# CD46 Blocking Peptide (Center Y354) Blocking Peptide

## PRODUCT OVERVIEW

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| **Product Name** | CD46, Blocking Peptide |
| **Full Product Name** | CD46 Blocking Peptide (Center Y354) |
| **Product Gene Name** | CD46 blocking peptide |
| **Product Synonym Gene Name** | MCP; MIC10 |
| **Product Synonym Names** | Membrane cofactor protein; TLX; Trophoblast leukocyte common antigen; CD46; CD46; MCP; MIC10 |
| **Form/Format** | Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 1 mg/ml. |
| **Specificity** | The synthetic peptide sequence is selected from aa 350-361 of Human CD46 |
| **Preparation and Storage** | Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C. |
| **Antibody/Peptide Pairs** | CD46 peptide (MBS9229154) is used for blocking the activity of CD46 antibody (MBS9207697) |
| **Molecular Weight** | 36,826 Da |
| **OMIM** | 120920 |
| **Cellular Location** | Cytoplasmic vesicle, secretory vesicle, acrosome inner membrane; Single- pass type I membrane protein Note: Inner acrosomal membrane of spermatozoa. Internalized upon binding of Measles virus, Herpesvirus 6 or Neisseria gonorrhoeae, which results in an increased susceptibility of infected cells to complement-mediated injury. In cancer cells or cells infected by Neisseria, shedding leads to a soluble peptide |
| **Tissue Location** | Expressed by all cells except erythrocytes. |
| **Related Product Information for CD46 blocking peptide** | Acts as a cofactor for complement factor I, a serine protease which protects autologous cells against complement-mediated injury by cleaving C3b and C4b deposited on host tissue. May be involved in the fusion of the spermatozoa with the oocyte during fertilization. Also acts as a costimulatory factor for T- cells which induces the differentiation of CD4+ into T-regulatory 1 cells. T-regulatory 1 cells suppress immune responses by secreting interleukin-10, and therefore are thought to prevent autoimmunity. A number of viral and bacterial pathogens seem to exploit this property and directly induce an immunosuppressive phenotype in T-cells by binding to CD46. |
| **Other Notes** | Small volumes of CD46 blocking peptide 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 CD46 purchase** | MBS9229154 is a blocking peptide targeting CD46. Also known as CD46 Blocking Peptide (Center Y354). |

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CD46. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 41019474 |
| **NCBI GeneID** | 4179 |
| **NCBI Accession #** | P15529.3 |
| **UniProt Primary Accession #** | P15529 |
| **UniProt Secondary Accession #** | Q15429; Q53GV9; Q5HY94; Q5VWS6; Q5VWS7; Q5VWS8; Q5VWS9; Q5VWT0; A0T1T0; A0T1T1; A0T1T2 |
| **UniProt Related Accession #** | P15529 |
| **NCBI Official Full Name** | Membrane cofactor protein |

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| **NCBI Official Synonym Full Names** | CD46 molecule |
| **NCBI Official Symbol** | CD46 |
| **NCBI Official Synonym Symbols** | MCP; TLX; AHUS2; MIC10; TRA2.10 |
| **UniProt Protein Name** | Membrane cofactor protein |
| **UniProt Synonym Protein Names** | TLX; Trophoblast leukocyte common antigen; CD_antigen: CD46 |
| **Protein Family** | Membrane cofactor protein |
| **UniProt Gene Name** | CD46 |
| **UniProt Synonym Gene Names** | MCP; MIC10 |
| **UniProt Entry Name** | MCP_HUMAN |
| **NCBI Protein Information** | membrane cofactor protein |
| **NCBI Summary for CD46** | The protein encoded by this gene is a type I membrane protein and is a regulatory part of the complement system. The encoded protein has cofactor activity for inactivation of complement components C3b and C4b by serum factor I, which protects the host cell from damage by complement. In addition, the encoded protein can act as a receptor for the Edmonston strain of measles virus, human herpesvirus-6, and type IV pili of pathogenic Neisseria. Finally, the protein encoded by this gene may be involved in the fusion of the spermatozoa with the oocyte during fertilization. Mutations at this locus have been associated with susceptibility to hemolytic uremic syndrome. Alternatively spliced transcript variants encoding different isoforms have been described. [provided by RefSeq, Jun 2010] |
| **UniProt Comments for CD46** | CD46: Acts as a cofactor for complement factor I, a serine protease which protects autologous cells against complement- mediated injury by cleaving C3b and C4b deposited on host tissue. May be involved in the fusion of the spermatozoa with the oocyte during fertilization. Also acts as a costimulatory factor for T- cells which induces the differentiation of CD4+ into T-regulatory 1 cells. T-regulatory 1 cells suppress immune responses by secreting interleukin-10, and therefore are thought to prevent autoimmunity. A number of viral and bacterial pathogens seem to exploit this property and directly induce an immunosuppressive phenotype in T-cells by binding to CD46. Defects in CD46 are a cause of susceptibility to hemolytic uremic syndrome atypical type 2 (AHUS2). An atypical form of hemolytic uremic syndrome. It is a complex genetic disease characterized by microangiopathic hemolytic anemia, thrombocytopenia, renal failure and absence of episodes of enterocolitis and diarrhea. In contrast to typical hemolytic uremic syndrome, atypical forms have a poorer prognosis, with higher death rates and frequent progression to end-stage renal disease. Susceptibility to the development of atypical hemolytic uremic syndrome can be conferred by mutations in various components of or regulatory factors in the complement cascade system. Other genes may play a role in modifying the phenotype. Patients with CD46 mutations seem to have an overall better prognosis compared to patients carrying CFH mutations. 16 isoforms of the human protein are produced by alternative splicing.<br><br>Protein type: Membrane protein, integral; Cell surface; Receptor, misc.<br><br>Chromosomal Location of Human Ortholog: 1q32<br><br>Cellular Component: cell surface; focal adhesion; integral to plasma membrane; plasma membrane<br><br>Molecular Function: cadherin binding; protein binding; receptor activity<br><br>Biological Process: adaptive immune response; interleukin-10 production; positive regulation of interleukin-10 production; positive regulation of memory T cell differentiation; positive regulation of regulatory T cell differentiation; positive regulation of T cell proliferation; regulation of complement activation; regulation of Notch signaling pathway; T cell mediated immunity |
| **Research Articles on CD46** | **1.** CD46 controls both Th1 activation and regulation via a miR-150-dependent mechanism. |
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