

Recombinant Human F13A1, His-tagged

Cat. No. F13A1-12618H Lot. No. (See product label)

SPECIFICATION

Product Overview

Recombinant Human F13A1 protein, fused to His-tag, was expressed in E.coli and purified by Ni-sepharose.

Species

Human

Source

E.coli

ProteinLength

383-732a.a.

Description

This gene encodes the coagulation factor XIII A subunit. 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 comprised only of 2 A subunits, which are identical to those of plasma origin. Upon cleavage of the activation peptide by thrombin and in the presence of calcium ion, the plasma factor XIII dissociates its B subunits and yields the same active enzyme, factor XIIIa, as platelet factor XIII. This enzyme acts as a transglutaminase to catalyze the formation of gamma-glutamyl-epsilon-lysine crosslinking between fibrin molecules, thus stabilizing the fibrin clot. It also crosslinks alpha-2-plasmin inhibitor, or fibronectin, to the alpha chains of fibrin. 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.

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Storage	The protein is stored in PBS buffer at -20°C. Avoid repeated freezing and thawing cycles.
Storage Buffer	1M PBS (58mM Na ₂ HPO ₄ , 17mM NaH ₂ PO ₄ , 68mM NaCl, pH8.) added with 300mM Imidazole and 0.7% Sarcosyl, 15% glycerol.
GENE INFORMATION	
Gene Name	F13A1 coagulation factor XIII, A1 polypeptide [Homo sapiens]
Official Symbol	F13A1
Synonyms	F13A1; coagulation factor XIII, A1 polypeptide; F13A; coagulation factor XIII A chain; TGase; factor XIIIa; fibrinoligase; FSF, A subunit; coagulation factor XIIIa; transglutaminase A chain; transglutaminase. plasma; fibrin stabilizing factor, A subunit; coagulation factor XIII, A polypeptide; protein-glutamine gamma-glutamyltransferase A chain; bA525O21.1 (coagulation factor XIII, A1 polypeptide);
Gene ID	2162
mRNA Refseq	NM_000129
Protein Refseq	NP_000120
MIM	134570
UniProt ID	P00488
Chromosome Location	6p24.2-p23

Pathway

Common Pathway, organism-specific biosystem; Complement and coagulation cascades, organism-specific biosystem; Complement and coagulation cascades, conserved biosystem; Formation of Fibrin Clot (Clotting Cascade), organism-specific biosystem; Hemostasis, organism-specific biosystem; Platelet activation, signaling and aggregation, organism-specific biosystem; Platelet degranulation, organism-specific biosystem;

Function

metal ion binding; protein-glutamine gamma-glutamyltransferase activity; protein-glutamine gamma-glutamyltransferase activity; transferase activity, transferring acyl groups;

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