Complement Component 4 Beta (C4BPB) Recombinant Protein

PRODUCT OVERVIEW

Product Name	Complement Component 4 Beta (C4BPB), Recombinant Protein
Full Product Name	Recombinant Human Complement Component 4 Binding Protein, Beta
Product Gene Name	C4BPB recombinant protein
Product Synonym Names	C4b-binding protein beta chain, C4BPB, C4BP.
Sequence	MGSSHHH HHH SSGLVPRGSH MGSHMS DAEH CPELPPVDNS IFVAKEVEGQ ILGTYVCIKG YHLVGKKTLF CNASKEWDNT TTECRLGHCP DPVLVNGEFS SSGPVNVSDK ITFMCNDHYI LKGSNRSQCL EDHTWAPPFP ICKSRDCDPP GNPVHGYFEG NNFTLGSTIS YYCEDRYYLV GVQEQQCVDG EWSSALPVCK LIQEAPKPEC EKALLAFQES KNLCEAMENF MQQLKESGMT MEELKYSLEL KKAELKAKLL .
Host	E Coli
Form/Format	C4BPB protein solution (1mg/ml) containing 20mM Tris-HCl buffer (pH8.0) and 10% glycerol and 0.15M NaCl. Sterile Filtered colorless solution.
Purity/Purification	Greater than 90% as determined by SDS-PAGE.
Preparation and Storage	Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.
Molecular Weight	28,286 Da
OMIM	120831
3D Structure	ModBase 3D Structure for P20851
Product Categories/Family for C4BPB recombinant protein	Recombinant & Natural Proteins; Recombinant Proteins; Complement Component
Related Product Information for C4BPB recombinant protein	**Description:** C4BPB Human Recombinant produced in E Coli is a single, non-glycosylated polypeptide chain containing 260 amino acids (18-252 a.a) and having a molecular mass of 29kDa.C4BPB is fused to a 25 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques. **Introduction:** Complement Component 4 Binding Protein, Beta (C4BPB) belongs to a superfamily of proteins composed primarily of tandemly arrayed short consensus repeats of approximately 60 amino acids. C4BPB has a regulatory role in the coagulation system also, mediated via the beta-chain binding of protein S, a vitamin K-dependent protein which functions as a cofactor of activated protein C. A single, unique beta-chain of the C4BPB assembles with 7 identical alpha-chains into the principal isoform of C4BPB, which is a multimeric protein that controls activation of the complement cascade via the classical pathway. C4BPB binds as a cofactor to C3b/C4b inactivator (C3bINA), which subsequently hydrolyzes the complement fragment C4b. In addition, C4BPB accelerates the degradation of the C4bC2a complex (C3 convertase) by detaching the complement fragment C2a. Furthermore, C4BPB interacts with anticoagulant protein S and with serum amyloid P component.
Other Notes	Small volumes of C4BPB 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.
Searchable Terms for C4BPB purchase	MBS144974 is a recombinant protein targeting C4BPB. Also known as Recombinant Human Complement Component 4 Binding Protein, Beta. Host: E Coli.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for C4BPB. It may not necessarily be applicable to this product.

NCBI GI #	4502505

NCBI GeneID	725
NCBI Accession #	NP_000707.1
UniProt Primary Accession #	P20851
UniProt Secondary Accession #	Q5VVR0; Q9BS25; A5JYP8; D3DT81
UniProt Related Accession #	P20851
GenBank Nucleotide #	NM_000716.3
NCBI Official Full Name	C4b-binding protein beta chain isoform 1
NCBI Official Synonym Full Names	complement component 4 binding protein, beta
NCBI Official Symbol	C4BPB
NCBI Official Synonym Symbols	C4BP
UniProt Protein Name	C4b-binding protein beta chain
Protein Family	C4b-binding protein
UniProt Gene Name	C4BPB
UniProt Entry Name	C4BPB_HUMAN
NCBI Protein Information	C4b-binding protein beta chain
NCBI Summary for C4BPB	This gene encodes a member of a superfamily of proteins composed predominantly of tandemly arrayed short consensus repeats of approximately 60 amino acids. A single, unique beta-chain encoded by this gene assembles with seven identical alpha-chains into the predominant isoform of C4b-binding protein, a multimeric protein that controls activation of the complement cascade through the classical pathway. C4b-binding protein has a regulatory role in the coagulation system also, mediated through the beta-chain binding of protein S, a vitamin K-dependent protein that serves as a cofactor of activated protein C. The genes encoding both alpha and beta chains are located adjacent to each other on human chromosome 1 in the regulator of complement activation gene cluster. Alternative splicing gives rise to multiple transcript variants. [provided by RefSeq, Jul 2008]
UniProt Comments for C4BPB	C4BPB: Controls the classical pathway of complement activation. It binds as a cofactor to C3b/C4b inactivator (C3bINA), which then hydrolyzes the complement fragment C4b. It also accelerates the degradation of the C4bC2a complex (C3 convertase) by dissociating the complement fragment C2a. It also interacts with anticoagulant protein S and with serum amyloid P component. The beta chain binds protein S. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Secreted, signal peptide; Secreted Chromosomal Location of Human Ortholog: 1q32 Cellular Component: extracellular space; extracellular region; plasma membrane Molecular Function: protein binding Biological Process: negative regulation of complement activation, classical pathway; positive regulation of protein catabolic process; regulation of complement activation; innate immune response; blood coagulation; complement activation, classical pathway
Research Articles on C4BPB	**1.** Binding of complement inhibitor C4b-binding protein to a highly virulent Streptococcus pyogenes M1 strain is mediated by protein H and enhances adhesion to and invasion of endothelial cells.
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