

# CD21 (HB-5): sc-18857

## BACKGROUND

CD21 (also known as complement receptor (CR) type 2) is a 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. 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 antigens.

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

CD21 (HB-5) 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 the human B-cell line SB.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD21 (HB-5) is available conjugated to either phycoerythrin (sc-18857 PE) or fluorescein (sc-18857 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

CD21 (HB-5) is recommended for detection of CD21 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 CD21 siRNA (h): sc-29974, CD21 shRNA Plasmid (h): sc-29974-SH and CD21 shRNA (h) Lentiviral Particles: sc-29974-V.

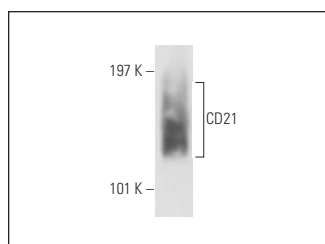
Molecular Weight of CD21: 145 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, Daudi cell lysate: sc-2415 or NAMALWA cell lysate: sc-2234.

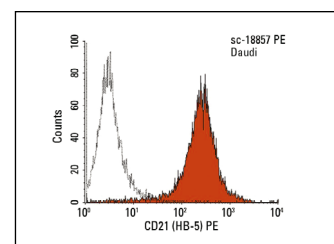
## RECOMMENDED SUPPORT REAGENTS

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



CD21 (HB-5): sc-18857. Western blot analysis of CD21 expression in Raji whole cell lysate under non-reducing conditions.



CD21 (HB-5) PE: sc-18857 PE. FCM analysis of Daudi cells. Black line histogram represents the isotype control, normal mouse IgG<sub>2a</sub>-PE: sc-2867.

## SELECT PRODUCT CITATIONS

1. Fridkis-Hareli, M., et al. 2011. Design and development of TT30, a novel C3d-targeted C3/C5 convertase inhibitor for treatment of human complement alternative pathway-mediated diseases. *Blood* 118: 4705-4713.
2. Buhlmann, D., et al. 2016. FHR3 blocks C3d-mediated coactivation of human B cells. *J. Immunol.* 197: 620-629.
3. Yu, X., et al. 2017. Using a commonly down-regulated cytomegalovirus (CMV) promoter for high-level expression of ectopic gene in a human B lymphoma cell line. *Med. Sci. Monit.* 23: 5943-5950.

## 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, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.