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CD53 (TSPAN25) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone 63-5A3]
Catalog # AH12760

Product Information

Application	IF, FC
Primary Accession	P19397
Other Accession	963, 443057
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2b, kappa
Clone Names	63-5A3
Calculated MW	24341

Additional Information

Gene ID	963
Other Names	Leukocyte surface antigen CD53, Cell surface glycoprotein CD53, Tetraspanin-25, Tspan-25, CD53, CD53, MOX44, TSPAN25
Application Note	IF~~1:50~200 FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	CD53 (TSPAN25) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CD53
Synonyms	MOX44, TSPAN25
Function	Structural component of specialized membrane microdomains known as tetraspanin-enriched microdomains (TERMs), which act as platforms for receptor clustering and signaling (PubMed:28487417). Participates thereby in diverse biological functions such as cell signal transduction, adhesion, migration and protein trafficking (PubMed:32974937, PubMed:35767951). Plays a role in the activation of monocytes and B-cells (PubMed:8335905). Acts as an essential regulator of B-cell development by promoting interleukin-7 receptor/IL7R signaling (By similarity). Also promotes, in B-cells, the BCR signaling by recruiting PKC to the plasma membrane in order to phosphorylate its substrates (PubMed:28487417). Plays an essential role in B- and T-cells homing to lymph nodes by stabilizing L-selectin/SELL cell surface

	expression (By similarity). Also mediates metabolic and inflammatory functions in hepatocytes and adipose tissue by promoting TNF-alpha and LPS signaling independent of the immune compartment (By similarity).
Cellular Location	Cell membrane. Cell junction {ECO:0000250|UniProtKB:Q61451}. Membrane; Multi-pass membrane protein. Synapse. Note=Concentrates in localized microdomains along the plasma membrane at the contact sites between cells of fused myotubes. {ECO:0000250|UniProtKB:Q61451}
Tissue Location	B-cells, monocytes, macrophages, neutrophils, single (CD4 or CD8) positive thymocytes and peripheral T-cells

Background

Recognizes a protein of 33-55kDa, identified as CD53 (Workshop V; Code CD53.1). CD53 is expressed on monocytes, and macrophages, granulocytes, dendritic cells, osteoblasts and osteoclasts, NK cells, and on T- and B-cells from every stage of differentiation but is absent from platelets, erythrocytes, and non-haemopoietic cells. CD53 is a member of a family of tetraspan transmembrane proteins, including CD9, CD37, CD63, CD81, and CD82. It associates with integrins, MHC class II molecules, and a tyrosine phosphatase and plays a role in cellular activation as part of a signal transduction complex involving other membrane glycoproteins. Defects of CD53 expression on neutrophils appear to be related with recurrent infectious diseases. Cross-linking CD53 using CD53 antibodies led to cytoplasmic calcium fluxes in B cells, monocytes, and granulocytes and activation of the monocyte oxidative burst.

References

Knapp, W. et al., Leucocyte typing IV, p 534 and p 541. Oxford Univ. Press. 1989 | Schlossman SF et al. eds. Leukocyte Typing V, p556-559, Oxford University Press, Oxford, 1995. | Kishimoto T et al. eds. Leukocyte Typing VI, Garland Publishing, New York, 1997. | Olweus J et al. CD53, a protein with four membrane-spanning domains, mediates signal transduction in human monocytes and B cells. J Immunol 1993, 151(2):707-716. | Mannion BA et al. Transmembrane-4 superfamily proteins CD81 (TAPA-1), CD82, CD63, and CD53 specifically associated with integrin □□β □(CD49d/CD29). J Immunol 1996, 157(5):2039-2047. | Carmo AM et al. Association of the transmembrane 4-superfamily molecule CD53 with a tyrosine phosphatase activity. Eur J Immunol 1995, 25(7):2090-2095. | Mollinedo F et al. Recurrent infectious diseases in human CD53 deficiency. Clin Diagn Lab Immunol 1997, 4(2):229-231

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