EXBIO Antibodies

PRODUCT DATA SHEET

A7-227-T025

Monoclonal Antibody to CD53 Alexa Fluor® 700 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

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

Species Reactivity: Human

Preparation: The purified antibody is conjugated with Alexa Fluor® 700 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 4 µl reagent / 100 µl of whole blood or 10^6 cells in a suspension.
The content of a vial (0.1 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.

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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.

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