TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT WWW.STEMCELL.COM

Anti-Human CD38 Antibody, Clone AT-1, FITC

Mouse monoclonal IgG1 antibody against human, rhesus, cynomolgus CD38, FITC-conjugated

Catalog #100-1578 100 Tests 20 µL/test

Product Description

This monoclonal antibody reacts with CD38, an ~45 kDa type II integral membrane glycoprotein that is part of the ADP-ribosyl cyclase family. CD38 is widely expressed at variable levels on hematopoietic cells including early B and T cell lineages, activated B and T cells, NK cells, monocytes, and dendritic cells. It is strongly expressed in plasma cells. CD38 is also expressed in some non-hematopoietic tissues such as brain, kidney, muscle, and pancreas. CD38 is an ectoenzyme that acts as both an ADP-ribosyl cyclase and ADP-ribose (ADPR) hydrolase for the synthesis and hydrolysis of cyclic ADPR (cADPR) and NAADP. cADPR acts as a second messenger for intracellular calcium mobilization to facilitate glucose-induced insulin secretion. CD38 functions as a signaling receptor and thus associates with various molecules, one of which is CD31, to mediate unique cell-type specific signaling. On hematopoietic cells, CD38 mediates adhesion and the activation, proliferation, and differentiation of mature B and T cells, and the apoptosis of myeloid and lymphoid progenitor cells. CD38 monoclonal antibodies have been used to study B and T cell differentiation and activation, to inhibit B lymphopoiesis, and to protect B cells from apoptosis. It has been shown that the AT-1 antibody mutually competes for binding with OKT10 and SUN-4B7, and all three clones only bind the native (not reduced) form of CD38.

Target Antigen:	CD38
Alternative Names:	ADP-ribosyl cyclase, cADPR, Cyclic ADP-ribose hydrolase, T10
Gene ID:	952
Species Reactivity:	Human, Rhesus, Cynomolgus, Pigtailed macaque
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	AT-1
Isotype:	IgG1, kappa
Immunogen:	Human T cell line CCRF-CEM

Applications

Verified Applications: FC

Reported Applications: FC

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; FCXM: Flow cytometric crossmatch assay; FISH: Fluorescence in situ hybridization; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IHC-F: Immunohistochemistry (frozen-tissue); IHC-P: Immunohistochemistry (paraffin-embedded); IP: Immunoprecipitation; NMR: Nuclear magnetic resonance spectroscopy; RIA: Radioimmunoassay; WB: Western blotting

Properties

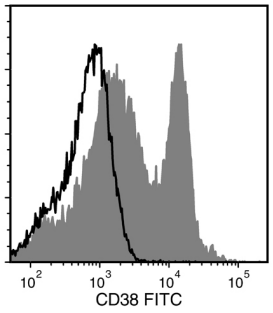
Product Formulation: Phosphate-buffered saline containing 0.1% bovine serum albumin and less than 0.1% sodium azide

Purification: The antibody was purified by affinity chromatography.

Stability and Storage: Product stable at 2 - 8°C when stored undiluted. Do not freeze. Protect product from prolonged exposure to light. For product expiry date, contact techsupport@stemcell.com.

Directions for Use: For flow cytometry, the suggested use of this antibody is 20 µL per 1 x 10^6 cells in 100 µL. It is recommended that the antibody be titrated for optimal performance for each application.

Data



Flow cytometry analysis of human peripheral blood mononuclear cells (PBMCs) labeled with Anti-Human CD38 Antibody, Clone AT-1, FITC (filled histogram), or Mouse IgG1, kappa Isotype Control Antibody, Clone MOPC-21, FITC (Catalog #60070FI; solid line histogram).

Related Products

For a complete list of antibodies, including other conjugates, sizes, and clones, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/antibodies, or contact us at techsupport@stemcell.com.

References

Ausiello CM et al. (2000) Functional topography of discrete domains of human CD38. Tissue Antigens 56(6): 539–47.

Cosker F et al. (2010) The ecto-enzyme CD38 is a nicotinic acid adenine dinucleotide phosphate (NAADP) synthase that couples receptor activation to Ca2+ mobilization from lysosomes in pancreatic acinar cells. J Biol Chem 285(49): 38251–9.

Deaglio S et al. (1998) Human CD38 (ADP-ribosyl cyclase) is a counter-receptor of CD31, an Ig superfamily member. J Immunol 160(1): 395–402.

Deaglio S et al. (2007) CD38/CD19: a lipid raft-dependent signaling complex in human B cells. Blood 109(12): 5390–8.

Graeff R et al. (2006) Acidic residues at the active sites of CD38 and ADP-ribosyl cyclase determine nicotinic acid adenine dinucleotide phosphate (NAADP) synthesis and hydrolysis activities. J Biol Chem 281(39): 28951–7.

Ferrero E et al. (2004) Characterization and phylogenetic epitope mapping of CD38 ADPR cyclase in the cynomolgus macaque. BMC Immunol 5: 21.

Hoshino S et al. (1997) Mapping of the catalytic and epitopic sites of human CD38/NAD+ glycohydrolase to a functional domain in the carboxyl terminus. J Immunol 158(2): 741–7.

Kader M et al. (2013) Blocking TLR7- and TLR9-mediated IFN-α production by plasmacytoid dendritic cells does not diminish immune activation in early SIV infection. PLoS Pathog 9(7): e1003530.

Terstappen LW et al. (1991) Sequential generations of hematopoietic colonies derived from single nonlineage-committed CD34+CD38- progenitor cells. Blood 77(6): 1218–27.

Vaisitti T et al. (2010) CD38 increases CXCL12-mediated signals and homing of chronic lymphocytic leukemia cells. Leukemia 24(5): 958–69.

Weinfurter JT et al. (2011) Cross-reactive T cells are involved in rapid clearance of 2009 pandemic H1N1 influenza virus in nonhuman primates. PLoS Pathog 7(11): e1002381.