicted N Terminal	Val 25 & Ala 42
Form	Lyophilized from sterile PBS, pH7.4. Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization.
Molecular Mass	The mature form of mouse F 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 F is approximately 56-63 kDa due to glycosylation.
Endotoxin	1.0 eu/μg of the protein as determined by the lal
Purity	>90 % as determined by SDS-PAGE
Stability	Samples are stable for up to twelve months from date of receipt at -70°C
Storage	Store it under sterile conditions at -70°C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

GENE INFORMATION

Gene Name	F7 coagulation factor VII [Mus musculus]
Official Symbol	F7
Synonyms	F7; coagulation factor VII; serum prothrombin conversion accelerator; Cf7; FVII; mfVII; AI132620;
Gene ID	14068
mRNA Refseq	NM_010172

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Protein Refseq

NP_034302

Pathway

Blood Clotting Cascade, organism-specific biosystem; Complement and Coagulation Cascades, organism-specific biosystem; Complement and coagulation cascades, organism-specific biosystem; Complement and coagulation cascades, conserved biosystem; Extrinsic Pathway, organism-specific biosystem; Formation of Fibrin Clot (Clotting Cascade), organism-specific biosystem; Gamma-carboxylation of protein precursors, organism-specific biosystem;

Function

calcium ion binding; catalytic activity; endopeptidase activity; glycoprotein binding; hydrolase activity; peptidase activity; receptor binding; serine-type endopeptidase activity; serine-type peptidase activity;

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