



Antibodies

1P-233-T025

Monoclonal Antibody to CD59 Phycoerythrin (PE) conjugated (25 tests)

Clone:	MEM-43
Isotype:	Mouse IgG2a
Specificity:	The antibody MEM-43 reacts with well defined epitope (W40, R-53) on CD59 (Protectin), an 18-20 kDa glycosylphosphatidylinositol (GPI)-anchored glycoprotein expressed on all hematopoietic cells; it is widely present on cells in all tissues. HLDA IV; WS Code NL 705 HLDA V; WS Code AS S013 HLDA V; WS Code BP BP345 HLDA V; WS Code T T-103
Immunogen:	Thymocytes and T lymphocytes
Species Reactivity:	Human
Preparation:	The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.
Storage Buffer:	The reagent is provided in phosphate buffered saline (PBS) containing 15 mM sodium azide and 0.2% (w/v) high-grade protease free Bovine Serum Albumin (BSA) as a stabilizing agent.
Storage / Stability:	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label. Short-term exposure to room temperature should not affect the quality of the reagent. However, if reagent is stored under any conditions other than those specified, the conditions must be verified by the user.
Usage:	The reagent is designed for Flow Cytometry analysis of human blood cells using 20 µl reagent / 100 µl of whole blood or 10 ⁶ cells in a suspension. The content of a vial (0.5 ml) is sufficient for 25 tests.
Expiration:	See vial label
Lot Number:	See vial label
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.

For laboratory research only, not for drug, diagnostic or other use.

**Antibodies****References:**

- *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.
- *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.
- *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.
- *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.
- *Horejsi V, Hilgert I, Kristofova H, Bazil V, Bukovsky A, Kulhankova J: Monoclonal antibodies against human leucocyte antigens. I. Antibodies against beta-2-microglobulin, immunoglobulin kappa light chains, HLA-DR-like antigens, T8 antigen, T1 antigen, a monocyte antigen, and a pan-leucocyte antigen. *Folia Biol (Praha)*. 1986;32(1):12-25. (original description of MEM-43 antigen)
- IMPORTANT ARTICLE *Robert Sutherland D, Keeney M, Illingworth A: Practical guidelines for the high-sensitivity detection and monitoring of paroxysmal nocturnal hemoglobinuria (PNH) clones by flow cytometry. *Cytometry B Clin Cytom*. 2012 Apr 12. doi: 10.1002/cyto.b.21023. [Epub ahead of print]
- *Leukocyte Typing IV., Knapp W. et al. (Eds.), Oxford University Press (1989).
- *Leukocyte Typing V., Schlossman S. et al. (Eds.), Oxford University Press (1995).
- *Forsberg UH, Bazil V, Stefanova I, Schroder J: Gene for human CD59 (likely Ly-6 homologue) is located on the short arm of chromosome 11. *Immunogenetics*. 1989;30(3):188-93.
- *Stefanova I, Hilgert I, Kristofova H, Brown R, Low MG, Horejsi V: Characterization of a broadly expressed human leucocyte surface antigen MEM-43 anchored in membrane through phosphatidylinositol. *Mol Immunol*. 1989 Feb;26(2):153-61.
- *Stefanova I, Horejsi V, Ansotegui IJ, Knapp W, Stockinger H: GPI-anchored cell-surface molecules complexed to protein tyrosine kinases. *Science*. 1991 Nov 15;254(5034):1016-9.
- *Cinek T, Horejsi V: The nature of large noncovalent complexes containing glycosyl-phosphatidylinositol-anchored membrane glycoproteins and protein tyrosine kinases. *J Immunol*. 1992 Oct 1;149(7):2262-70.
- *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.
- Cebecauer M, Cerny J, Horejsi V: Incorporation of leucocyte GPI-anchored proteins and protein tyrosine kinases into lipid-rich membrane domains of COS-7 cells. *Biochem Biophys Res Commun*. 1998 Feb 24;243(3):706-10.
- *Ilangumaran S, Briol A, Hoessli DC: CD44 selectively associates with active Src family protein tyrosine kinases Lck and Fyn in glycosphingolipid-rich plasma membrane domains of human peripheral blood lymphocytes. *Blood*. 1998 May 15;91(10):3901-8.
- *Omidvar N, Wang EC, Brennan P, Longhi MP, Smith RA, Morgan BP: Expression of glycosylphosphatidylinositol-anchored CD59 on target cells enhances human NK cell-mediated cytotoxicity. *J Immunol*. 2006 Mar 1;176(5):2915-23.
- *And many other.

For laboratory research only, not for drug, diagnostic or other use.