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 Ca+2 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, Bioclate, 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 Ca+2 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	ATRRYYLGAVELSWDYMQSDLGELPVDARFPPRVPKSFPFNTSVVYKKTLFVEFTD HLFNIAKPRPPWMGLLGPT IQAEVYDTVVITLKNMASHPVSLHAVGVSYWKASEGA EYDDQTSQREKEDDKVFPGGSHTYVWQVLKENGPMASD PLCLTYSYLSHVDLVKD LNSGLIGALLVCREGSLAKEKTQTLHKFILLFAVFDEGKSWHSETKNSLMQDRDAAS A RAWPKMHTVNGYVNRSLPGLIGCHRKSVYWHVIGMGTTPEVHSIFLEGHTFLVRN HRQASLEISPITFLTAQTLL MDLGQFLLFCHISSHQHDGMEAYVKVDSCPEEPQLRM KNNEEAEDYDDDLTDSEMDVVRFDDDNSPSFIQIRSVA KKHPKTWVHYIAAEEEDW DYAPLVLAPDDRSYKSQYLNNGPQRIGRKYKKVRFMAYTDETFKTREAIQHESGILG PLLYGEVGDTLLIIFKNQASRPYNIYPHGITDVRPLYSRRLPKGVKHLKDFPILPGEIFK YKWTVTVEDGPTKSD PRCLTRYYSSFVNMERDLASGLIGPLLICYKESVDQRGNQI MSDKRNVILFSVFDENRSWYLTENIQRFLPNPAG VQLEDPEFQASNIMHSINGYVFD SLQLSVCLHEVAYWYILSIGAQTDFLSVFFSGYTFKHKMVYEDTLTLFPFSG ETVFM SMENPGLWILGCHNSDFRNRGMTALLKVSSCDKNTGDYYEDSYEDISAYLLSKNNAI EPRSFSQNSRHPS TRQKQFNATTIPENDIEKTDPWFAHRTPMPKIQNVSSSDLLMLL RQSPTPHGLSLSDLQEAKYETFSDDPSPGAI DSNNSLSEMTHFRPQLHHSGDMVFT PESGLQLRLNEKLGTTAATELKKLDFKVSSTSNNLISTIPSDNLAAGTDN TSSLGPPS MPVHYDSQLDTTLFGKKSSPLTESGGPLSLSEENNDSKLLESGLMNSQESSWGKN VSSTESGRLFKG KRAHGPALLTKDNALFKVSISLLKTNKTSNNSATNRKTHIDGPSLL IENSPSVWQNILESDTEFKKVTPLIHDRM LMDKNATALRLNHMSNKTTSSKNMEMV QQKKEGPIPPDAQNPDMSFFKMLFLPESARWIQRTHGKNSLNSGQGPS PKQLVSL GPEKSVEGQNFLSEKNKVVVGKGEFTKDVGLKEMVFPSSRNLFLTNLDNLHENNTH

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	NQEKKIQEEIEK KETLIQENVVLPQIHTVTGTKNFMKNLFLLSTRQNVEGSYDGAYAP VLQDFRSLNDSTNRTKKHTAHFSKKGEEE NLEGLGNQTKQIVEKYACTTRISPNTS QQNFVTQRSKRALKQFRLPLEETELEKRIIVDDTSTQWSKNMKHLTPS TLTQIDYNE KEKGAITQSPLSDCLTRSHSIPQANRSPLPIAKVSSFPSIRPIYLTRVLFQDNSSHLPA ASYRKKD SGVQESSHFLQGAKKNNLSLAILTLEMTGDQREVGSLGTSATNSVTYKK VENTVLPKPDLPKTSGKVELLPKVHI YQKDLFPTETSNGSPGHLDLVEGSLLQGTEG AIKWNEANRPGKVPFLRVATESSAKTPSKLLDPLAWDNHYGTQI PKEEWKSQEKSP EKTAFKKKDTILSLNACESNHAIAAINEGQNKPEIEVTWAKQGRTERLCSQNPPVLKR HQREI TRTTLQSDQEEIDYDDTISVEMKKEDFDIYDEDENQSPRSFQKKTRHYFIAAV ERLWDYGMSSSPHVLRNRAQSG SVPQFKKVVFQEFTDGSFTQPLYRGELNEHLGL LGPYIRAEVEDNIMVTFRNQASRPYSFYSSLISYEEDQRQGA EPRKNFVKPNETKTY FWKVQHHMAPTKDEFDCKAWAYFSDVDLEKDVHSGLIGPLLVCHTNTLNPAHGRQ VTVQE FALFFTIFDETKSWYFTENMERNCRAPCNIQMEDPTFKENYRFHAINGYIMD TLPGLVMAQDQRIRWYLLSMGSN ENIHSIHFSGHVFTVRKKEEYKMALYNLYPGVF ETVEMLPSKAGIWRVECLIGEHLHAGMSTLFLVYSNKCQTPL GMASGHIRDFQITAS GQYGQWAPKLARLHYSGSINAWSTKEPFSWIKVDLLAPMIIHGIKTQGARQKFSSLYI SQ FIIMYSLDGKKWQTYRGNSTGTLMVFFGNVDSSGIKHNIFNPPIIARYIRLHPTHY SIRSTLRMELMGCDLNSCS MPLGMESKAISDAQITASSYFTNMFATWSPSKARLHL QGRSNAWRPQVNNPKEWLQVDFQKTMKVTGVTTQGVKS LLTSMYVKEFLISSSQD GHQWTLFFQNGKVKVFQGNQDSFTPVVNSLDPPLLTRYLRIHPQSWVHQIALRMEV 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. Avoidrepeated 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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