



# Recombinant Rat Coagulation factor XIII A chain (F13a1)

<b>Product Code</b>	CSB-EP007919RA-B
<b>Storage</b>	Store at -20°C, for extended storage, conserve at -20°C or -80°C.
<b>Uniprot No.</b>	O08619
<b>Product Type</b>	Recombinant Protein
<b>Immunogen Species</b>	Rattus norvegicus (Rat)
<b>Purity</b>	>85% (SDS-PAGE)
<b>Sequence</b>	<p>GV SLKDYLVNVA VHLFKERWDS NKIVHHTDKF DNNKLIVRRG QTFYIQIDFN            RPYDPRKDLF RVEYVIGRYP QENKGTYPV PVTTELQSGK WGAKVIMNED            RSVRLSVQSS PECIVGKFRM YVAVWTPYGI LRTQRDPETD TYILFNPWCE            EDAVYLDDEK EREEYVLNDI GGIFHGDFND IKRSWSYGG FEDGILDAFL            FVMDKAEMDL SGRGNPIKVS RVGSAMVNAK DDEGVLVGSW DNVYAYGIPP            SAWTGSVDIL LEYRSSETPV RYGQCWVLAG VFNTFLRCLG IPARVITNYS            SAHDNDANLQ MDIFLEEDGS VSFKLTKDSV WNYHCWNEAW            MTRPDLVGVF GGWQAVDSTP QENSDGMYRC GPASVQAVKH            GHVCFQFDAP FVLGEVNSDL VYITAKKDGTT HVVENVDATH IGKLVITKEI            GGDGMQDITD TYKFQEGQEE ERLALETALM YGAKKTLNTE GMVKSSSDVD            MNFDVENAVL GKDFRVTITF QNNSNLYTI LAYLSGNITF YTGVSKEFK            TESFEVTLDP LSLEKKEVLI RAGEYMSYLL EQGLLHFFVT ARINETRVVL            AKQKAIVLT I PKVTIKVRGT AMVGS DMVVT VEFTNPLKET LKNVWLHLEG            PGVMRPKRKM FREIRPNATV QWEEVCQPWV SGHRKLNASM            TSDSLRHVYG ELDLQIRRRP TV</p>
<b>Source</b>	E.coli
<b>Target Names</b>	F13a1
<b>Protein Names</b>	Recommended name: Coagulation factor XIII A chain Short name= Coagulation factor XIIIa EC= 2.3.2.13 Alternative name(s): Protein-glutamine gamma-glutamyltransferase A chain Transglutaminase A chain
<b>Expression Region</b>	39-732
<b>Notes</b>	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
<b>Tag Info</b>	Tag type will be determined during the manufacturing process.
<b>Protein Length</b>	Full Length of Mature Protein
<b>Target Details</b>	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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**Reconstitution**

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

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**Shelf Life**

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.