

# CD38 (HB-7): sc-18858

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

CD38 (HB-7) is a mouse monoclonal antibody derived from hybridization of mouse P3-X63-Ag8-653 myeloma cells with spleen cells from BALB/c mice immunized with BJAB cell line.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD38 (HB-7) is available conjugated to either phycoerythrin (sc-18858 PE) or fluorescein (sc-18858 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

CD38 (HB-7) 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) and flow cytometry (1 µg per 1 x 10<sup>6</sup> 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.

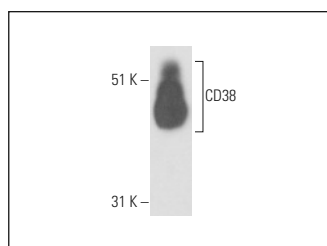
Molecular Weight of CD38: 45 kDa.

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

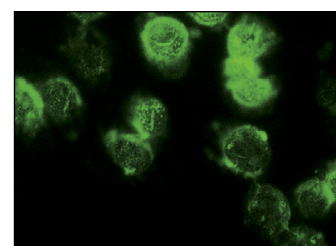
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

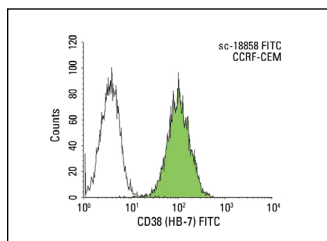
## DATA



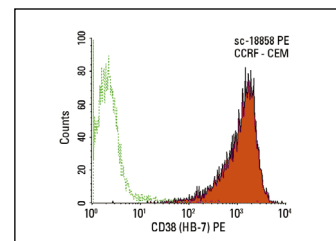
CD38 (HB-7): sc-18858. Western blot analysis of CD38 expression in CCRF-CEM whole cell lysate under non-reducing conditions.



CD38 (HB-7): sc-18858. Immunofluorescence staining of methanol-fixed CCRF-CEM cells showing membrane staining.



CD38 (HB-7) FITC: sc-18858 FITC. FCM analysis of CCRF-CEM cells. Black line histogram represents the isotype control, normal mouse IgG<sub>1</sub>-FITC: sc-2855.



CD38 (HB-7) PE: sc-18858 PE. FCM analysis of CCRF-CEM cells. Green line histogram represents the isotype control, normal mouse IgG<sub>1</sub>-FITC: sc-2855.

## SELECT PRODUCT CITATIONS

1. Zhu, C., et al. 2020. Isatuximab acts through Fc-dependent, independent, and direct pathways to kill multiple myeloma cells. *Front. Immunol.* 11: 1771.

## STORAGE

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

## RESEARCH USE

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

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.