

Recombinant Human F8 therapeutic protein

Cat. No. F8-P037H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

This gene encodes coagulation factor VIII, which participates in the intrinsic pathway of blood coagulation; factor VIII is a cofactor for factor IXa which, in the presence of Ca²⁺ and phospholipids, converts factor X to the activated form Xa. This gene produces two alternatively spliced transcripts. Transcript variant 1 encodes a large glycoprotein, isoform a, which circulates in plasma and associates with von Willebrand factor in a noncovalent complex. This protein undergoes multiple cleavage events. Transcript variant 2 encodes a putative small protein, isoform b, which consists primarily of the phospholipid binding domain of factor VIIIc. This binding domain is essential for coagulant activity. Defects in this gene results in hemophilia A, a common recessive X-linked coagulation disorder. The expression product is the active ingredient of Advate, Alphanate, Bioclote, Helixate, Helixate FS, Hemofil M, Humate-P, Hyate:C, Koate-HP, Kogenate, Kogenate FS, Monarc-M, Monoclate-P, ReFacto, Xyntha and Recombinate.

Species

Human

Source

CHO

ProteinLength

2332 aa

Description

This gene encodes coagulation factor VIII, which participates in the intrinsic pathway of blood coagulation; factor VIII is a cofactor for factor IXa which, in the presence of Ca²⁺ and phospholipids, converts factor X to the activated form Xa. This gene produces two alternatively spliced transcripts. Transcript variant 1 encodes a large

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glycoprotein, isoform a, which circulates in plasma and associates with von Willebrand factor in a noncovalent complex. This protein undergoes multiple cleavage events. Transcript variant 2 encodes a putative small protein, isoform b, which consists primarily of the phospholipid binding domain of factor VIIIc. This binding domain is essential for coagulant activity. Defects in this gene results in hemophilia A, a common recessive X-linked coagulation disorder.

Molecular Mass 264.7 kDa

AA Sequence

ATRRYYLGAVELSDYMQSDLGELPVDARFPPRVPKSFPFNTSVVYKKTLEFVEFTD
HLFNIAPRPPWMGLLGPT IQAEVYDVTVITLKNMASHPVSLHAVGVSYWKASEGA
EYDDQTSQREKEDDKVFPGGSHTYVWQVLKENGPMASD PLCLTYSYLSHVDLVKD
LNSGLIGALLVCREGSLAKEKTQTLHKFILLFAVFDEGKSWHSETKNSLMQDRDAAS
A RAWPKMHTVNGYVNRSLPGLIGCHRKSVMYWHVIGMGTTPVHSIFLEGHTFLVRN
HRQASLEISPITFLTAQTLL MDLGQFLLFCHISSHQHDGMEAYVKVDSCPEEPQLRM
KNNEEAEDYDDDLTDSEMDVVRFDNDNSPSFIQIRSA KKHPTWVHYIAAEEEDW
DYAPLV LAPDDRSYKSQYLNNGPQRIGRKYKKVRFMAYTDETFKTREAIQHESGILG
PLLYGEVGD TLLIIFKNQASRPYNIYPHGITDVRPLYSRRLPKGVKHLKDFPILPGEIFK
YKWTVTVEDGPTKSD PRCLTRYSSFVNMERDLASGLIGPLLCYKESVDQRGNQI
MSDKRNVILFSVFDENRSWYLTENIQRFLPNPAG VQLEDPEFQASNIMHSINGYVFD
SLQLSVCLHEVAYWYILSIGAQTDFLSVFFSGYTFKHKMYEDTLTLFPFSG ETVFM
SMENPGLWILGCHNSDFRNRGMTALLKVSSCDKNTGDYEDSYEDISAYLLSKNNAI
EPRSFSQNSRHPS TRQKQFNATTIPENDIEKTDPWFAHRTMPKIQNVSSD LLM
RQSPTPHGLSLSDLQEAKYETFSDDPSPGAI DSNNSLSEMTFRPQLHHSGDMVFT
PESGLQLRLNEKLGTTAATELKKLDFKVSSTSNNLISTIPSDNLAAGTDN TSSLGPPS
MPVHYDSQLD TTLFGKKSSPLTESGGPLSLSEENND SKLLESGLMNSQESSWGKN
VSSTESGRLFKG KRAHGPALLTKDNALFKVSISLLKTNKTSNNSATNRKTHIDGPSLL
IENSPSVWQNILES DTEFKKVTPLIHDRM LMDKNATALRLNHMSNKTTSKNNMEMV
QQKKEGPIPPDAQNPDM SFFKMLFLPESARWIQRT HGKNSLNSGQGPS PKQLVSL
GPEKSVEGQNFLSEKNKVVGKGFTKDVGLKEMVFPSSRNFLTLNLDNLHENNTH

NQEKKIQEEIEK KETLIQENVVLPQIHTVTGTFKNFMKNLFLLSTRQNVEGSYDGAYAP
 VLQDFRSLNDSTNRRTKKHTAHFSKKGEEE NLEGLGNQTKQIVEKYACTTRISPNTS
 QQNFVTQRSKRALKQFRLPLEETELEKRIIVDDTSTQWSKNMKHLTPS TLTQIDYNE
 KEKGAITQSPLSDCLTRSHSIPQANRSPLPIAKVSSFPSIRPIYLTRVLFQDNSSHLPA
 ASYRKKD SGVQESSHFLQGAKKNNLSLAILTLEMTGDQREVGS LGTSATNSVTYKK
 VENTVLPKPDLPKTSKGVELLPKVHI YQKDLFPTTETSNGSPGHLDLVEGSLQGTGEG
 AIKWNEANRPGKVPFLRVATESSAKTPSKLLDPLAWDNHYGTQI PKEEWKSQEKSP
 EKTAFFKKDTILSLNACESNHAIAAINEGQNKPEIEVTWAKQGRTERLCSQNPPVLKR
 HQREI TRTTLQSDQEEIDYDDTISVEMKKEDFDIYDEDENQSPRSFQKKTRHYFIAAV
 ERLWDYGMSSSPHVLNRNAQSG SVPQFKKVVFEFTDGSFTQPLYRGELNEHLGL
 LGPYIRAEVEDNIMVTFRNQASRPYSFYSSLISYEEDQRQGA EPRKNFVKPNETKTY
 FWKVQHMAPTKDEFDCWAYFSDVDLEKDVHSGLIGPLLCHTNTLNPAHGRQ
 VTVQE FALFFTIFDETKSWYFTENMERNCRAPCNIQMEDPTFKENYRFHAINGYIMD
 TLPGLVMAQDQRIRWYLLSMGSN ENIHSIHFSGHVFTVRKKEEYKMALYNLYPGVF
 ETVEMLPSKAGIWRVECLIGEHLHAGMSTLFLVYSNKCQTPL GMASGHIRDFQITAS
 GQYGQWAPKLARLHYSGSINAWSTKEPFSWIKVDLLAPMIIHGKTQGARQKFSSLYI
 SQ FIIMYSLDGKKWQTYRGNSTGTLMVFFGNVDSSGIKHNIFNPPIIARYIRLHPHTY
 SIRSTLRMELMGCDLNSCS MPLGMESKAISDAQITASSYFTNMFATWSPSKARLHL
 QGRSNAWRPQVNNPKEWLQVDFQKTMKVTGVTQGVKS LLTSMYVKEFLISSSQD
 GHQWTLFFQNGKVVFQGNQDSFTPVVNSLDPPLLTRYLRIHPQSWVHQIALRMEV
 LG CEAQDLY

Endotoxin < 1.0 EU per µg of the protein

Purity >95%

Storage Can be stored at +4 centigrade short term (1-2weeks). For long term storage, aliquot and store at -20 centigrade or -70 centigrade. Avoid repeated freezing and thawing cycles.

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GENE INFORMATION

Gene Name	F8 coagulation factor VIII, procoagulant component [Homo sapiens]
Official Symbol	F8
Synonyms	F8; coagulation factor VIII, procoagulant component; F8C; coagulation factor VIII; DXS1253E; Factor VIIIF8B; FVIII; HEMA; hemophilia A; factor VIII F8B; antihemophilic factor; coagulation factor VIIIC; AHF; F8B;
Gene ID	2157
mRNA Refseq	NM_000132
Protein Refseq	NP_000123
MIM	300841
UniProt ID	P00451
Chromosome Location	Xq28
Pathway	Blood Clotting Cascade, organism-specific biosystem; Complement and Coagulation Cascades, 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; Intrinsic Pathway, organism-specific biosystem;
Function	copper ion binding; metal ion binding; oxidoreductase activity; protein binding;

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