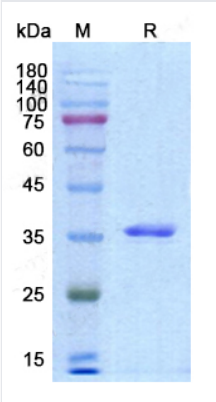
F12 Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	F12, Recombinant Protein
Full Product Name	Recombinant Human F12, N-His
Product Gene Name	F12 recombinant protein
Product Synonym Names	F12; HAF; Hageman factor; Beta-factor XIIa part 2; Coagulation factor XII
Host	E coli
Form/Format	Lyophilized from a solution in PBS pH7.4, 0.02% NLS, 1mM EDTA, 4% Trehalose, 1% Mannitol.
Purity/Purification	>90% as determined by SDS-PAGE
Preparation and Storage	Use a manual defrost freezer and avoid repeated freeze thaw cycles. Store at 2 to 8 degree C for one week. Store at -20 to -80 degree C for twelve months from the date of receipt.
Molecular Weight	67,792 Da
Sequence Positions	Met316-Ser615
Chromosome Location	Chromosome: 5; NC_000005.9 (176829139..176836577, complement). Location: 5q33-qter
OMIM	234000
3D Structure	ModBase 3D Structure for P00748
Species	Human
Reconstitution	Reconstitute in sterile water for a stock solution.
Product Categories/Family for F12 recombinant protein	Recombinant Proteins
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for F12 recombinant protein	SDS-PAGE (SDS), Western Blot (WB), ELISA (EIA), Immunogen
Related Product Information for F12 recombinant protein	MBS1572794 is a recombinant protein targeting F12. Also known as Recombinant Human F12, N-His. Host: E coli.
Other Notes	Small volumes of F12 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



SDS-Page of F12 recombinant protein
SDS PAGE for recombinant Human F12

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for F12. It may not necessarily be applicable to this product.

NCBI GI #	145275213
NCBI GeneID	2161
NCBI Accession #	NP_000496.2
UniProt Primary Accession #	P00748
UniProt Secondary Accession #	P78339
UniProt Related Accession #	P00748
GenBank Nucleotide #	NM_000505.3
NCBI Official Full Name	coagulation factor XII
NCBI Official Synonym Full Names	coagulation factor XII (Hageman factor)
NCBI Official Symbol	F12
NCBI Official Synonym Symbols	HAF; HAE3; HAEX
UniProt Protein Name	Coagulation factor XII
UniProt Synonym Protein Names	Hageman factor
Protein Family	Coagulation factor
UniProt Gene Name	F12
UniProt Synonym Gene Names	HAF
UniProt Entry Name	FA12_HUMAN
NCBI Protein Information	coagulation factor XII; Hageman factor; beta-factor XIIa part 1; beta-factor XIIa part 2; coagulation factor XIIa heavy chain; coagulation factor XIIa light chain
NCBI Summary for F12	This gene encodes coagulation factor XII which circulates in blood as a zymogen. This single chain zymogen is converted to a two-chain serine protease with an heavy chain (alpha-factor XIIa) and a light chain. The heavy chain contains two fibronectin-type domains, two epidermal growth factor (EGF)-like domains, a kringle domain and a proline-rich domain, whereas the light chain contains only a catalytic domain. On activation, further cleavages takes place in the heavy chain, resulting in the production of beta-factor XIIa light chain and the alpha-factor XIIa light chain becomes beta-factor XIIa heavy chain. Prekallikrein is cleaved by factor XII to form kallikrein, which then cleaves factor XII first to alpha-factor XIIa and then to beta-factor XIIa. The active factor XIIa participates in the initiation of blood coagulation, fibrinolysis, and the generation of bradykinin and angiotensin. It activates coagulation factors VII and XI. Defects in this gene do not cause any clinical symptoms and the sole effect is that whole-blood clotting time is prolonged. [provided by RefSeq, Jul 2008]

UniProt Comments for F12	F12: Factor XII is a serum glycoprotein that participates in the initiation of blood coagulation, fibrinolysis, and the generation of bradykinin and angiotensin. Prekallikrein is cleaved by factor XII to form kallikrein, which then cleaves factor XII first to alpha-factor XIIa and then trypsin cleaves it to beta- factor XIIa. Alpha-factor XIIa activates factor XI to factor XIa. Defects in F12 are the cause of factor XII deficiency (FA12D); also known as Hageman factor deficiency. This trait is an asymptomatic anomaly of in vitro blood coagulation. Its diagnosis is based on finding a low plasma activity of the factor in coagulating assays. It is usually only accidentally discovered through pre-operative blood tests. F12 deficiency is divided into two categories, a cross-reacting material (CRM)-negative group (negative F12 antigen detection) and a CRM-positive group (positive F12 antigen detection). Defects in F12 are the cause of hereditary angioedema type 3 (HAE3); also known as estrogen-related HAE or hereditary angioneurotic edema with normal C1 inhibitor concentration and function. HAE is characterized by episodic local subcutaneous edema, and submucosal edema involving the upper respiratory and gastrointestinal tracts. HAE3 occurs exclusively in women and is precipitated or worsened by high estrogen levels (e.g. during pregnancy or treatment with oral contraceptives). It differs from HAE types 1 and 2 in that both concentration and function of C1 inhibitor are normal. Belongs to the peptidase S1 family. Protein type: Protease; Chaperone; Secreted, signal peptide; Secreted; EC 3.4.21.38 Chromosomal Location of Human Ortholog: 5q35.3 Cellular Component: extracellular space; extracellular region; plasma membrane Molecular Function: protein binding; serine-type endopeptidase activity; misfolded protein binding Biological Process: response to misfolded protein; positive regulation of blood coagulation; proteolysis; protein autoprocessing; fibrinolysis; plasma kallikrein-kinin cascade; innate immune response; positive regulation of fibrinolysis; zymogen activation; protein processing; blood coagulation; blood coagulation, intrinsic pathway; Factor XII activation Disease: Angioedema, Hereditary, Type Iii; Factor Xii Deficiency
Research Articles on F12	**1.** Immobilized Ni(2+) and Cu(2+) bind FXII, FXI and high molecular weight kininogen with high affinity and stimulate activation of the contact pathway, driving FXII-mediated coagulation.
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