Mouse Siglec-2/CD22 Antibody

Monoclonal Rat IgG_{2A} Clone # 308501

Catalog Number: MAB2296

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Siglec-2/CD22 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human Siglec-2, -3, -5, -6, -7, -9, -10, -11, or recombinant mouse Siglec-F is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 308501
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Siglec-2/CD22
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.

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	1 µg/mL	Recombinant Mouse Siglec-2/CD22 Fc Chimera (Catalog # 2296-SL) under non-reducing conditions only
Flow Cytometry	0.25 µg/10^6 cells	Mouse splenocytes
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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.

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. Among these are sialoadhesin/CD169/Siglec-1, CD22/Siglec-2 and CD33/Siglec-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. The cDNA of mouse Siglec-2 (also known as B-cell antigen CD22), encodes an 862 amino acid (aa) protein that contains a 21 aa signal peptide, a 681 aa extracellular region, a 19 aa transmembrane region and a 141 aa cytoplasmic tail (3, 4). The extracellular region contains one N-terminal V-type Ig-like domain followed by six Ig-like C2-type domains. The cytoplasmic domain has 3 immunoreceptor tyrosine-based inhibition motifs (ITIMs). Two splice forms exist, both showing deletions in the V-type Ig domain of 30 aa and 60 aa each. There are also two alleles in mouse that account for a difference of 10 aa in the extracellular region. The extracellular region of mouse Siglec-2 is 60% aa identity to human extracellular Siglec-2. Expression of mouse Siglec-2/CD22 generates a 140 kDa integral membrane glycoprotein that is limited to the B cell compartment of lymphoid tissues. Its expression is upregulated by LPS activtion (5, 6). 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* (7).

References:

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