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Monoclonal Antibody to CD43 / Leukosialin - FITC -

Alternate names: Galactoglycoprotein, Leukocyte sialoglycoprotein, SPN, Sialophorin

Catalog No.: SM3023F

Quantity: 100 Tests

Background: CD43 (leukosialin, sialophorin) is a transmembrane mucin-like protein with high negative charge, expressed on the surface of most hematopoietic cells. CD43 contributes to a repulsive barrier that interferes with cellular adhesion, however, in certain cases also promotes leukocyte aggregation. By interaction with actin-binding proteins ezrin and moesin CD43 plays a regulatory role in remodeling T-cell morphology and regulates cell-cell interactions during lymphocyte traffic. CD43 signaling both enhances LFA-1 adhesiveness and counteracts LFA-1 induction via other receptors. Expression of CD43 causes induction of functionally active tumour suppressor p53 protein, but in case of p53 and ARF defficiency CD43 promotes tumour proliferation and viability. It appears to be an important modulator of leukocyte functions.

Uniprot ID: P16150

NCBI: NP_001025459.1

GeneID: 6693

Host / Isotype: Mouse / IgG1

Clone: MEM-59

Immunogen: Human T lymphocytes

Format:
State: Liquid Ig fraction
Buffer System: 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
Label: FITC – Fluorescein isothiocyanate

Applications: Flow Cytometry analysis of human blood cells using 20 µl reagent / 100 µl of whole blood or 10e6 cells in a suspension.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody recognizes neuraminidase-sensitive epitope on CD43 (Leukosialin), a 95-135 kDa type I transmembrane glycoprotein (mucin-type) which is involved in lymphocyte activation. CD43 is expressed by platelets and at high levels on the surface of all leukocytes; it is negative on resting B lymphocytes and erythrocytes.
Species: Human.
Other species not tested.

Storage: Store the antibody at 2 - 8 °C. DO NOT FREEZE! This product is photosensitive and should be protected from light.
Shelf life: one year from despatch.

General References:

1. Stefanova I, Hilgert I, Kristofova H, Brown R, Low MG, Horejsi V.: Characterization of a broadly expressed human leucocyte surface antigen MEM-43 anchored in membrane through phosphatidylinositol. Mol Immunol. 1989 nFeb;26(2):153-61.
2. Kadaja L, Laos S, Maimets T: Overexpression of leukocyte marker CD43 causes activation of the tumor suppressor proteins p53 and ARF. Oncogene. 2004 Apr 1;23(14):2523-30.
3. Khunkaewla P, Schiller HB, Paster W, Leksa V, Cermak L, Andira L, Hooej'i V, Stockinger H: LFA-1-mediated leukocyte adhesion regulated by interaction of CD43 with LFA-1 and CD147. Mol Immunol. 2007 Nov 8.
4. Kadaja-Saarepuu L, Laos S, Jääger K, Viil J, Balikova A, Loke M, Hansson GC, Maimets T: CD43 promotes cell growth and helps to evade FAS-mediated apoptosis in non-hematopoietic cancer cells lacking the tumor suppressors p53 or ARF. Oncogene. 2007 Sep 24.
5. Mody PD, Cannon JL, Bandukwala HS, Blaine KM, Schilling AB, Swier K, Sperling AI: Signaling through CD43 regulates CD4 T-cell trafficking. Blood. 2007 Oct 15;110(8):2974-82.
6. Stefanova I, Hilgert I, Angelisova P, Kristofova H, Horejsi V.: Characterization of a 95 kDa human leucocyte sialoglycoprotein: its identity with CD43, gpL115, leukosialin and sialophorin. Folia Biol (Praha). 1988;34(4):255-65.
7. Leukocyte Typing IV., Knapp W. et al. (Eds.), Oxford University Press (1989).
8. Leukocyte Typing V., Schlossman S. et al. (Eds.), Oxford University Press (1995).
9. Alvarado M, Klassen C, Cerny J, Horejsi V, Schmidt RE.: MEM-59 monoclonal antibody detects a CD43 epitope involved in lymphocyte activation. Eur J Immunol. 1995 Apr;25(4):1051-5.
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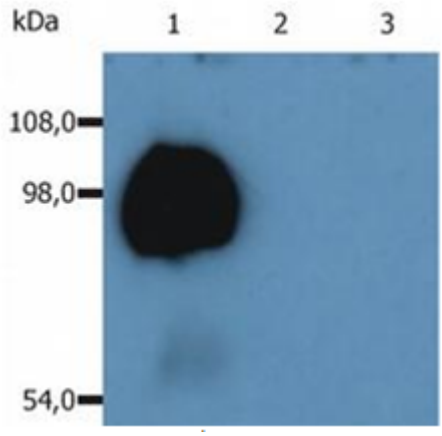
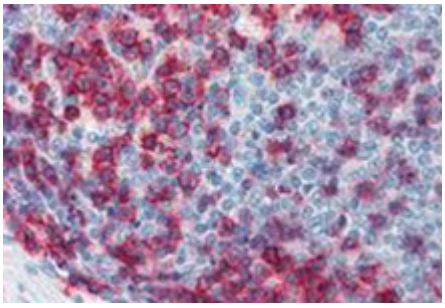
11. Cermak L, Simova S, Pintzas A, Horejsi V, Andera L.: Molecular mechanisms involved in CD43-mediated apoptosis of TF-1 cells. Roles of transcription Daxx expression, and adhesion molecules. J Biol Chem. 2002 Mar 8;277(10):7955-61.
12. Simova S, Klima M, Cermak L, Sourkova V, Andera L: Arf and Rho GAP adapter protein ARAP1 participates in the mobilization of TRAIL-R1/DR4 to the plasma membrane. Apoptosis. 2008 Mar;13(3):423-36.
13. Filatov AV, Krotov GI, Zgoda VG, Volkov Y: Fluorescent immunoprecipitation analysis of cell surface proteins: a methodology compatible with mass-spectrometry. J Immunol Methods. 2007 Jan 30;319(1-2):21-33.

Pictures:



Western Blotting analysis (non-reducing conditions) of isolated peripheral blood lymphocytes of various species using anti-human CD43 (MEM-59).
Lane 1: lysate of human PBL
Lane 2: lysate of canine PBL
Lane 3: lysate of porcine PBL



Immunohistochemistry staining of human spleen (paraffin sections) using anti-CD43 (MEM-59).