

# CD22 (E-9): sc-377304

## 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, CD22 $\alpha$  and CD22 $\beta$ . The CD22 $\beta$  monomer is the principally occurring isoform but CD22 also appears as a heterodimer of CD22 $\beta$  and the shorter isoform, CD22 $\alpha$ .

## REFERENCES

1. Stamenkovic, I. and Seed, B. 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  $\beta$  carry N-linked oligosaccharides with  $\alpha$ -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 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 (E-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 20-49 at the N-terminus of CD22 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377304 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

CD22 (E-9) is recommended for detection of CD22 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 shRNA Plasmid (h): sc-29807-SH and CD22 shRNA (h) Lentiviral Particles: sc-29807-V.

Molecular Weight of CD22: 130 kDa.

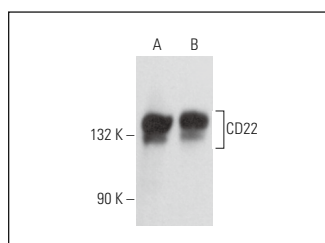
Positive Controls: BJAB whole cell lysate: sc-2207, Ramos cell lysate: sc-2216 or NAMALWA cell lysate: sc-2234.

## RECOMMENDED SUPPORT REAGENTS

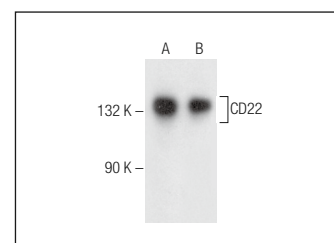
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



CD22 (E-9): sc-377304. Western blot analysis of CD22 expression in Ramos (A) and NAMALWA (B) whole cell lysates.



CD22 (E-9): sc-377304. Western blot analysis of CD22 expression in BJAB (A) and Ramos (B) whole cell lysates.

## 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](http://www.scbt.com) for detailed protocols and support products.