

Human Coagulation Factor XIII B chain / F13B Protein (His Tag)

Catalog Number: 11510-H08H



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

FXIIIB; Cf-13b; Cf13b

Protein Construction:

A DNA sequence encoding the human F13B (P05160) (Met 1-Thr 661) was expressed, fused with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 95 % 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: Glu 21

Molecular Mass:

The secreted recombinant human F13B consists of 652 amino acids and predicts a molecular mass of 74.5 kDa. In SDS-PAGE under non-reduced conditions, the apparent molecular mass of rh F13B is approximately 65 kDa.

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:

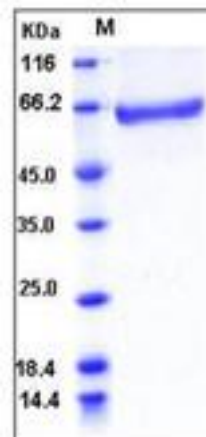
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Coagulation factor XIII B chain, also known as Fibrin-stabilizing factor B subunit, Protein-glutamine gamma-glutamyltransferase B chain, Transglutaminase B chain and F13B, is a secreted protein which contains 10 Sushi (CCP / SCR) domains. Coagulation factor XIII is the last zymogen to become activated in the blood coagulation cascade. Plasma factor XIII is a heterotetramer composed of 2 A subunits and 2 B subunits. The A subunits have catalytic function, and the B subunits do not have enzymatic activity and may serve as plasma carrier molecules. Platelet factor XIII is composed of just 2 A subunits, which are identical to those of plasma origin. The B chain of factor XIII is not catalytically active, but is thought to stabilize the A subunits and regulate the rate of transglutaminase formation by thrombin. Factor XIII acts as a transglutaminase to catalyze the formation of gamma-glutamyl-epsilon-lysine crosslinking between fibrin molecules, thus stabilizing the fibrin clot. Factor XIII deficiency is classified into two categories: type I deficiency, characterized by the lack of both the A and B subunits; and type II deficiency, characterized by the lack of the A subunit alone. These defects can result in a lifelong bleeding tendency, defective wound healing, and habitual abortion. Defects in F13B are the cause of factor XIII subunit B deficiency (FA13BD) which is an autosomal recessive disorder characterized by a life-long bleeding tendency, impaired wound healing and spontaneous abortion in affected women.

References

1. Bottenus R.E., *et al.*, (1990), Nucleotide sequence of the gene for the b subunit of human factor XIII. *Biochemistry* 29:11195-11209.
2. Ichinose A., *et al.*, (1986), Amino acid sequence of the b subunit of human factor XIII, a protein composed of ten repetitive segments. *Biochemistry* 25:4633-4638.
3. Ota T., *et al.*, (2004), Complete sequencing and characterization of 21,243 full-length human cDNAs. *Nat. Genet.* 36:40-45.

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