abcam

ab234253

PE Anti-CD22 antibody [S-HCL-1]

Anti-CD22 antibody [S-HCL-1] conjugated to PE - suitable for flow cytometry, intracellular flow cytometry, and reacts with human samples. Clone [S-HCL-1] is a mouse monoclonal antibody cited in 15 publications.

Design your panel with our interactive flow cytometry panel builder. Click here.

Key facts

Isotype	IgG2b
Host species	Mouse
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.4 Preservative: 0.0975% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing CD22 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P20273
Clone number	S-HCL-1
Purification technique	Size-exclusion chromatography
Purification notes	Purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	10 µL for 10^6 Cells
Notes	(or 100 µl of whole blood).

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 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	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

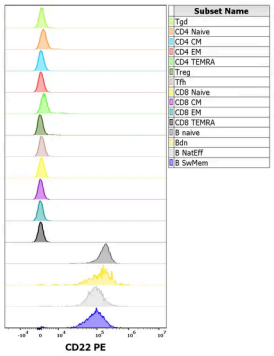
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images

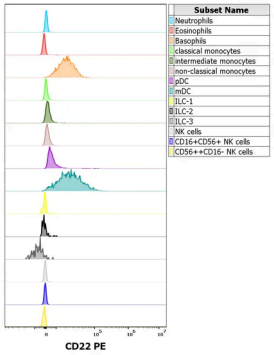


Flow Cytometry - PE Anti-CD22 antibody [S-HCL-1] (ab234253)

CD22 Flow Cytometry staining of Suspension of blood leukocytes isolated from buffy coats using mouse Anti-CD22 antibody

Expression profiling on peripheral blood subsets using Anti-human CD22 PE antibody (clone S-HCL-1). Adaptive panel

HCDM CDMaps standardized procedures (Kuzilkova D et al. Front Immunol. 2022;13:827898) were used for cell isolation and surface staining of blood leukocytes, with the modification of staining protocol using cytometry test tubes.
Suspension of blood leukocytes isolated from buffy coats (2 x 10^6 cells) was added to the mixture of anti-human CD22 PE antibody (clone S-HCL-1, 2 µg/ml in stained blood sample) and Monocyte Blocking Buffer, vortexed and incubated for 20 min. Next, optimized backbone antibody panel (HLDA Adaptive) was added to test tubes, vortexed and incubated for 20 min. The residual erythrocytes were lysed with 2 ml of 10× diluted EXCELLYSE Easy solution and incubated for 10 min. Finally, samples were centrifuged (670 g, 5 min.), supernatant removed and the cell pellet was resuspended in 200 µl of PBS for acquisition.

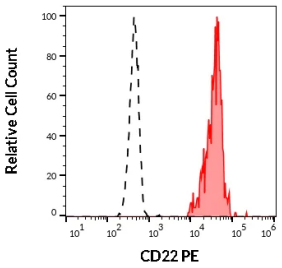


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Expression profiling on peripheral blood subsets using Anti-human CD22 PE antibody (clone S-HCL-1). Innate panel

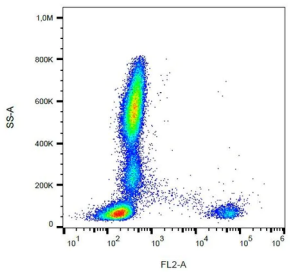
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Flow Cytometry - PE Anti-CD22 antibody [S-HCL-1] (ab234253)

CD22 Flow Cytometry staining using mouse Anti-CD22 antibody

Flow cytometric analysis of human peripheral whole blood showing separation of human CD22 positive lymphocytes (red-filled) from human neutrophil granulocytes (black-dashed) (surface staining) using anti-human CD22 PE antibody ab234253 (10 µl / 100 µl of peripheral whole blood).



Flow Cytometry - PE Anti-CD22 antibody [S-HCL-1] (ab234253)

CD22 Flow Cytometry staining using mouse Anti-CD22 antibody

Flow cytometric analysis of human peripheral blood labeling CD22 with ab234253. Gated on leukocytes, surface staining.

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