

CD20 (BC-1): sc-58983

BACKGROUND

CD20 is a leukocyte surface antigen consisting of four transmembrane regions and cytoplasmic N- and C-termini. The cytoplasmic domain of CD20 contains multiple phosphorylation sites, leading to additional isoforms. CD20 is expressed primarily on B cells but has also been detected on both normal and neoplastic T cells. CD20 functions as a calcium-permeable cation channel, and it is known to accelerate the G₀ to G₁ progression induced by IGF-1. CD20 is activated by the IGF-1 receptor via the α subunits of the heterotrimeric G proteins. Activation of CD20 significantly increases DNA synthesis and is thought to involve basic helix-loop-helix leucine zipper transcription factors.

REFERENCES

1. Tedder, T.F., et al. 1994. CD20: a regulator of cell-cycle progression of B lymphocytes. *Immunol. Today* 15: 450-454.
2. Schlossman, S., et al., eds. 1995. *Leucocyte Typing V*. New York: Oxford University Press.
3. Szollosi, J., et al. 1996. Supramolecular complexes of MHC class I, MHC class II, CD20, and tetraspan molecules (CD53, CD81, and CD82) at the surface of a B cell line JY. *J. Immunol.* 157: 2939-2946.
4. Algino, K.M., et al. 1996. CD20 (pan-B cell antigen) expression on bone marrow-derived T cells. *Am. J. Clin. Pathol.* 106: 78-81.
5. Smiers, F.J., et al. 1996. CD20 and CD40 mediated mitogenic responses in B-lineage acute lymphoblastic leukaemia. *Br. J. Haematol.* 93: 125-130.
6. Himmelmann, A., et al. 1997. PU.1/Pip and basic helix loop helix zipper transcription factors interact with binding sites in the CD20 promoter to help confer lineage- and stage-specific expression of CD20 in B lymphocytes. *Blood* 90: 3984-3995.
7. Kanzaki, M., et al. 1997. Activation of the calcium-permeable cation channel CD20 expressed in Balb/c 3T3 cells by Insulin-like growth factor-1. *J. Biol. Chem.* 272: 4964-4969.

CHROMOSOMAL LOCATION

Genetic locus: MS4A1 (human) mapping to 11q12.2.

SOURCE

CD20 (BC-1) is a mouse monoclonal antibody raised against chronic lymphocytic leukemia cells of human origin.

PRODUCT

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

STORAGE

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

PROTOCOLS

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

APPLICATIONS

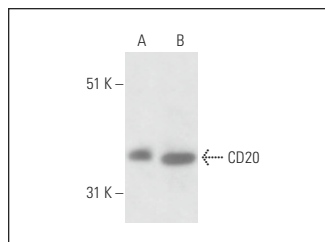
CD20 (BC-1) is recommended for detection of CD20 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 CD20 siRNA (h): sc-29972, CD20 shRNA Plasmid (h): sc-29972-SH and CD20 shRNA (h) Lentiviral Particles: sc-29972-V.

Molecular Weight of CD20 isoforms: 33-37 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, Ramos cell lysate: sc-2216 or GA-10 whole cell lysate: sc-364230.

DATA



CD20 (BC-1): sc-58983. Western blot analysis of CD20 expression in BJAB (A) and GA-10 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ma, X.B., et al. 2015. CD43 expression in diffuse large B-cell lymphoma, not otherwise specified: CD43 is a marker of adverse prognosis. *Hum. Pathol.* 46: 593-599.
2. Ma, X.B., et al. 2018. Coexpression of CD5 and CD43 predicts worse prognosis in diffuse large B-cell lymphoma. *Cancer Med.* 7: 4284-4295.

RESEARCH USE

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



See **CD20 (D-10): sc-393894** for CD20 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.