SANTA CRUZ BIOTECHNOLOGY, INC.

CD22 (RFB-4): sc-7307

SANTA CRUZ BIOTECHNOLOGY

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

1. Stamenkovic, I., et al. 1990. The B-cell antigen CD22 mediates monocyte and erythrocyte adhesion. Nature 345: 74-77.
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 CD22 β carry N-linked oligosaccharides 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 CD 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 coreceptor 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 19q13.12.

SOURCE

CD22 (RFB-4) is a mouse monoclonal antibody raised against human tonsil lymphocytes.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD22 (RFB-4) is available conjugated to either phycoerythrin (sc-7307 PE) or fluorescein (sc-7307 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

CD22 (RFB-4) is recommended for detection of CD22 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

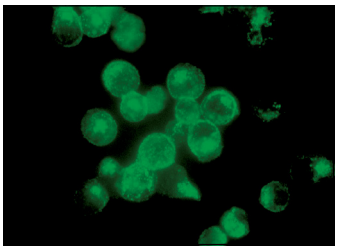
Suitable for use as control antibody for CD22 siRNA (h): sc-29807, CD22 shRNA Plasmid (h): sc-29807-SH and CD22 shRNA (h) Lentiviral Particles: sc-29807-V.

Molecular Weight of CD22: 130 kDa.

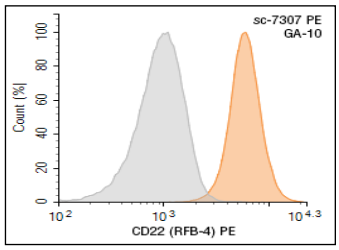
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CD22 (RFB-4): sc-7307. Immunofluorescence staining of methanol-fixed Ramos cells showing membrane localization.



CD22 (RFB-4) PE: sc-7307 PE. FCM analysis of GA-10 cells. Gray histogram represents the isotype control, normal mouse IgG_1-PE: sc-2866.

SELECT PRODUCT CITATIONS

1. DiJoseph, J.F., et al. 2005. Antibody-targeted chemotherapy of B-cell lymphoma using calicheamicin conjugated to murine or humanized antibody against CD22. Cancer Immunol. Immunother. 54: 11-24.
2. DiJoseph, J.F., et al. 2006. Antitumor efficacy of a combination of CMC-544 (inotuzumab ozogamicin), a CD22-targeted cytotoxic immunoconjugate of calicheamicin, and rituximab against non-Hodgkin's B-cell lymphoma. Clin. Cancer Res. 12: 242-249.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.