SANTA CRUZ BIOTECHNOLOGY, INC.

CD22 (Y-19): sc-7032

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The Power to Question

BACKGROUND

The B lymphocyte specific CD22 antigen, also designated B lymphocyte cell adhesion molecule (BLCAM), sialic acid-binding Ig-like lectin 2 (Siglec-2) and Leu-14, is a type I integral membrane glycoprotein, structurally similar to other cell adhesion molecules (CAMs), which acts as a regulator of B cell signaling. CD22 is expressed as both a cytoplasmic and membrane protein during discrete stages of B cell lymphocyte differentiation. The cytoplasmic form of CD22, expressed early in B cell development, is a useful marker for acute lymphocytic leukemia. The membrane form of CD22 is expressed in mature B cells prior to their differentiation into plasma cells. Alternative splicing results in two different isoforms, CD22α and CD22β. The CD22β monomer is the principally occurring isoform but CD22 also appears as a heterodimer of CD22β and the shorter isoform, CD22α.

REFERENCES

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2. Wilson, G.L., et al. 1991. cDNA cloning of the B cell membrane protein CD22: a mediator of B-B cell interactions. J. Exp. Med. 173: 137-146.
3. Powell, L.D., et al. 1993. Natural ligands of the B cell adhesion molecule CD22β carry N-linked oligo-saccharides with α-2,6-linked sialic acids that are required for recognition. J. Biol. Chem. 268: 7019-7027.
4. Wilson, G.L., et al. 1993. Genomic structure and chromosomal mapping of the human CD22 gene. J. Immunol. 150: 5013-5024.
5. Sgroi, D., et al. 1995. Regulation of CD45 engagement by the B cell receptor CD22. Proc. Natl. Acad. Sci. USA 92: 4026-4030.
6. Tedder, T.F., et al. 1997. CD22, a B lymphocyte-specific adhesion molecule that regulates antigen receptor signaling. Annu. Rev. Immunol. 15: 481-504.
7. Wakabayashi, C., et al. 2002. A distinct signaling pathway used by the IgG-containing B cell antigen receptor. Science 298: 2392-2395.
8. John, B., et al. 2003. The B cell co-receptor CD22 associates with AP50, a Clathrin-coated pit adapter protein, via tyrosine-dependent interaction. J. Immunol. 170: 3534-3543.

CHROMOSOMAL LOCATION

Genetic locus: CD22 (human) mapping to 19q13.1; Cd22 (mouse) mapping to 7 B1.

SOURCE

CD22 (Y-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CD22 of mouse origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7032 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

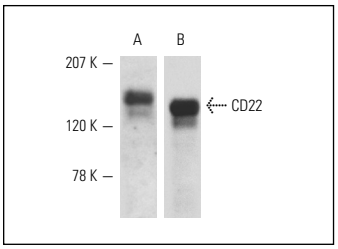
CD22 (Y-19) is recommended for detection of CD22 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CD22 siRNA (h): sc-29807, CD22 siRNA (m): sc-29806, CD22 shRNA Plasmid (h): sc-29807-SH, CD22 shRNA Plasmid (m): sc-29806-SH, CD22 shRNA (h) Lentiviral Particles: sc-29807-V and CD22 shRNA (m) Lentiviral Particles: sc-29806-V.

Molecular Weight of CD22: 130 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, Ramos cell lysate: sc-2216 or human PBL.

DATA



Western blot analysis of CD22 expression in BJAB whole cell lysate (**A**,**B**). Antibodies tested include CD22 (Y-19): sc-7032 (**A**) and CD22 (MYG13): sc-7323 (**B**).

SELECT PRODUCT CITATIONS

1. Mott, R.T., et al. 2004. Neuronal expression of CD22: novel mechanism for inhibiting microglial proinflammatory cytokine production Glia 46: 369-379.
2. Dal Pra, I., et al. 2005. *De novo* engineering of reticular connective tissue *in vivo* by silk fibroin nonwoven materials. Biomaterials 26: 1987-1999.
3. Grewal, P.K., et al. 2006. ST6Gal-I restrains CD22-dependent antigen receptor endocytosis and Shp-1 recruitment in normal and pathogenic immune signaling. Mol. Cell. Biol. 26: 4970-4981.