

CD38 (H-11): sc-374650

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; Cd38 (mouse) mapping to 5 B3.

SOURCE

CD38 (H-11) is a mouse monoclonal antibody raised against amino acids 1-170 of CD38 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD38 (H-11) is available conjugated to agarose (sc-374650 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374650 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374650 PE), fluorescein (sc-374650 FITC), Alexa Fluor® 488 (sc-374650 AF488), Alexa Fluor® 546 (sc-374650 AF546), Alexa Fluor® 594 (sc-374650 AF594) or Alexa Fluor® 647 (sc-374650 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374650 AF680) or Alexa Fluor® 790 (sc-374650 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD38 (H-11) is recommended for detection of CD38 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CD38 siRNA (h): sc-29996, CD38 siRNA (m): sc-37246, CD38 siRNA (r): sc-270394, CD38 shRNA Plasmid (h): sc-29996-SH, CD38 shRNA Plasmid (m): sc-37246-SH, CD38 shRNA Plasmid (r): sc-270394-SH, CD38 shRNA (h) Lentiviral Particles: sc-29996-V, CD38 shRNA (m) Lentiviral Particles: sc-37246-V and CD38 shRNA (r) Lentiviral Particles: sc-270394-V.

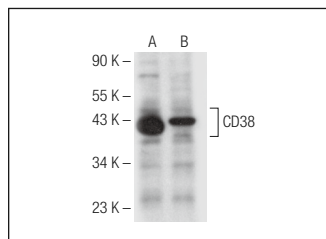
Molecular Weight of CD38: 45 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225 or DU 145 cell lysate: sc-2268.

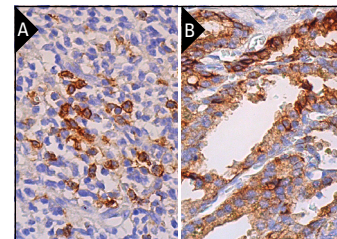
STORAGE

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

DATA



CD38 (H-11): sc-374650. Western blot analysis of CD38 expression in CCRF-CEM (A) and DU 145 (B) whole cell lysates.



CD38 (H-11): sc-374650. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing membrane and cytoplasmic staining of subset of cells in germinal center (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human seminal vesicle tissue showing membrane and cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Liu, X., et al. 2016. Low CD38 identifies progenitor-like inflammation-associated luminal cells that can initiate human prostate cancer and predict poor outcome. *Cell Rep.* 17: 2596-2606.
- Mottahedeh, J., et al. 2018. CD38 is methylated in prostate cancer and regulates extracellular NAD. *Cancer Metab.* 6: 13.
- Fang, E.F., et al. 2019. NAD⁺ augmentation restores mitophagy and limits accelerated aging in Werner syndrome. *Nat. Commun.* 10: 5284.
- Du, J., et al. 2020. MicroRNA-26a/b have protective roles in oral lichen planus. *Cell Death Dis.* 11: 15.
- Zou, Y., et al. 2020. Illuminating NAD⁺ metabolism in live cells and *in vivo* using a genetically encoded fluorescent sensor. *Dev. Cell* 53: 240-252.e7.
- Yeo, D., et al. 2020. Aging alters acetylation status in skeletal and cardiac muscles. *Geroscience* 42: 963-976.
- Ogura, Y., et al. 2020. CD38 inhibition by apigenin ameliorates mitochondrial oxidative stress through restoration of the intracellular NAD⁺/NADH ratio and Sirt3 activity in renal tubular cells in diabetic rats. *Aging* 12: 11325-11336.
- Zhang, M.J., et al. 2020. CD38 triggers inflammasome-mediated pyroptotic cell death in head and neck squamous cell carcinoma. *Am. J. Cancer Res.* 10: 2895-2908.
- Khodavardian, S., et al. 2021. CD38 and MGluR1 as possible signaling molecules involved in epileptogenesis: a potential role for NAD⁺ homeostasis. *Brain Res.* 1765: 147509.

RESEARCH USE

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

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