CD38 Antibody – Rat Monoclonal

PRODUCT OVERVIEW

Product Name	CD38, Monoclonal Antibody
Full Product Name	Rat Anti-Mouse CD38-PE
Product Gene Name	anti-CD38 antibody
Product Synonym Names	Rat Anti-Mouse CD38 - Phycoerythrin-Labeled; Rat Anti-Mouse CD38
Clonality	Monoclonal
Isotype	Rat IgG2a kappa
Clone Number	90
Host	Rat
Species Reactivity	Mouse
Form/Format	R - phycoerythrin (R - PE) Conjugate
Specificity	CD38 (Mr 42-kDa), an immunoregulatory ectoenzyme Murine CD38, a type II transmembrane glycoprotein, is a bifunctional ectoenzyme capable of catabolizing nicotinamide adenine dinucleotide (NAD+) to cyclic ADP-ribose (cADPR), and then hydrolyzing cADPR to adenosine diphosphoribose (ADPR).^1-3 It is expressed at high levels on the surface of peripheral B-lineage cells, and at low density on germinal center B cells from unimmunized mice.^4 It has also been reported to be expressed at moderate levels on NK cells, a proportion of peripheral T cells, and a subpopulation of thymocytes which are mostly TCR alpha beta ^+, CD4^-, CD8^-.5, 6 Murine CD38 is also expressed by all Mac-1^+ macrophages in the peritoneal cavities of unimmunized mice, but not by unstimulated bone-marrow-derived macrophages.^4, 7 Monoclonal antibodies to CD38 have been shown to induce B- and T-cell proliferation, protect B cells from apoptosis, and inhibit B lymphopoiesis.^2,5, 8
Preparation and Storage	The purified (UNLB) antibody is supplied as 0.5 mg of purified immunoglobulin in 1.0 mL of 100 mM borate buffered saline, pH 8.2. No preservatives or amine-containing buffer salts added. Store at 2-8 degree C. The fluorescein (FITC) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN3. Store at 2-8 degree C. The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN3. Store at 2-8 degree C. The R-phycoerythrin (R-PE) conjugate is supplied as 0.1 mg in 1.0 mL or 0..2 mg in 2.0 mL of PBS/NaN3 and a stabilizing agent. Store at 2-8 degree C. Do not freeze! The allophycocyanin (APC) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN3 and a stabilizing agent. Store at 2-8 degree C. Do not freeze! The Spectral Red (SPRD) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN3 and a stabilizing agent. Store at 2-8 degree C. Do not freeze! The low endotoxin, azide-free (LE/AF) antibody is supplied as 0.5 mg purified immunoglobulin in 1.0 mL of PBS. Aliquot and store at or below -20 degree C. Protect conjugated forms from light. Aliquot and freeze the low endotoxin, azide-free product at -20 degree C immediately upon receipt. Each reagent is stable for the period shown on the bottle label if stored as directed.
Molecular Weight	34,328 Da
Chromosome Location	Chromosome: 4; NC_000004.11 (15779931..15850706). Location: 4p15
OMIM	107270
3D Structure	ModBase 3D Structure for P28907
Characterization	To ensure lot-to-lot consistency, each batch of monoclonal antibody is tested by flow cytometry to conform to characteristics of a standard reference reagent. Representative data are included in this product insert.
Applications Tested/Suitable for anti-CD38 antibody	Flow Cytometry; Immunohistochemistry (Frozen Sections); Immunoprecipitation

Application Notes for anti-CD38 antibody	**Research Application(s):** Induction of B lymphocyte proliferation **Flow Cytometry Suggested Dilution:** <= 0.2 ug/10^6 cells
Related Product Information for anti-CD38 antibody	MBS673349 is an antibody targeting CD38. Also known as Rat Anti-Mouse CD38-PE. Reactive in Mouse. Host: Rat.
Product References and Citations for anti-CD38 antibody	1. Harada, N., L. Santos-Argumedo, R. Chang, J. C. Grimaldi, F. E. Lund, C. I. Brannan, N. G. Copeland, N. A. Jenkins, A. W. Heath, and R. M. Parkhouse. 1993. J. Immunol. 151:3111. 2. Santos-Argumedo, L., C. Teixeira, G. Preece, P. A. Kirkham, and R. M. E. Parkhouse. 1993. J. Immunol. 151:3119. 3. Howard, M., J. C. Grimaldi, J. F. Bazan, F. E. Lund, L. Santos-Argumedo, R. M. E. Parkhouse, T. F. Walseth, and H. C. Lee. 1993. Science 262:1056. 4. Lund, F., N. Solvason, J. C. Grimaldi, R. M. Parkhouse, and M. Howard. 1995. Immunol. Today 16:469. 5. Kirkham, P. A., L. Santos-Argumedo, M. M. Harnett, and R. M. Parkhouse. 1994. Immunology 83:513. 6. Bean, A. G. D., D. I. Godfrey, W. G. Ferlin, L. Santos-Argumedo, R. M. E. Parkhouse, M. C. Howard, and A. Zlotnik. 1996. Int. Immunol. 7:213. 7. Oliver, A. and J. Kearney. 1996. Personal Communication. 8. Kumagai, M., E. Coustan-Smith, D. J. Murray, O. Silvennoinen, K. G. Murti, W. E. Evans, F. Malavasi, and D. Campana. 1995. J. Exp. Med. 181:1101.
Other Notes	Small volumes of anti-CD38 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CD38. It may not necessarily be applicable to this product.

NCBI GI #	1911103
NCBI GeneID	952
UniProt Primary Accession #	P28907
UniProt Secondary Accession #	O00121; O00122; Q96HY4
UniProt Related Accession #	P28907; Q4FCX6
NCBI Official Full Name	CD38
NCBI Official Synonym Full Names	CD38 molecule
NCBI Official Symbol	CD38
NCBI Official Synonym Symbols	T10
UniProt Protein Name	ADP-ribosyl cyclase 1
UniProt Synonym Protein Names	Cyclic ADP-ribose hydrolase 1; cADPr hydrolase 1; T10
Protein Family	ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase
UniProt Gene Name	CD38
UniProt Entry Name	CD38_HUMAN
NCBI Protein Information	ADP-ribosyl cyclase 1; cADPr hydrolase 1; CD38 antigen (p45); OTTHUMP00000158633; OTTHUMP00000217743; NAD(+) nucleosidase; cyclic ADP-ribose hydrolase 1; ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase
NCBI Summary for CD38	CD38 is a novel multifunctional ectoenzyme widely expressed in cells and tissues especially in leukocytes. CD38 also functions in cell adhesion,signal transduction and calcium signaling. [provided by RefSeq]

UniProt Comments for CD38	Function: Synthesizes cyclic ADP-ribose, a second messenger for glucose-induced insulin secretion. Also has cADPr hydrolase activity. Also moonlights as a receptor in cells of the immune system. Catalytic activity: NAD+ + H2O = ADP-ribose + nicotinamide. Enzyme regulation: ATP inhibits the hydrolyzing activity. Subcellular location: Membrane; Single-pass type II membrane protein. Tissue specificity: Expressed at high levels in pancreas, liver, kidney, brain, testis, ovary, placenta, malignant lymphoma and neuroblastoma. Ref.2 Developmental stage: Preferentially expressed at both early and late stages of the B and T-cell maturation. It is also detected on erythroid and myeloid progenitors in bone marrow, where the level of surface expression was shown to decrease during differentiation of blast-forming unit E to colony-forming unit E. Sequence similarities: Belongs to the ADP-ribosyl cyclase family.
Research Articles on CD38	**1.** gene mutational status and CD38 expression correlated with good Methylation
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