abcam

ab254171

Anti-CD22 antibody [4KB128]

Recombinant

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	4KB128
Purification technique	Affinity purification Protein A
Light chain type	kappa
Concentration	1.006 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	2.692 µg/mL
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	13.46 mg/mL
Notes	-

Target data

See full target information CD22

Function

Most highly expressed siglec (sialic acid-binding immunoglobulin-like lectin) on B-cells that plays a role in various aspects of B-cell biology including differentiation, antigen presentation, and trafficking to bone marrow (PubMed:34330755, PubMed:8627166). Binds to alpha 2,6-linked sialic acid residues of surface molecules such as CD22 itself, CD45 and IgM in a cis configuration. Can also bind to ligands on other cells as an adhesion molecule in a trans configuration (PubMed:20172905). Acts as an inhibitory coreceptor on the surface of B-cells and inhibits B-cell receptor induced signaling, characterized by inhibition of the calcium mobilization and cellular activation. Mechanistically, the immunoreceptor tyrosine-based inhibitory motif domain is phosphorylated by the Src kinase LYN, which in turn leads to the recruitment of the protein tyrosine phosphatase 1/PTPN6, leading to the negative regulation of BCR signaling (PubMed:8627166). If this negative signaling from is of sufficient strength, apoptosis of the B-cell can be induced (PubMed:20516366).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

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

Activity summary	CD22 also known as Siglec-2 or B-lymphocyte cell adhesion molecule (BL-CAM) is a transmembrane protein with a mass of around 140 kDa. It is selectively expressed on the surface of mature B cells and some immature B cells. This protein plays an important role in the immune system particularly in the regulation of B cell function. CD22 functions by modulating signal transduction processes through its cytoplasmic domain which contains immunoreceptor tyrosine-based inhibitory motifs (ITIMs).
Biological function summary	CD22 acts mainly as a negative regulator of B cell receptor (BCR) signaling. It is part of a complex that interacts with the BCR and other accessory molecules. CD22 helps maintain B cell tolerance by inhibiting overactive signaling and preventing autoimmune responses. By binding to sialic acid-containing glycans CD22 modulates interactions between B cells and other cells aiding in the maintenance of immune homeostasis.
Pathways	CD22 plays a critical role in the BCR signaling pathway and the regulation of phosphatidylinositol 3-kinase (PI3K) signaling. It works together with proteins like CD19 and SHP-1 that are key components of these pathways. By influencing these signaling cascades CD22 contributes to the modulation of B cell activation proliferation and apoptosis ensuring proper functioning of the immune response.

Associated diseases and disorders	CD22 is associated with autoimmune conditions and hematological malignancies such as hairy cell leukemia (HCL). Therapeutic approaches targeting CD22 such as anti-CD22 antibodies are being explored for treating these diseases. CD22's role in these conditions is connected with proteins involved in the autoimmune pathways or cancer development offering potential therapeutic targets for intervention.

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

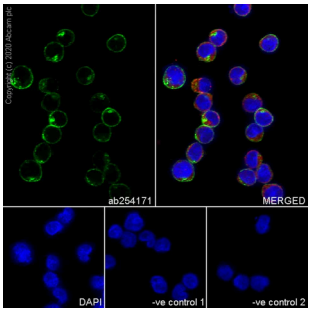
We do not recommend this combination. It is not covered by our product promise.

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.

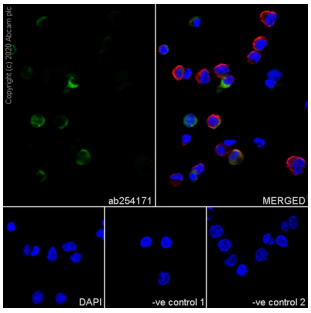
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-CD22 antibody [4KB128] (ab254171)

CD22 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-CD22 antibody

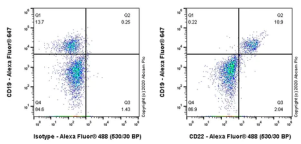
Immunofluorescent analysis of 100% methanol-fixed, 0.1% Triton X-100 permeabilized Raji cells labelling CD22 with ab254171 at 13.46 mg/mL, followed by ab150113 Goat Anti-Mouse IgG H&L (Alexa Fluor®488) antibody at 1/1000 dilution (Green). Confocal image showing cytoplamic and membranous staining in Raji cell line. ab179513 Anti-beta Tubulin rabbit monoclonal antibody was used to counterstain tubulin at 1/500 dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150113 Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-CD22 antibody [4KB128] (ab254171)

CD22 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-CD22 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Human PBMC cells labelling CD22 with ab254171 at 13.46 mg/mL, followed by ab150113 Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) antibody at 1/1000 (Green). Confocal image showing cytoplamic and membranous staining in subsets of human PBMCs. ab179513 Anti-beta Tubulin rabbit monoclonal antibody was used to counterstain tubulin at 1/500 dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150113 Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.



Flow Cytometry - Anti-CD22 antibody [4KB128] (ab254171)

CD22 Flow Cytometry staining using mouse Anti-CD22 antibody

Flow cytometric analysis of Human peripheral blood mononuclear cells (PBMC) labelling CD22 with ab254171 at 2.692 mg/mL (Right) compared with a Mouse monoclonal IgG isotype control (Left). Goat anti-mouse IgG (Alexa Fluor® 488, ab150113) at 1/2000 dilution was used as the secondary antibody. Cells were surface stained with mouse IgG and ab254171, then stained with anti-CD19 conjugated to Alexa Fluor® 647.
Gated on viable cells.

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