

Human Coagulation Factor X / FX / F10 Protein (His Tag)

Catalog Number: 11076-H08B



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

FX; FXA; Cf10; fX

Protein Construction:

A DNA sequence encoding the full length of human coagulation factor X (NP_000495.1) (Met 1-Lys 488) was expressed with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

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: Asn 32

Molecular Mass:

The recombinant human coagulation factor X consists of 468 amino acids and predicts a molecular mass of 52.8 kDa. As a result of glycosylation, it migrates with the apparent molecular mass of approximately 48 and 22 kDa corresponding to the cleaved light and heavy chain respectively in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, pH 8.0, 10% glycerol

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:

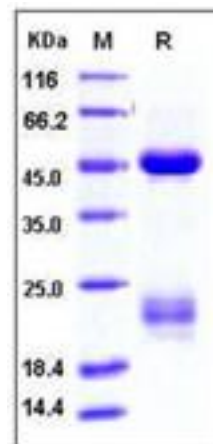
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Coagulation factor X, also known as FX, F10, Eponym Stuart-Prower factor, and thrombokinase, is an enzyme of the coagulation cascade. It is one of the vitamin K-dependent serine proteases, and plays a crucial role in the coagulation cascade and blood clotting, as the first enzyme in the common pathway of thrombus formation. Factor X deficiency is one of the rarest of the inherited coagulation disorders. FX deficiency among the most severe of the rare coagulation defects, typically including hemarthroses, hematomas, and umbilical cord, gastrointestinal, and central nervous system bleeding. Factor X is synthesized in the liver as a mature heterodimer formed from a single-chain precursor, and vitamin K is essential for its synthesis. Factor X is activated into factor Xa (FXa) by both factor IX (with its cofactor, factor VIII in a complex known as intrinsic Xase) and factor VII (with its cofactor, tissue factor in a complex known as extrinsic Xase) through cleaving the activation propeptide. As the first member of the final common pathway or thrombin pathway, FXa converts prothrombin to thrombin in the presence of factor Va, Ca²⁺, and phospholipid during blood clotting and cleaves prothrombin in two places (an arg-thr and then an arg-ile bond). This process is optimized when factor Xa is complexed with activated cofactor V in the prothrombinase complex. Inborn deficiency of factor X is very uncommon, and may present with epistaxis (nose bleeds), hemarthrosis (bleeding into joints) and gastrointestinal blood loss. Apart from congenital deficiency, low factor X levels may occur occasionally in a number of disease states. Furthermore, factor X deficiency may be seen in amyloidosis, where factor X is adsorbed to the amyloid fibrils in the vasculature.

References

1. Rosen ED. (2002) Gene targeting in hemostasis. Factor X. Front Biosci. 7: d1915-25.
2. Uprichard J, et al. (2002) Factor X deficiency. Blood Rev. 16(2): 97-110.
3. Borensztajn K, et al. (2008) Factor Xa: at the crossroads between coagulation and signaling in physiology and disease. Trends Mol Med. 14(10): 429-40.

Manufactured By Sino Biological Inc., FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>