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CD59 / Complement Regulatory Protein / Protectin Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone 193-27]
Catalog # AH12764

Product Information

Application	IF, FC
Primary Accession	P13987
Other Accession	966, 278573, 709466, 710641
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgM, kappa
Clone Names	193-27
Calculated MW	14177

Additional Information

Gene ID	966
Other Names	CD59 glycoprotein, 1F5 antigen, 20 kDa homologous restriction factor, HRF-20, HRF20, MAC-inhibitory protein, MAC-IP, MEM43 antigen, Membrane attack complex inhibition factor, MACIF, Membrane inhibitor of reactive lysis, MIRL, Protectin, CD59, CD59, MIC11, MIN1, MIN2, MIN3, MSK21
Application Note	IF~~1:50~200 FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	CD59 / Complement Regulatory Protein / Protectin Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CD59 {ECO:0000303|PubMed:2475570, ECO:0000312|HGNC:HGNC:1689}
Function	Potent inhibitor of the complement membrane attack complex (MAC) action, which protects human cells from damage during complement activation (PubMed:11882685, PubMed:1698710, PubMed:2475111, PubMed:2475570, PubMed:2606909, PubMed:9053451). Acts by binding to the beta-haipins of C8 (C8A and C8B) components of the assembling MAC, forming an intermolecular beta-sheet that prevents incorporation of the multiple copies of C9 required for complete formation of the osmolytic pore (PubMed:11882685, PubMed:1698710, PubMed:36797260).

Cellular Location	Cell membrane; Lipid-anchor, GPI-anchor. Secreted. Note=Localizes to the cell surface (PubMed:36797260). Soluble form found in a number of tissues (PubMed:8670172).

Background

Reacts with human CD59, a 20kDa glycosyl phosphatidyl-inositol (GPI)-anchored cell surface protein (Workshop VI; Code N-L036). CD59 regulates complement-mediated cell lysis, and it is involved in lymphocyte signal transduction. This protein is a potent inhibitor of the complement membrane attack complex, whereby it binds complement C8 and/or C9 during the assembly of this complex, thereby inhibiting the incorporation of multiple copies of C9 into the complex, which is necessary for osmolytic pore formation. CD59 is widely distributed on cells in all tissues. It inhibits formation of MAC, thus protecting cells from complement-mediated lysis. The expression of CD59 on erythrocytes is important for their survival. Genetic defects in GPI-anchor attachment, that cause a reduction or loss of CD59 and CD55 on erythrocytes produce the symptoms of the disease paroxysmal hemoglobinuria (PNH). This MAb recognizes CD59 transfected cells. It is useful for study on GPI-anchored proteins, PNH and CD59 functions.

References

Kishimoto T. et al., eds. Leukocyte Typing VI, p521-522 and p1157, Garland Publishing, Inc, New York and London, 1997. | Shichishima T. et al. Diagnosis of paroxysmal nocturnal haemoglobinuria by phenotypic analysis of erythrocytes using two-colour flow cytometry with monoclonal antibodies to DAF and CD59/MACIF. Br J Haematol 1993, 85(2):378-386 | Navenot JM. et al. Investigation of the survival of paroxysmal nocturnal hemoglobinuria red cells through the immunophenotyping of reticulocytes. Transfusion 1998 38(4):337-342. | Murray EW and Robbins SM. Antibody cross-linking of the glycosylphosphatidylinositol-linked protein CD59 on hematopoietic cells induces signaling pathways resembling activation by complement. J Biol Chem 1998, 273(39):25279-25284