EXBIO Antibodies

PRODUCT DATA SHEET

11-227-C100

Monoclonal Antibody to CD53 Purified Antibody (0.1 mg)

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
Application:	Flow Cytometry Recommended dilution:4 µg/ml Immunoprecipitation Western Blotting Immunohistochemistry (frozen sections) It is suitable for discrimination of lymphomas from other tumors. Functional Application The antibody MEM-53 induces activation of monocytes and B lymphocytes.
Purity:	> 95% (by SDS-PAGE)
Purification:	Purified by protein-A affinity chromatography
Concentration:	1 mg/ml
Storage Buffer:	Phosphate buffered saline (PBS) with 15 mM sodium azide, approx. pH 7.4
Storage / Stability:	Store at 2-8°C. Do not freeze. Do not use after expiration date stamped on vial label.
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.

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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

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