

## Coagulation factor XIII B/F13B Protein, Human, Recombinant (His)

### General Information

Synonyms:	Coagulation factor 13;coagulation factor XIII, B polypeptide;FXIIIB;Coagulation factor XIII
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. Predicted N terminal: Glu 21
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P05160
Molecular Weight:	74.5 kDa (predicted); 65 kDa (non-reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

Reconstitution:	Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>

### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

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 1 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 a 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.

### Reference

Bottenus R.E., et al.,(1990), Nucleotide sequence of the gene for the b subunit of human factor XIII. *Biochemistry* 29:11195-11209.

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.

Ota T., et al.,(2004), Complete sequencing and characterization of 21,243 full-length human cDNAs. *Nat. Genet.* 36: 40-45.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

**This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use**

Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481