SANTA CRUZ BIOTECHNOLOGY, INC.

CD38 (2Q1628): sc-70654

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

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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. Lund, F., et al. 1995. Murine CD38: an immunoregulatory ectoenzyme. Immunol. Today 16: 469-473.
6. Kirkham, P.A., et al. 1995. Murine B-cell activation via CD38 and protein tyrosine phosphorylation. Immunology 83: 513-516.
7. Bean, A.G., et al. 1995. CD38 expression on mouse T cells: CD38 defines functionally distinct subsets of α β 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. 1996. Lymphocyte adhesion to endothelium. Crit. Rev. Immunol. 15: 167-200.

CHROMOSOMAL LOCATION

Genetic locus: Cd38 (mouse) mapping to 5 B3.

SOURCE

CD38 (2Q1628) is a rat monoclonal antibody raised against partially purified CD38 from mouse bone marrow pre-B cells.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CD38 (2Q1628) is recommended for detection of CD38 of mouse origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for CD38 siRNA (m): sc-37246, CD38 shRNA Plasmid (m): sc-37246-SH and CD38 shRNA (m) Lentiviral Particles: sc-37246-V.

Molecular Weight of CD38: 45 kDa.

Positive Controls: mouse spleen extract: sc-2391.

STORAGE

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

SELECT PRODUCT CITATIONS

1. Fargnoli, A.S., et al. 2016. Liquid jet delivery method featuring S100A1 gene therapy in the rodent model following acute myocardial infarction. Gene Ther. 23: 151-157.

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.