abcam

ab187583

Alexa Fluor® 647 Anti-CD21 antibody [LT21]

Anti-CD21 antibody [LT21] conjugated to Alexa Fluor® 647 - suitable for flow cytometry, and reacts with human samples. Clone [LT21] is a mouse monoclonal antibody.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing CR2 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P20023
Clone number	LT21
Purification technique	Size-exclusion chromatography
Light chain type	kappa
Purification notes	The purified antibody is conjugated with Alexa Fluor® 647 under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	4 µL for 10^6 Cells
Notes	ab176103 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information CR2

Function	Serves as a receptor for various ligands including complement component CD3d, HNRNPU OR IFNA1 (PubMed:1849076, PubMed:21527715, PubMed:7753047). When C3d is bound to antigens, attaches to C3d on B-cell surface and thereby facilitates the recognition and uptake of antigens by B-cells (PubMed:21527715). This interaction enhances B-cell activation and subsequent immune responses. Forms a complex with several partners on the surface of B-cells including CD19, FCRL5 and CD81, to form the B-cell coreceptor complex that plays a crucial role in B-cell activation and signaling (PubMed:1383329, PubMed:30107486). Also induces specific intracellular signaling separately from the BCR and CD19 by activating the tyrosine kinase SRC, which then phosphorylates nucleolin/NCL and triggers AKT and GSK3 kinase activities in a SYK/CD19-independent manner (PubMed:12938232). Acts as a ligand for CD23 (FcepsilonRII), a low-affinity receptor for IgE, which is expressed on B-cells and other immune cells, and thus participates in the regulation of IgE production (PubMed:1386409). (Microbial infection) Acts as a receptor for Epstein-Barr virus.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CD21 also known as complement receptor type 2 (CR2) or BU32 is a protein primarily expressed on the surface of B cells and some T cells. It functions as a

	receptor for complement component C3d EBV (Epstein-Barr Virus) and IFN-α. CD21 weighs approximately 145 kDa and belongs to the membrane protein family. Detection of CD21 can be done via immunohistochemistry (IHC) and blood tests. This marker is valuable for identifying cell populations that have roles in immune responses.
Biological function summary	Complement receptor type 2 is key in the immune system by facilitating B cell activation and proliferation. CD21 forms complexes with CD19 and CD81 increasing the sensitivity of B cells to antigens. This interaction enhances signal transduction enabling B lymphocytes to respond effectively to pathogens. The protein also plays a role in regulating immune tolerance and maintaining humoral immunity being important not only in immune defense but also in preventing autoimmunity.
Pathways	CD21 interacts with complement activation and immune response pathways. It connects with CD19 in a pivotal role where it further amplifies signaling in B lymphocytes. This interaction strengthens the downstream signaling of BCR (B cell receptor) important for antibody production. CD21 contributes to bridging the innate and adaptive immunological pathways by engaging components like C3d.
Associated diseases and disorders	CD21 shows significant relevance in systemic lupus erythematosus (SLE) and some B cell lymphomas. Deficiencies or mutations in CD21 can lead to defective immune responses and increased susceptibility to autoimmune conditions such as SLE where CD19 is also implicated. Furthermore in Epstein-Barr Virus infections CD21 serves as an entry receptor facilitating pathogen establishment which can result in chronic conditions or even malignancies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

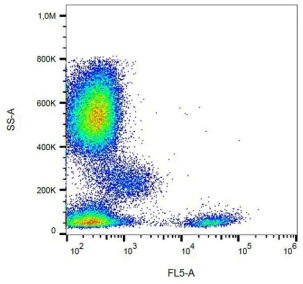
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

1 product image



Flow Cytometry - Alexa Fluor® 647 Anti-CD21 antibody [LT21] (ab187583)

CD21 Flow Cytometry staining using mouse Anti-CD21 antibody

Surface staining of human peripheral blood leukocytes with ab187583

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.