Human Siglec-2/CD22 Antibody

Monoclonal Mouse IgG_1 Clone # 219902

Catalog Number: MAB19681

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Siglec-2/CD22 in direct ELISAs and Western blots. In Western blots, approximately 25% cross-reactivity with recombinant human (rh) Siglec-7 and rhSiglec-9 is observed, and no cross-reactivity with rhSiglec-3 is observed.
Source	Monoclonal Mouse IgG_1 Clone # 219902
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Siglec-2/CD22 Asp20-Arg687 Accession # CAA42006
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

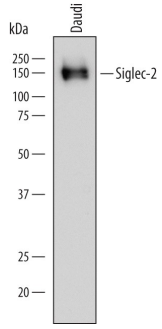
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.2 µg/mL	See Below

DATA

Western Blot



Detection of Human Siglec-2/CD22 by Western Blot. Western blot shows lysates of Daudi human Burkitt's lymphoma cell line. PVDF membrane was probed with 0.2 µg/mL of Mouse Anti-Human Siglec-2/CD22 Monoclonal Antibody (Catalog # MAB19681) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Siglec-2/CD22 at approximately 140 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human Siglec-2/CD22 Antibody

Monoclonal Mouse IgG_1 Clone # 219902

Catalog Number: MAB19681

BACKGROUND

Siglecs (sialic acid binding Ig-like lectins) are I-type (Ig-type) lectins belonging to the Ig superfamily. They are characterized by an N-terminal Ig-like V-type domain which mediates sialic acid binding, followed by varying numbers of Ig-like C2-type domains (1, 2). Eleven human Siglecs have been cloned and characterized. They are sialoadhesin/CD169/Siglec-1, CD22/Siglec-2, CD33/Siglec-3, Myelin-Associated Glycoprotein (MAG/Siglec-4a), and the identified Siglecs 5 to 11 (1-3). To date, no Siglec has been shown to recognize any cell surface ligand other than sialic acid, suggesting that interactions with glycans containing this carbohydrate are important in mediating the biological functions of Siglecs. Human Siglec-2, also known as B-cell antigen CD22 or B lymphocyte cell adhesion molecule (BL-CAM), is a B cell restricted glycoprotein that is expressed in the cytoplasm of progenitor B and pre-B cells and on the surface of mature B cells. Two distinct human Siglec-2/CD22 cDNAs that arise from differential RNA processing of the same gene have been isolated. The predominant Siglec-2/CD22β encodes an 847 amino acid (aa) polypeptide with a hydrophobic signal peptide, an N-terminal Ig-like V-type domain, six Ig-like C2-type domains, a transmembrane region and a cytoplasmic tail with 4 immunoreceptor tyrosine-based inhibition motifs (ITIMs) (4). The variant Siglec-2/CD22α encodes a 647 aa polypeptide missing two Ig-like C2-type domains and has a truncated (23 aa) cytoplasmic tail (5). Siglec-2/CD22 is an adhesion molecule that preferentially binds α2,6- linked sialic acid on the same (cis) or adjacent (trans) cells. Interaction of CD22 with trans ligands on opposing cells was found to be favored over the binding of ligands in cis (9). Besides its role as an adhesion molecule, Siglec-2/CD22 is a coreceptor that physically interacts with B cell receptor (BCR) and is rapidly phosphorylated upon BCR ligation. It negatively regulates BCR signals by recruiting tyrosine phosphatase SHP-1 to its ITIMs. Phosphorylated Siglec-2/CD22 can also interact with other intracellular effector proteins such as Syk, PLCγ, PI3 kinase, and Grb-2, suggesting it may play a role in positive signaling (2, 7, 8).

References:

1. Crocker, P.R. and A. Varki (2001) Trends Immunol. **22**:337.
2. Crocker, P.R. and A. Varki (2001) Immunology **103**:137.
3. Angata, T. *et al.* (2002) J. Biol. Chem. **277**:24466.
4. Wilson, G.L *et al.* (1991) J. Exp. Med. **173**:137.
5. Stamenkovic, I. and B. Seed (1990) Nature **345**:74.
6. Kelm, S. *et al.* (1994) Current Bio. **4**:965.
7. Ravetch, J.V. and L.L. Lanier (2000) Science **290**:84.
8. Wienands, Y.J. *et al.* (1999) J. Biol. Chem. **274**:18769.
9. Collins, B.E. *et al.* (2004) Proc. Natl. Acad. Sci. USA **101**:6104.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449