Human CD21 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF4909

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD21 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human CD21 Ile21-Arg971 Accession # P20023
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

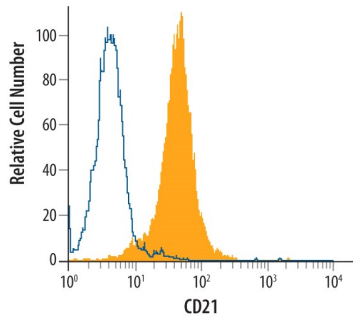
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human CD21 (Catalog # 4909-CD)
Flow Cytometry	2.5 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Flow Cytometry



Detection of CD21 in Daudi Human Cell Line by Flow Cytometry. Daudi human Burkitt's lymphoma cell line was stained with Sheep Anti-Human CD21 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4909, filled histogram) or control antibody (Catalog # 5-001-A, open histogram), followed by NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # NL010).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

CD21, also known as complement receptor 2 (CR2), is a 145 kDa N-glycosylated member of the RCA (regulators of complement activation) family of proteins. The complement cascade plays an important role in the innate immune system through the recognition and clearance of immune complexes and foreign particles (1). Mature human CD21 contains a 951 aa extracellular domain (ECD) with fifteen tandem SCR/SUSHI repeats, a 28 aa transmembrane segment, and a 34 aa cytoplasmic tail (2, 3). Within the ECD human CD21 shares 67% aa identity with mouse and rat CD21. Human CD21 and CD35 are encoded by two separate genes, but in mouse partially homologous proteins are alternate splice forms of one gene (4). Alternate splicing of human CD21 generates isoforms with an altered SCR8 or an insertion between SCR10 and SCR11 (5). CD21 is primarily expressed on B cells, follicular dendritic cells, and T cells. A circulating soluble form of CD21 is released by proteolytic shedding from activated B cells (6, 7). CD21 binds the complement component fragments iC3b, C3d, and C3d,g (1, 8). It forms a complex with the B cell receptor-associated CD19 molecule and lowers the threshold for B cell activation (9-11). CD21 can also form complexes with the complement receptor CD35/CR1 (1, 10). Mice deficient in both CD21 and CD35 exhibit normal B cell development but severely compromised germinal center development, antibody production, establishment of protective microbial immunity, and B cell tolerance to self antigens (12, 13). In mice, CD21/CD35 must additionally be present on follicular dendritic cells to mount effective humoral responses and establishment of B cell memory (14). CD21 also binds the gp350 coat protein on Epstein-Barr virus and serves as an uptake receptor for viral infection of B cells (15).

References:

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