

CD38 (T16): sc-51726

BACKGROUND

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.

REFERENCES

1. Alessio, M., et al. 1990. CD38 molecule: structural and biochemical analysis on human T lymphocytes, thymocytes, and plasma cells. *J. Immunol.* 145: 878-884.
2. Harada, N., et al. 1993. Expression cloning of a cDNA encoding a novel murine B cell activation marker. Homology to human CD38. *J. Immunol.* 151: 3111-3118.
3. Santos-Argumedo, L., et al. 1993. A B lymphocyte surface molecule mediating activation and protection from apoptosis via calcium channels. *J. Immunol.* 151: 3119-3130.
4. Howard, M., et al. 1993. Formation and hydrolysis of cyclic ADP-ribose catalyzed by lymphocyte antigen CD38. *Science* 262: 1056-1059.
5. Kirkham, P.A., et al. 1994. Murine B-cell activation via CD38 and protein tyrosine phosphorylation. *Immunology* 83: 513-516.
6. Lund, F., et al. 1995. Murine CD38: an immunoregulatory ectoenzyme. *Immunol. Today* 16: 469-473.
7. Bean, A.G., et al. 1995. CD38 expression on mouse T cells: CD38 defines functionally distinct subsets of $\alpha\beta$ TCR+CD4-CD8- thymocytes. *Int. Immunol.* 7: 213-221.
8. Kumagai, M., et al. 1995. Ligation of CD38 suppresses human B lymphopoiesis. *J. Exp. Med.* 181: 1101-1110.
9. Dianzani, U. and Malavasi, F. 1995. Lymphocyte adhesion to endothelium. *Crit. Rev. Immunol.* 15: 167-200.

CHROMOSOMAL LOCATION

Genetic locus: CD38 (human) mapping to 4p15.32.

SOURCE

CD38 (T16) is a mouse monoclonal antibody raised against CD38 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD38 (T16) is available conjugated phycoerythrin (sc-51726 PE, 100 tests in 2 ml), for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

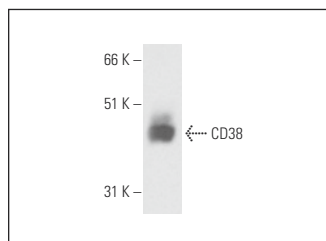
CD38 (T16) is recommended for detection of CD38 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells).

Suitable for use as control antibody for CD38 siRNA (h): sc-29996, CD38 shRNA Plasmid (h): sc-29996-SH and CD38 shRNA (h) Lentiviral Particles: sc-29996-V.

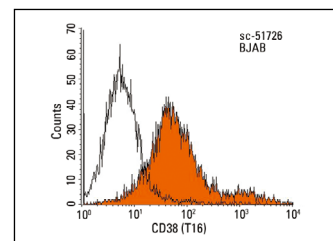
Molecular Weight of CD38: 45 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, CCRF-CEM cell lysate: sc-2225 or THP-1 cell lysate: sc-2238.

DATA



CD38 (T16): sc-51726. Western blot analysis of CD38 expression in CCRF-CEM whole cell lysate under non-reducing conditions.



CD38 (T16): sc-51726. Indirect FCM analysis of BJA-B cells stained with CD38 (T16), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG: sc-2025.

SELECT PRODUCT CITATIONS

1. Zhao, Y.J., et al. 2012. The membrane-bound enzyme CD38 exists in two opposing orientations. *Sci. Signal.* 5: ra67.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **CD38 (H-11): sc-374650** for CD38 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.