Complement C9 (C9) Human Protein

PRODUCT OVERVIEW

Product Name	Complement C9, Protein
Full Product Name	Human Complement C9
Product Gene Name	C9 protein
Product Synonym Names	Complement C9 Human; C9 Human
Host	Human Plasma
Form/Format	C9 protein solution contains 10mM Sodium phosphate and 145mM NaCl, pH7.3. Sterile filtered solution.
Purity/Purification	Greater than 90.0% as determined by SDS-PAGE.
Preparation and Storage	C9 Human is stable at 4 degree C if entire vial will be used within 2-4 weeks. Store, frozen below -20 degree 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	63,173 Da
Chromosome Location	Chromosome: 5; NC_000005.9 (39284377..39364655, complement). Location: 5p14-p12
OMIM	120940
3D Structure	ModBase 3D Structure for P02748
Human Virus Test	Plasma from each donor has been tested and found negative for antibody to HIV-1, HIV-2, HCV and HBSAG.
Product Categories/Family for C9 protein	RECOMBINANT & NATURAL PROTEINS
Related Product Information for C9 protein	Introduction: C9 binds to the C5b-8 complex and formson cell membranes the mature membrane attack complex. Each pathway of complement activation generates proteolytic enzyme complexes which binds the target surface. These enzymes cleave a peptide bond in the larger alpha chain of C5 releasing the anaphylatoxin C5a and activating C5b. This is the only proteolytic step in the assembly of the C5b-9 complex. Although C5b is unstable it remains bound to the activating complex for a few minutes during which it binds a single C6 from the surrounding fluid or it decays and is no longer capable of forming MAC.The C5b,6 complex may also remain connected to the C3/C5 convertase where the binding of a single C7 exposes a membrane-binding region and C5b,6,7 can enter into the bilipid layer of the target cell. Each C5b-7 complex can bind 1 molecule of C8 causing the complex to enter more firmly into the membrane. The C5b-8 complex can cause lysis without C9,though it will take longer andwill require many more complexes per cell than with C9. The main role of C8 is to catalyze the binding of C9 and each can bind another C9 initiating formation of a ring structure containing up to 18 C9molecules.C5b-9 complexes with 1 or more C9 are called the Membrane Attack Complex of complement. Description: Human Complement C9 produced in Human plasma is glycosylated polypeptide chain having a total molecular mass of 71kDa.
Other Notes	Small volumes of C9 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 C9 purchase	MBS147392 is a protein targeting C9. Also known as Human Complement C9. Host: Human Plasma.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for C9. It may not necessarily be applicable to this product.

NCBI GI #	4502511
NCBI GeneID	735
NCBI Accession #	NP_001728.1
UniProt Primary Accession #	P02748
UniProt Related Accession #	P02748
GenBank Nucleotide #	NM_001737.3
NCBI Official Full Name	complement component C9
NCBI Official Synonym Full Names	complement component 9
NCBI Official Symbol	C9
UniProt Protein Name	Complement component C9
Protein Family	Complement component
UniProt Gene Name	C9
UniProt Entry Name	CO9_HUMAN
NCBI Protein Information	complement component C9
NCBI Summary for C9	This gene encodes the final component of the complement system. It participates in the formation of the Membrane Attack Complex (MAC). The MAC assembles on bacterial membranes to form a pore, permitting disruption of bacterial membrane organization. Mutations in this gene cause component C9 deficiency. [provided by RefSeq, Feb 2009]
UniProt Comments for C9	C9: Constituent of the membrane attack complex (MAC) that plays a key role in the innate and adaptive immune response by forming pores in the plasma membrane of target cells. C9 is the pore-forming subunit of the MAC. Defects in C9 are a cause of complement component 9 deficiency (C9D). A rare defect of the complement classical pathway associated with susceptibility to severe recurrent infections, predominantly by Neisseria gonorrhoeae or Neisseria meningitidis. Belongs to the complement C6/C7/C8/C9 family. Protein type: Membrane protein, multi-pass; Extracellular matrix; Membrane protein, integral; Apoptosis Chromosomal Location of Human Ortholog: 5p14-p12 Cellular Component: membrane attack complex; integral to plasma membrane; cytoplasm; extracellular region; plasma membrane Biological Process: complement activation, alternative pathway; regulation of complement activation; innate immune response; hemolysis by symbiont of host red blood cells; complement activation, classical pathway Disease: Macular Degeneration, Age-related, 15; Complement Component 9 Deficiency
Research Articles on C9	**1.** Caveolin-1 and dynamin-2 are essential for removal of the complement C5b-9 complex via endocytosis.
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