

TECHNICAL DATA SHEET

CyFlow™ CD31 PE-Cy5 Anti-Hu; Clone MEM-05

REF CM119638

For Research Use Only.
Not for use in diagnostic or therapeutic procedures.

Specifications

Antigen	CD31
Alternative Names	PECAM-1, endoCAM, PECA1
Clone	MEM-05
Clonality	monoclonal
Format	PE-Cy5
Host / Isotype	Mouse / IgG1
Species Reactivity	Human
Negative Species Reactivity	—
Quantity	100 tests
Immunogen	Leukocytes of a patient suffering from LGL-type Leukemia

Specificity

The mouse monoclonal antibody MEM-05 recognizes CD31 antigen, a 130-140 kDa type I transmembrane glycoprotein expressed on monocytes, platelets, granulocytes, endothelial cells and stem cells of the myeloid lineage.

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Application

The reagent is designed for Flow Cytometry analysis of human blood cells. Recommended usage is 4 µl reagent / 100 µl of whole blood or 10⁶ cells in a suspension. The content of a vial (0.4 ml) is sufficient for 100 tests.

Other usages may be determined from the scientific literature.

Storage Buffer

The reagent is provided in stabilizing phosphate buffered saline (PBS) solution, pH ≈7.4, containing 0.1% (w/v) sodium azide.

Storage and Stability

Storage	Avoid prolonged exposure to light. Store in the dark at 2-8°C. Do not freeze.
Stability	Do not use after expiration date stamped on vial label.

Background Information

CD31 (PECAM-1; platelet endothelial cell adhesion molecule-1) is an inhibitory coreceptor involved in regulation of T cell and B cell signaling by a dual immunoreceptor tyrosine-based inhibitory motif (ITIM) that upon associated kinases-mediated phosphorylation provide docking sites for protein-tyrosine phosphatases. CD31 is expressed ubiquitously within the vascular compartment and is located mainly at junctions between adjacent cells. N-terminal Ig-like domain of CD31 is responsible for its homophilic binding, which plays an important role in cell-cell interactions. CD31 is a multifunctional molecule with diverse roles in modulation of integrin-mediated cell adhesion, transendothelial migration, angiogenesis, apoptosis, negative regulation of immunoreceptor signaling, autoimmunity, macrophage phagocytosis, IgE-mediated anaphylaxis and thrombosis. It is one of key regulatory molecules in vascular system.

References

- Prager E, Staffler G, Majdic O, Saemann M, Godar S, Zlabinger G, Stockinger H: Induction of hyporesponsiveness and impaired T lymphocyte activation by the CD31 receptor:ligand pathway in T cells. J Immunol. 2001 Feb 15; 166(4):2364-71. < PMID: 11160294 >
- Newman DK, Hamilton C, Newman PJ: Inhibition of antigen-receptor signaling by Platelet Endothelial Cell Adhesion Molecule-1 (CD31 requires functional ITIMs, SHP-2, and p56(lck). Blood. 2001 Apr 15; 97(8):2351-7. < PMID: 11290597 >

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- Wilkinson R, Lyons AB, Roberts D, Wong MX, Bartley PA, Jackson DE: Platelet endothelial cell adhesion molecule-1 (PECAM-1/CD31 acts as a regulator of B-cell development, B-cell antigen receptor (BCR)-mediated activation, and autoimmune disease. Blood. 2002 Jul 1; 100(1):184-9. < PMID: 12759520 >
- Jackson DE: The unfolding tale of PECAM-1. FEBS Lett. 2003 Apr 10; 540(1-3):41821. < PMID: 12681475 >
- Wee JL, Jackson DE: The Ig-ITIM superfamily member PECAM-1 regulates the "outside-in" signaling properties of integrin alpha(IIb)beta3 in platelets. Blood. 2005 Dec 1; 106(12):3816-23. < PMID: 16081692 >
- Woodfin A, Voisin MB, Nourshargh S: PECAM-1: a multi-functional molecule in inflammation and vascular biolog. Arterioscler Thromb Vasc Biol. 2007 Dec; 27(12):2514-23. < PMID: 17872453 >
- Wong MX, Hayball JD, Jackson DE: PECAM-1-regulated signalling thresholds control tolerance in anergic transgenic B-cells. Mol Immunol. 2008 Mar; 45(6):1767-81. < PMID: 17977600 >
- Cârțână T, Săftoiu A, Gruionu LG, Gheonea DI, Pirici D, Georgescu CV, Ciocâlțeu A, Gruionu G: Confocal laser endomicroscopy for the morphometric evaluation of microvessels in human colorectal cancer using targeted anti-CD31 antibodies. PLoS One. 2012; 7(12):e52815. < PMID: 23285192 >

The Safety Data Sheet for this product is available at www.sysmex-partec.com/services.

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