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CD53 (TSPAN25) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone 161-2]
Catalog # AH12762

Product Information

Application	IF, FC
Primary Accession	P19397
Other Accession	963, 443057
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2a, kappa
Clone Names	161-2
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 VI; Code N-L033). It is expressed on monocytes and macrophages, dendritic cells, osteoblasts and osteoclasts, and on T and B cells from every stage of differentiation but is absent from platelets, red blood cells. CD53 appears to be the marker with widest reactivity as well as the marker with the strictest specificity to hematopoietic cells. CD53 is a type III membrane with both termini in the cytoplasm and two loops in the extracellular environment. This molecule, in common with other members of tetraspan family, is involved in cellular activation as part of a signal transduction complex involving other membrane glycoproteins. CD53 crosslinking induces calcium flux on human monocyte and B cells. Cross-linking of CD53 promotes activation of resting human B-lymphocytes. This MAb recognizes CD53 transfected cells and partially inhibits T-cell proliferation induced by CD3 antibody (clone: UCHT1).

References

Kishimoto T. et al., eds. Leukocyte Typing VI, p517-519 and p1153, Garland Publishing, Inc, New York and London, 1997. | Maecker HT, et al. The tetraspanin superfamily: molecular facilitators. FASEB J 1997, 11:428-442. | Rasmussen AM, et al. Cross-linking of CD53 promotes activation of resting human B lymphocytes. J Immunol 1994, 153:4997-5007. | Szollosi J. et al. 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):2939-2946. | Cao L. et al. Anti-CD53 monoclonal antibody induced LFA-1/ICAM-1-dependent and -independent lymphocyte homotypic cell aggregation Immunobiology 1997, 197:70-81