abcam

ab181771

Anti-CD22 antibody [2H1C4]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human CD22 aa 600-750. The exact immunogen used to generate this antibody is proprietary information. Database link P20273
Clone number	2H1C4
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200 - 1/400

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/500 - 1/2000
Notes	-

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
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

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

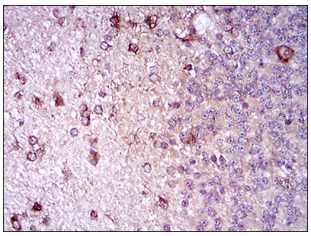
We do not recommend this combination. It is not covered by our product promise.

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.

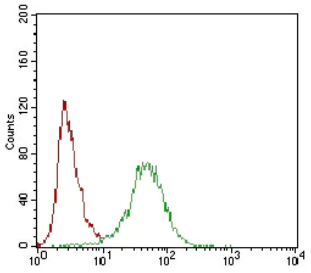
7 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD22 antibody [2H1C4] (ab181771)

CD22 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-CD22 antibody

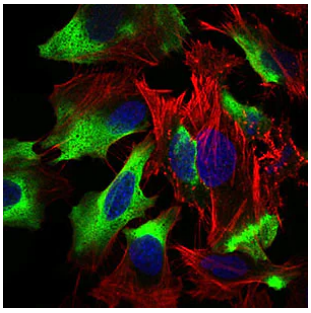
Immunohistochemical analysis of paraffin-embedded Human cerebellum tissue labeling CD22 with ab181771 at 1/200 dilution followed by DAB staining.



Flow Cytometry - Anti-CD22 antibody [2H1C4] (ab181771)

CD22 Flow Cytometry staining using mouse Anti-CD22 antibody

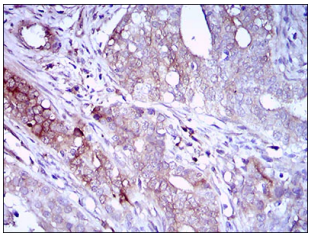
Flow cytometric analysis of HeLa cells labeling CD22 with ab181771 at 1/200 dilution (green); negative control (red).



Immunocytochemistry/ Immunofluorescence - Anti-CD22 antibody [2H1C4] (ab181771)

CD22 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-CD22 antibody

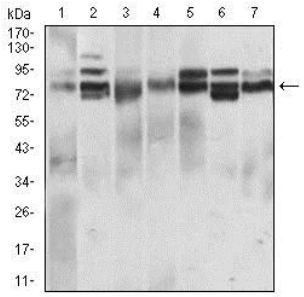
Immunofluorescent analysis of HeLa cells, labeling CD22 with ab181771 at 1/200 dilution (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD22 antibody [2H1C4] (ab181771)

CD22 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-CD22 antibody

Immunohistochemical analysis of paraffin-embedded Human cervical cancer tissue labeling CD22 with ab181771 at 1/200 dilution followed by DAB staining.



Western blot - Anti-CD22 antibody [2H1C4] (ab181771)

All lanes:
Western blot - Anti-CD22 antibody [2H1C4] (ab181771) at 1/500 dilution

Lane 1:
mouse L1210 cell lysate

Lane 2:
HeLa cell lysate

Lane 3:
HEK293 cell lysate

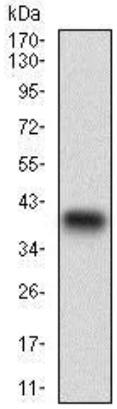
Lane 4:
Jurkat cell lysate

Lane 5:
OCM-1 cell lysate

Lane 6:
A431 cell lysate

Lane 7:
mouse NIH 3T3 cell lysate

Predicted band size: 95 kDa

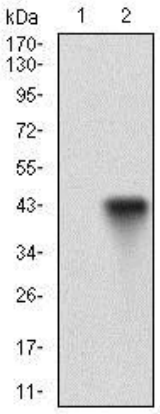


Western blot - Anti-CD22 antibody [2H1C4] (ab181771)

All lanes:
Western blot - Anti-CD22 antibody [2H1C4] (ab181771) at 1/500 dilution

All lanes:
Human CD22 recombinant protein

Predicted band size: 95 kDa



Western blot - Anti-CD22 antibody [2H1C4] (ab181771)

All lanes:
Western blot - Anti-CD22 antibody [2H1C4] (ab181771) at 1/500 dilution

Lane 1:
HEK293 cell lysate, non-transfected

Lane 2:
HEK293 cell lysate, transfected with CD22 (amino acids 622-725)-hIgGFc

Predicted band size: 95 kDa

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