

Recombinant Human Factor XI Protein

Catalog No.: RP03592

Sequence Information

Species **Gene ID**
Human 2160

Swiss Prot **Tags**
P03951-1 C-His

Synonyms

Coagulation factor XI, FXI, F11,
Factor XI

Product Information

Source **Purification**
HEK293 cells ≥ 85 % as
 determined by
 SDS-PAGE.

Calculated MW **Observed MW**
69.5 kDa 75-80 kDa

Endotoxin

< 1 EU/μg of the protein by LAL
method.

Formulation

Lyophilized from 0.22μm filtered
solution in PBS (pH 7.4). Normally
8% trehalose is added as
protectant before lyophilization.

Reconstitution

Centrifuge the vial before opening.
Reconstitute to a concentration of
0.1-0.5 mg/mL in sterile distilled
water. Avoid vortex or vigorously
pipetting the protein. For long
term storage, it is recommended
to add a carrier protein or stabilizer
(e.g. 0.1% BSA, 5% HSA, 10% FBS
or 5% Trehalose), and aliquot the
reconstituted protein solution to
minimize free-thaw cycles.

Background

Factor XI (plasma thromboplastin antecedent) is a plasma glycoprotein, and a zymogen acting as a serine protease which participates in blood coagulation as a catalyst in the conversion of factor IX to factor IXa in the presence of calcium ions. It is an unusual dimeric protease, with structural features that distinguish it from vitamin K-dependent coagulation proteases. The factor XI is synthesized in the liver as a single polypeptide chain with a molecular weight estimated between 125 ~160 kDa and then is processed into a disulfide-bond linked homodimer. FXI is a homodimer, with each subunit containing four apple domains and a protease domain. The apple domains form a disk structure with binding sites for platelets, high molecular weight kininogen, and the substrate factor IX (FIX). FXI is converted to the active protease FXIa by cleavage of the Arg369-Ile370 bond on each subunit. After the activation reaction, Factor XIa is composed of two heavy and two light chains held together by three disulfide bonds. The heavy chains are derived from the amino termini of the zymogen and responsible for the binding of factor XI to high molecular weight kininogen and for the activation of factor IX, while the light chain contains the catalytic portion of the enzyme and is homologous to the trypsin family of serine proteases. FXI deficiency is a disorder characterized by a mild or no bleeding tendency. Severe FXI deficiency is an injury-related bleeding disorder common in Ashkenazi Jews and rare worldwide.

Basic Information

Description

Recombinant Human Factor XII Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Met1-Val625) of Human Factor XI (Accession #NP_000119.1) fused with His tag at the C-Terminus.

Activity

Measured by its ability to cleave the fluorogenic peptide substrate, t-butyloxycarbonyl-Ile-Glu-Gly-Arg-7-amido-4-methylcoumarin (Boc-IEGR-AMC). The specific activity is >100 pmoles/min/μg. (Activation description: The proenzyme needs to be activated by Thermolysin for an activated form)

Shipping

Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

Storage

Store at -20°C

Operational Notes

For your safety and health, please wear a lab coat and disposable gloves for handling.

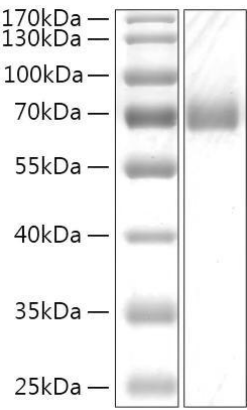
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Validation Data



Recombinant Human Factor XI Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.