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CD38 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1338a

Product Information

Application	WB, IHC, E
Primary Accession	P28907
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	6E12D
Isotype	IgG1
Calculated MW	34328
Description	CD38 is a type II integral membrane glycoprotein which is present on early B and T cell lineages and activated B and T cells but is absent from most mature resting peripheral lymphocytes. CD38 is also found on thymocytes, pre-B cells, germinal center B cells, mitogen-activated T cells, monocytes and Ig-secreting plasma cells. CD38 acts as a NAD glycohydrolase in T lymphocytes. On hematopoietic cells CD38 induces activation, proliferation, and differentiation of mature T and B cells and mediates apoptosis of myeloid and lymphoid progenitor cells. In addition to acting as a signaling receptor, CD38 is also an enzyme capable of producing several calcium-mobilizing metabolites, including cyclic adenosine diphosphate ribose (cADPR). CD38 also plays a role in maintaining survival of an invariant NK T (iNKT) cell subset that preferentially contributes to the maintenance of immunological tolerance.
Immunogen	Purified recombinant fragment of human CD38 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	952
Other Names	ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 1, 3.2.2.6, 2'-phospho-ADP-ribosyl cyclase, 2'-phospho-ADP-ribosyl cyclase/2'-phospho-cyclic-ADP-ribose transferase, 2.4.99.20, 2'-phospho-cyclic-ADP-ribose transferase, ADP-ribosyl cyclase 1, ADPRC 1, Cyclic ADP-ribose hydrolase 1, cADPr hydrolase 1, T10, CD38, CD38
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CD38 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CD38
Function	Multifunctional transmembrane glycoprotein able to exert enzymatic activities and also to mobilize calcium, to transduce signals, to adhere to hyaluronan and to other ligands. Synthesizes cyclic ADP-ribose (cADPR), a second messenger for glucose-induced insulin secretion (PubMed:7961800, PubMed:8253715). Synthesizes the Ca(2+) mobilizer nicotinate-adenine dinucleotide phosphate, NAADP(+), from 2'-phospho-cADPR and nicotinic acid, as well as from NADP(+) and nicotinic acid. At both pH 5.0 and pH 7.4 preferentially transforms 2'- phospho-cADPR into NAADP(+), while preferentially cleaving NADP(+) to cADPR and ADPRP rather than into NADDP(+) (PubMed:16690024). Has cADPR hydrolase activity (PubMed:7961800, PubMed:8253715). Functions also as a receptor that binds the ligand CD31 on endothelial cells, promoting lymphocyte activation, proliferation, and migration across the endothelial barrier (PubMed:9551996). Involved in the regulation of crucial dendritic cell functions acquired at the mature stage, such as CCL21-driven migration, survival, and Th1-polarizing activity (PubMed:16293598). In lamina propria T lymphocytes, CD38/CD31 cognate interactions initiate a multistep signaling pathway resulting in activation of LCK anf LAT, followed by cytokine release (PubMed:11259373).
Cellular Location	Cell surface. Cell membrane; Single-pass type II membrane protein. Note=Localizes in membrane lipid domains.
Tissue Location	Expressed at high levels in pancreas, liver, kidney, brain, testis, ovary, placenta, malignant lymphoma and neuroblastoma.

References

1. Trends Biochem Sci. 1992 Dec;17(12):495. 2. J Cell Biol. 1999 Sep 6;146(5):1161-72. 3. Exp Hematol. 2002 Jun;30(6):582-9. 4. Mol Immunol. 2006 Mar;43(7):1029-39.

Images

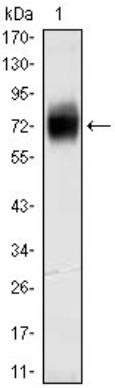


Figure 1: Western blot analysis using CD38 mouse mouse mAb against CD38-hIgGFc transfected HEK293 cell lysate.

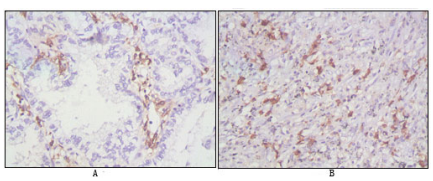


Figure 2: Immunohistochemical analysis of paraffin-embedded human lung cancer (A), lymphonodus tissue (B),showing cytomembrane localization using CD38 mouse mAb with DAB staining.

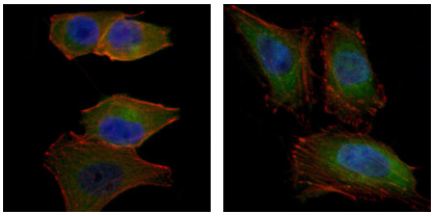


Figure 2: Immunofluorescence analysis of PANC-1 (left) and Hela (right) cells using AKT2 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.