SANTA CRUZ BIOTECHNOLOGY, INC.

CD38 (AT1): sc-7325

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.

CHROMOSOMAL LOCATION

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

SOURCE

CD38 (AT1) is a mouse monoclonal antibody raised against human T cell line CCRF-CEM.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD38 (AT1) is available conjugated to agarose (sc-7325 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7325 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7325 PE), fluorescein (sc-7325 FITC), Alexa Fluor® 488 (sc-7325 AF488), Alexa Fluor® 594 (sc-7325 AF594) or Alexa Fluor® 647 (sc-7325 AF647), 200 µg/ml, for IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-7325 AF680) or Alexa Fluor® 790 (sc-7325 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, CD38 (AT1) is available conjugated to Alexa Fluor® 405 (sc-7325 AF405, 200 µg/ml), for IF, IHC(P) and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

CD38 (AT1) 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 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 (h): sc-29996, CD38 shRNA Plasmid (h): sc-29996-SH and CD38 shRNA (h) Lentiviral Particles: sc-29996-V.

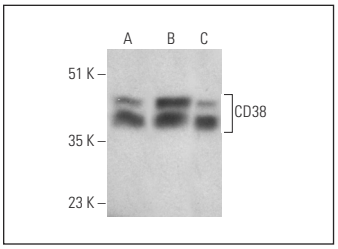
Molecular Weight of CD38: 45 kDa.

Positive Controls: SUP-T1 whole cell lysate: sc-364796, HL-60 whole cell lysate: sc-2209 or CCRF-CEM nuclear extract: sc-2146.

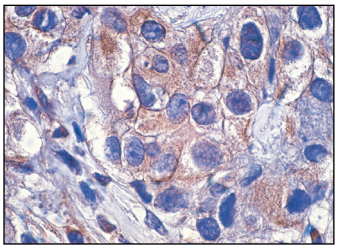
STORAGE

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

DATA



CD38 (AT1) HRP: sc-7325 HRP. Direct western blot analysis of CD38 expression in SUP-T1 (**A**) and HL-60 (**B**) whole cell lysates and CCRF-CEM nuclear extract (**C**).



CD38 (AT1): sc-7325. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lymphoma showing membrane staining.

SELECT PRODUCT CITATIONS

1. Tai, Y.T., et al. 2000. Isolation and characterization of human multiple myeloma cell enriched populations. J. Immunol. Methods 235: 11-19.
2. Jin, D., et al. 2007. CD38 is critical for social behaviour by regulating oxytocin secretion. Nature 446: 41-45.
3. Tonino, S.H., et al. 2008. No convincing evidence for a role of CD31-CD38 interactions in the pathogenesis of chronic lymphocytic leukemia. Blood 112: 840-843.
4. Munesue, T., et al. 2010. Two genetic variants of CD38 in subjects with autism spectrum disorder and controls. Neurosci. Res. 67: 181-191.
5. Schmid, F., et al. 2011. CD38: a NAADP degrading enzyme. FEBS Lett. 585: 3544-3548.
6. Numata, T., et al. 2012. The ΔC splice-variant of TRPM2 is the hypertonicity-induced cation channel in HeLa cells, and the ecto-enzyme CD38 mediates its activation. J. Physiol. 590: 1121-1138.
7. Chen, Q. and Ross, A.C. 2015. All-*trans*-retinoic acid and CD38 ligation differentially regulate CD1d expression and α-galactosylceramide-induced immune responses. Immunobiology 220: 32-41.
8. Fliegert, R., et al. 2017. 2'-deoxyadenosine 5'-diphosphoribose is an endogenous TRPM2 superagonist. Nat. Chem. Biol. 13: 1036-1044.
9. Hosokawa, M., et al. 2018. Distinct effects of daratumumab on indirect and direct antiglobulin tests: a new method employing 0.01 mol/L dithiothreitol for negating the daratumumab interference with preserving K antigenicity (Osaka method). Transfusion 58: 3003-3013.
10. Wolters, V., et al. 2019. NAD binding by human CD38 analyzed by Trp189 fluorescence. Biochim. Biophys. Acta Mol. Cell Res. 1866: 1189-1196.

RESEARCH USE

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