EXBIO Antibodies

PRODUCT DATA SHEET

1P-227-T025

Monoclonal Antibody to CD53 Phycoerythrin (PE) conjugated (25 tests)

Clone: MEM-53

Isotype: Mouse IgG1

Specificity: The antibody MEM-53 reacts with CD53, a 32-40 kDa tetraspanin family glycoprotein exclusivelly expressed on leukocytes; it is not present on platelets, red blood cells and non-hematopoietic cells.
The antibody MEM-53 reacts also with deglycosylated molecule (molecular weight of the antigen is reduced by 15 kDa using endoglycosidase F).
HLDA IV; WS Code NL 59
HLDA V; WS Code B CD53.5
HLDA V; WS Code BP BP287
HLDA V; WS Code T T-096
HLDA V; WS Code X XB004

Regulatory Status: RUO

Immunogen: Leukocytes of pacient suffering from a LGL-type leukemia.

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 stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.

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.

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: 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 radioresistancy of tumour 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.

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

EXBIO Praha | Nad Safinou II 341 | 252 50 Vestec u Prahy | Czech Republic
Tel: +420 261 090 666 | Fax: +420 261 090 660 | orders@exbio.cz | www.exbio.cz

References:

*Angelisova 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.
*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.
*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.
*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.
*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.
*Yunta M, Lazo PA: Apoptosis protection and survival signal by the CD53 tetraspanin antigen. Oncogene. 2003 Feb 27;22(8):1219-24.
*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.
*Bazil V, Stefanova I, Hilgert I, Kristofova H, Vanek S, Bukovsky A, Horejsi V: Monoclonal antibodies against human leucocyte antigens. III. Antibodies against CD45R, CD6, CD44 and two newly described broadly expressed glycoproteins MEM-53 and MEM-102. Folia Biol (Praha). 1989;35(5):289-97.
*Leukocyte Typing IV., Knapp W. et al. (Eds.), Oxford University Press (1989).
*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.
*Leukocyte Typing V., Schlossman S. et al. (Eds.), Oxford University Press (1995).
*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.
*Olweus J, Lund-Johansen F, Terstappen LW: CD64/Fc gamma RI is a granulo-monocytic lineage marker on CD34+ hematopoietic progenitor cells. Blood. 1995 May 1;85(9):2402-13.
*Schatzlmaier P, Supper V, Göschl L, Zwirzitz A, Eckerstorfer P, Ellmeier W, Huppa JB, Stockinger H: Rapid multiplex analysis of lipid raft components with single-cell resolution. Sci Signal. 2015 Sep 22;8(395):rs11

EXBIO Praha | Nad Safinou II 341 | 252 50 Vestec u Prahy | Czech Republic
Tel: +420 261 090 666 | Fax: +420 261 090 660 | orders@exbio.cz | www.exbio.cz