

# CD20 (I-20): sc-7736

## 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 G<sub>0</sub> to G<sub>1</sub> progression induced by IGF-1. CD20 is activated by the IGF-1 receptor via the  $\alpha$  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.
8. Mason, D., et al., eds. 2002. *Leucocyte Typing VII*. New York: Oxford University Press.

## CHROMOSOMAL LOCATION

Genetic locus: Ms4a1 (mouse) mapping to 19 A.

## SOURCE

CD20 (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the extracellular cell surface domain of CD20 of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD20 (I-20) is available conjugated fluorescein (sc-7736 FITC, 200  $\mu$ g/ml), for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-7736 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CD20 (I-20) is recommended for detection of CD20 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (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 CD20 siRNA (m): sc-29973, CD20 shRNA Plasmid (m): sc-29973-SH and CD20 shRNA (m) Lentiviral Particles: sc-29973-V.

Molecular Weight of CD20 isoforms: 33-37 kDa.

Positive Controls: rat spleen extract: sc-2397.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

**MONOS**  
Satisfaction  
Guaranteed

Try **CD20 (D-10): sc-393894**, our highly recommended monoclonal alternative to CD20 (I-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **CD20 (D-10): sc-393894**.