10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CD22 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1851a

Product Information

Application	WB, FC, ICC, E
Primary Accession	P20273
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	1A3A11
Isotype	IgG1
Calculated MW	95348
Description	CD22 may be involved in the localization of B-cells in lymphoid tissues. Binds sialylated glycoproteins; one of which is CD45. Preferentially binds to alpha-2,6-linked sialic acid. The sialic acid recognition site can be masked by cis interactions with sialic acids on the same cell surface. Upon ligand induced tyrosine phosphorylation in the immune response seems to be involved in regulation of B-cell antigen receptor signaling. Plays a role in positive regulation through interaction with Src family tyrosine kinases and may also act as an inhibitory receptor by recruiting cytoplasmic phosphatases via their SH2 domains that block signal transduction through dephosphorylation of signaling molecules
Immunogen	Purified recombinant fragment of human CD22 (AA: 621-725) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	933
Other Names	B-cell receptor CD22, B-lymphocyte cell adhesion molecule, BL-CAM, Sialic acid-binding Ig-like lectin 2, Siglec-2, T-cell surface antigen Leu-14, CD22, CD22, SIGLEC2
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CD22 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CD22 {ECO:0000303|PubMed:1691828, ECO:0000312|HGNC:HGNC:1643}
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).
Cellular Location	Cell membrane; Single-pass type I membrane protein
Tissue Location	B-lymphocytes.

Background

CD22 may be involved in the localization of B-cells in lymphoid tissues. Binds sialylated glycoproteins; one of which is CD45. Preferentially binds to alpha-2,6-linked sialic acid. The sialic acid recognition site can be masked by cis interactions with sialic acids on the same cell surface. Upon ligand induced tyrosine phosphorylation in the immune response seems to be involved in regulation of B-cell antigen receptor signaling. Plays a role in positive regulation through interaction with Src family tyrosine kinases and may also act as an inhibitory receptor by recruiting cytoplasmic phosphatases via their SH2 domains that block signal transduction through dephosphorylation of signaling molecules ;

References

1. Cancer Res. 2012 Nov 1;72(21):5556-65. 2. J Innate Immun. 2011;3(4):411-9.

Images

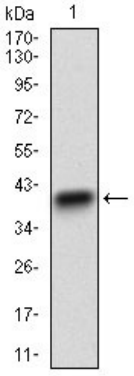
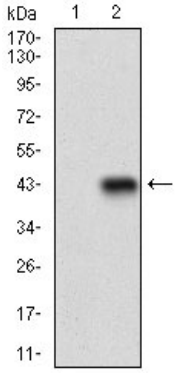


Figure 1: Western blot analysis using CD22 mAb against human CD22 recombinant protein. (Expected MW is 37 kDa)

Figure 2: Western blot analysis using CD22 mAb against HEK293 (1) and CD22 (AA: 621-725)-hIgGFc transfected HEK293 (2) cell lysate.



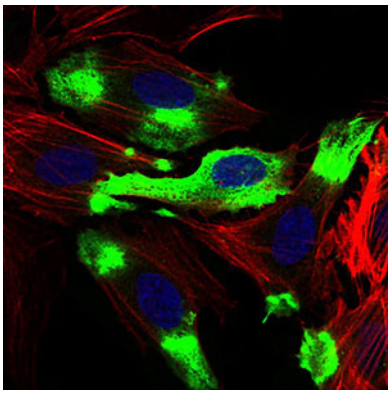


Figure 3: Immunofluorescence analysis of Hela cells using CD22 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

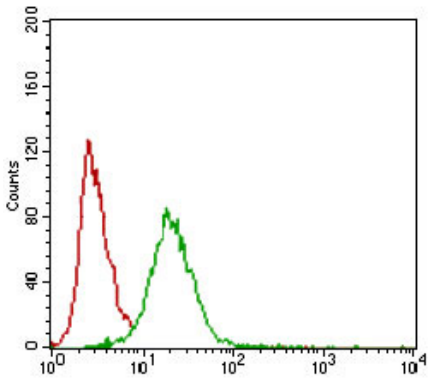


Figure 4: Flow cytometric analysis of Hela cells using CD22 mouse mAb (green) and negative control (red).

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