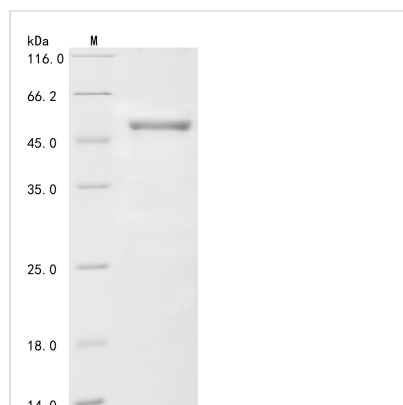




Recombinant Human Coagulation factor VIII (F8)

Product Code	CSB-EP007932HU
Abbreviation	Recombinant Human F8 protein
Storage	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.
Uniprot No.	P00451
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MRIQDPGKVFVFGNVDSSGIKHNIFNPPIIARYIRLHPHTHSIRSTLRMELMGCDL NSCSMPLGMESKAISDAQITASSYFTNMFATWSPSKARLHLQGRSNAWRPQV NNPKEWLQVDFQKTMKVTGVTQGVKSLLTSMYVKEFLISSSQDGHQWTLFF QNGKVKVFQGNQDSFTPVVNSLDPPLLTRYLRIHPQSWVHQIALRMEVLGCE AQDLY
Research Area	Others
Source	E.coli
Target Names	F8
Expression Region	1-216aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-GST-tagged
Mol. Weight	56.2 kDa
Protein Length	Full Length of Isoform 2
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

To produce recombinant human Coagulation factor VIII (F8) in *E. coli*, the target gene fragment tagged with an N-terminal 6xHis-GST gene is cloned into an expression plasmid and transformed into *E. coli* cells. The target gene fragment encodes the 1-216aa of human Coagulation factor VIII. The cells are grown and induced for protein expression. The cells are lysed to release the recombinant protein, which is purified using affinity chromatography techniques. Protein purity is evaluated by SDS-PAGE, reaching up to 85%.

Human FVIII (F8) plays a crucial role in the blood coagulation cascade. It acts as a cofactor for the activation of factor X by factor IXa, thereby facilitating the formation of blood clots [1][2]. FVIII typically binds to the von Willebrand factor (vWF) in plasma, further enhancing its stability and function [3].

FVIII is a glycoprotein highly sensitive to proteolysis but is protected by forming a high-affinity complex with coagulation factor VIII-related antigen, which is subsequently released into the circulation [4]. It is vital for proper blood clotting [5]. FVIII constitutes only a small fraction of the proteins in plasma, typically ranging from 1 to 3 ppm [6]. Acquired hemophilia A, an autoimmune disease, can lead to life-threatening hemorrhagic disorders due to the presence of autoantibodies against FVIII [7][8].

References:

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[8] S. Kim, S. Park, C. Park, S. Choi, & J. Kim, Spontaneous retroperitoneal hemorrhage caused by idiopathic acquired hemophilia a misdiagnosed as a delayed traumatic hematoma: a case report, Journal of Acute Care Surgery, vol. 9, no. 2, p. 72-75, 2019. <https://doi.org/10.17479/jacs.2019.9.2.72>

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.

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.