SANTA CRUZ BIOTECHNOLOGY, INC.

CD21 (B-ly4): sc-51724

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, coreceptors 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, CR2 plays an important role in enhancing mature B cell responses to foreign antigen.

REFERENCES

1. Ahearn, J.M., et al. 1989. Structure and function of the complement receptors, CR1 (CD35) and CR2 (CD21). Adv. Immunol. 46: 183-219.
2. Timens, W., et al. 1991. Tissue distribution of the C3d/EBV-receptor: CD21 monoclonal antibodies reactive with a variety of epithelial cells, medullary thymocytes, and peripheral T-cells. Histochemistry 95: 605-611.
3. Tedder, Z.F., et al. 1994. The CD19/CD21 signal transduction complex of B lymphocytes. Immunol. 15: 437-442.
4. Doody, G.M., et al. 1996. Activation of B lymphocytes: integrating signals from CD19, CD22 and Fc γ RIIb1. Curr. Opin. Immunol. 8: 378-382.
5. Barclay, A.N., et al., eds. 1997. The Leucocyte Antigen Facts Book. London: Academic Press, 183-185.
6. Andrasfalvy, M., et al. 2002. Mucosal type mast cells express complement receptor type 2 (CD21). Immunol. Lett. 82: 29-34.
7. Ohmori, H., et al. 2002. Role for complement receptors (CD21/CD35) in the regulation of recombination activating gene expression in murine peripheral B cells. Immunol. Lett. 83: 95-99.
8. Thornton, C.A., et al. 2002. Expression of CD21 and CD23 during human fetal development. Pediatr. Res. 52: 245-250.

CHROMOSOMAL LOCATION

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

SOURCE

CD21 (B-ly4) is a mouse monoclonal antibody raised against CD21 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD21 (B-ly4) is available conjugated fluorescein (sc-51724 FITC, 100 tests in 2 ml), for IF, IHC(P) and FCM.

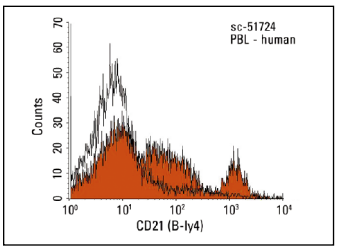
APPLICATIONS

CD21 (B-ly4) is recommended for detection of CD21 of human origin by 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 µg per 1 x 10^6 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.

DATA



CD21 (B-ly4): sc-51724. Indirect FCM analysis of human peripheral blood leukocytes stained with CD21 (B-ly4), followed by PE-conjugated goat anti-mouse IgG_1: sc-3764. Black line histogram represents the isotype control, normal mouse IgG_1: sc-3877.

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 for detailed protocols and support products.

CONJUGATES

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