

# CD21 (BU32): sc-52464

## BACKGROUND

CD21 is a 145 kDa type I integral membrane glycoprotein that serves as a receptor for the C3d complement fragment and for the Epstein-Barr virus. It plays a role in B cell activation and proliferation and undergoes phosphorylation after B cell activation with phorbol esters. CD21 is expressed on mature B cells, follicular Dendritic cells, pharyngeal and cervical epithelial cells and a subset of thymocytes. The adaptive immune response is tightly regulated to limit responding cells in an antigen-specific manner. On B cells, co-receptors CD21/CD19 modulate the strength of B cell Ag receptor (BCR) signals, thereby influencing cell fate. Complement receptor (CR) type 2 (CR2/ CD21) is normally expressed during the immature and mature stages of B cell development. In association with CD19, CR21 plays an important role in enhancing mature B cell responses to foreign antigen.

## REFERENCES

1. Tanner, J., et al. 1987. Epstein-Barr virus gp350/220 binding to the B lymphocyte C3d receptor mediates adsorption, capping and endocytosis. *Cell* 50: 203-213.
2. Ahearn, J.M., et al. 1989. Structure and function of the complement receptors, CR1 (CD35) and CR2 (CD21). *Adv. Immunol.* 46: 183-219.
3. Tedder, Z.F., et al. 1994. The CD19/CD21 signal transduction complex of B lymphocytes. *Immunol. Today* 15: 437-442.
4. Molina, H., et al. 1995. Characterization of a complement receptor 2 (CR2, CD21) ligand binding site for C3. An initial model of ligand interaction with two linked short consensus repeat modules. *J. Immunol.* 154: 5426-5435.
5. Roberts, M.L., et al. 1996. Epstein-Barr virus binding to CD21, the virus receptor, activates resting B cells via an intracellular pathway that is linked to B cell infection. *J. Gen. Virol.* 77: 3077-3085.
6. Sugano, N., et al. 1997. Epstein-Barr virus binding to CD21 activates the initial viral promoter via NF $\kappa$ B induction. *J. Exp. Med.* 186: 731-737.
7. Shubinsky, G., et al. 1997. Pathways controlling the expression of surface CD21 (CR2) and CD23 (Fc  $\epsilon$  RII) proteins in human malignant B cells. *Leuk. Lymph.* 25: 521-530.

## CHROMOSOMAL LOCATION

Genetic locus: CR2 (human) mapping to 1q32.2.

## SOURCE

CD21 (BU32) is a mouse monoclonal antibody raised against purified B cells from lymph node of human origin.

## PRODUCT

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

CD21 (BU32) is available conjugated to either phycoerythrin (sc-52464 PE) or fluorescein (sc-52464 FITC), 200  $\mu$ g/ml, for IF, IHC(P) and FCM.

## APPLICATIONS

CD21 (BU32) is recommended for detection of CD21 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for CD21 siRNA (h): sc-29974, CD21 shRNA Plasmid (h): sc-29974-SH and CD21 shRNA (h) Lentiviral Particles: sc-29974-V.

Molecular Weight of CD21: 145 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## 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) for detailed protocols and support products.



See **CD21 (A-3): sc-13135** for CD21 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647.