

SM3033P**Monoclonal Antibody to CD59 - Purified**

Alternate names:	20 kDa homologous restriction factor, HRF-20, HRF20, MAC-IP, MAC-inhibitory protein, MACIF, MEM43 antigen, MIC11, MIN1, MIN2, MIN3, MIRL, MSK21, Membrane attack complex inhibition factor, Membrane inhibitor of reactive lysis, Protectin
Quantity:	0.1 mg
Concentration:	1.0 mg/ml
Background:	CD59 (Protectin) is a small (18-20 kDa) GPI-anchored ubiquitously expressed inhibitor of the membrane attack complex (MAC). It is thus the key regulator that preserves the autologous cells from terminal effector mechanism of the complement cascade. CD59 associates with C5b-8 complex and thereby counteracts appropriate formation of cytolytic pore within the plasma membrane. CD59 is also an low-affinity ligand of human CD2 and causes T cell costimulation.
Uniprot ID:	P13987
NCBI:	NP_000602.1
GeneID:	966
Host / Isotype:	Mouse / IgG2b
Recommended Isotype Controls:	SM12P, AM03110PU-N
Clone:	MEM-43/5
Immunogen:	Thymocytes and T lymphocytes
Format:	State: Liquid Ig fraction Purification: Protein-A affinity chromatography; purity: > 95% (by SDS-PAGE) Buffer System: Phosphate buffered saline (PBS) with 15 mM sodium azide, approx. pH 7.4
Applications:	Immunohistochemistry (paraffin sections) Recommended dilution: 5 µg/ml. Western Blotting: 1-2 µg/ml (non-reducing conditions). Flow Cytometry: 1 µg/ml. Positive control: blood. Immunoprecipitation. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	The antibody reacts with well defined epitope (around L33) on CD59 (Protectin), a 18-20 kDa glycosylphosphatidylinositol (GPI)-anchored glycoprotein expressed on all hematopoietic cells; it is widely present on cells in all tissues. The antibody does not compete with most other CD59 antibodies. Species: Human, Mouse. Other species not tested.

Storage:

Store the antibody at 2 - 8 °C up to one month or (in aliquots) at -20 °C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. Meri S, Morgan BP, Davies A, Daniels RH, Olavesen MG, Waldmann H, Lachmann PJ: Human protectin (CD59), an 18,000-20,000 MW complement lysis restricting factor, inhibits C5b-8 catalysed insertion of C9 into lipid bilayers. *Immunology*. 1990 Sep;71(1):1-9.
2. Rooney IA, Davies A, Griffiths D, Williams JD, Davies M, Meri S, Lachmann PJ, Morgan BP: The complement-inhibiting protein, protectin (CD59 antigen), is present and functionally active on glomerular epithelial cells. *Clin Exp Immunol*. 1991 Feb;83(2):251-6.
3. Menu E, Tsai BC, Bothwell AL, Sims PJ, Bierer BE: CD59 costimulation of T cell activation. CD58 dependence and requirement for glycosylation. *J Immunol*. 1994 Sep 15;153(6):2444-56.
4. Baalasubramanian S, Harris CL, Donev RM, Mizuno M, Omidvar N, Song WC, Morgan BP: CD59a is the primary regulator of membrane attack complex assembly in the mouse. *J Immunol*. 2004 Sep 15;173(6):3684-92.
5. Leukocyte Typing V., Schlossman S. et al. (Eds.), Oxford University Press (1995). Bodian DL, Davis SJ, Morgan BP, Rushmere NK.: Mutational analysis of the active site and antibody epitopes of the complement-inhibitory glycoprotein, CD59. *J Exp Med*. 1997 Feb 3;185(3):507-16.
6. Drbal K, Moertelmaier M, Holzhauser C, Muhammad A, Fuertbauer E, Howorka S, Hinterberger M, Stockinger H, Schütz GJ: Single-molecule microscopy reveals heterogeneous dynamics of lipid raft components upon TCR engagement. *Int Immunol*. 2007 May;19(5):675-84.
7. Stulnig TM, Berger M, Sigmund T, Stockinger H, Horejsí V, Waldhäusl W: Signal transduction via glycosyl phosphatidylinositol-anchored proteins in T cells is inhibited by lowering cellular cholesterol. *J Biol Chem*. 1997 Aug 1;272(31):19242-7.

Pictures:

Western Blotting analysis (non-reducing conditions) of whole cell lysate of HPB-ALL human peripheral blood T cell leukemia cell line using anti-CD59, clone MEM-43/5 (SM3033PS). Lane 1: original cell lysate. Lane 2: material immunoprecipitated with anti-human CD59, clone MEM-43 (SM1145PS)

