

TECHNICAL DATA SHEET

CyFlow™ CD53 PE **Anti-Hu; Clone MEM-53**

REF AU131901

For Research Use Only.

Not for use in diagnostic or therapeutic procedures.

Specifications

Antigen	CD53
Alternative Names	TSPAN2
Clone	MEM-53
Clonality	monoclonal
Format	PE
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-53 recognizes CD53 antigen, a 32-40 kDa tetraspanin family glycoprotein exclusively expressed on leukocytes; it is not present on platelets, red blood cells and non-

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com

hematopoietic cells. The antibody MEM-53 reacts also with deglycosylated molecule (molecular weight of the antigen is reduced by 15 kDa using endoglycosidase F).

Application

The reagent is designed for Flow Cytometry analysis of human blood cells. Recommended usage is 20 µl reagent / 100 µl of whole blood or 10⁶ cells in a suspension. The content of a vial (2 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

CD53 is a tetraspanin family transmembrane glycoprotein expressed in the lymphoid-myeloid lineage. This molecule has been reported to form complexes with other leukocyte surface proteins such as CD2, CD19, CD21, MHC II, VLA-4 or tetraspanins CD37, CD81 and CD82, thus probably modulating various signaling processes. CD53 is involved in radioresistance of tumor cells and its triggering has anti-apoptotic effect. In thymus, CD53 is up-regulated in response to positive selection signals during T cell development, and is strongly expressed upon macrophage exposure to bacterial lipopolysaccharide, whereas stimulation of neutrophils results in down-regulation of CD53 expression.

References

- Bazil V, Horejsi V, Baudys M, Kristofova H, Strominger JL, Kostka W, Hilgert I: Biochemical characterization of a soluble form of the 53-kDa monocyte surface antigen. Eur J Immunol. 1986 Dec; 16(12):1583-9. < PMID: 3493149 >
- Knapp W, Dorken B, Gilks W, Rieber EP, Schmidt RE, Stein H, von dem Borne AEGK (Eds): Leucocyte Typing IV. Oxford University Press, Oxford. 1989; 1-1820. < NLM ID: 8914679 >

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com

- Angelisová P, Vlcek C, Stefanova I, Lipoldova M, Horejsi V: The human leucocyte surface antigen CD53 is a protein structurally similar to the CD37 and MRC OX-44 antigens.. Immunogenetics. 1990; 32(4):281-5. < PMID: 1700763 >
- Doussis IA, Gatter KC, Mason DY: CD68 reactivity of non-macrophage derived tumours in cytological specimens. J Clin Pathol. 1993 Apr; 46(4):334-6. < PMID: 7684403 >
- Olweus J, Lund-Johansen F, Horejsi V: CD53, a protein with four membrane-spanning domains, mediates signal transduction in human monocytes and B cells. J Immunol. 1993 Jul 15; 151(2):707-16. < PMID: 8335905 >
- Olweus J, Lund-Johansen F, Horejsi V: CD53, a protein with four membrane-spanning domains, mediates signal transduction in human monocytes and B cells. J Immunol. 1993 Jul 15; 151(2):707-16. < PMID: 8335905 >
- Rasmussen AM, Blomhoff HK, Stokke T, Horejsi V, Smeland EB: Cross-linking of CD53 promotes activation of resting human B lymphocytes. J Immunol. 1994 Dec 1; 153(11):4997-5007. < PMID: 7963560 >
- Szollosi J, Horejsi V, Bene L, Angelisova P, Damjanovich S: Supramolecular complexes of MHC class I, MHC class II, CD20, and tetraspan molecules (CD53, CD81, and CD82) at the surface of a B cell line JY. J Immunol. 1996 Oct 1; 157(7):2939-46. < PMID: 8816400 >
- Mollinedo F, Martín-Martín B, Gajate C, Lazo PA: Physiological activation of human neutrophils down-regulates CD53 cell surface antigen. J Leukoc Biol. 1998 Jun; 63(6):699-706. < PMID: 9620662 >
- Puls KL, Hogquist KA, Reilly N, Wright MD: CD53, a thymocyte selection marker whose induction requires a lower affinity TCR-MHC interaction than CD69, but is up-regulated with slower kinetics. Int Immunol. 2002 Mar; 14(3):249-58. < PMID: 11867561 >
- Yunta M, Rodríguez-Barbero A, Arévalo MA, López-Novoa JM, Lazo PA: Induction of DNA synthesis by ligation of the CD53 tetraspanin antigen in primary cultures of mesangial cells. Kidney Int. 2003 Feb; 63(2):534-42. < PMID: 12631118 >
- Yunta M, Lazo PA: Apoptosis protection and survival signal by the CD53 tetraspanin antigen. Oncogene. 2003 Feb 27; 22(8):1219-24. < PMID: 12606948 >
- Kim TR, Yoon JH, Kim YC, Yook YH, Kim IG, Kim YS, Lee H, Paik SG: LPS-induced CD53 expression: a protection mechanism against oxidative and radiation stress. Mol Cells. 2004 Feb 29; 17(1):125-31. < PMID: 15055538 >

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
 Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com

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

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com