

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Siglec-2/CD22 in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant human (rh) Siglec-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Siglec-2/CD22 Ser22-Arg702 Accession # P35329
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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 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	0.1 µg/mL	Recombinant Mouse Siglec-2/CD22 Fc Chimera (Catalog # 2296-SL)
Immunocytochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize Siglec-2/CD22-mediated adhesion of human red blood cells. Kelm, S. <i>et al.</i> (1994) <i>Current Biology</i> 4:965. The Neutralization Dose (ND ₅₀) is typically 0.1-0.5 µg/mL in the presence of 0.3 µg/mL Recombinant Mouse Siglec-2/CD22 Fc Chimera.	

DATA

Neutralization

Cell Adhesion Mediated by Siglec-2/CD22 and Neutralization by Mouse Siglec-2/CD22 Antibody. Recombinant Mouse Siglec-2/CD22 Fc Chimera (Catalog # 2296-SL), immobilized onto a microplate, supports the adhesion of human red blood cells in a dose-dependent manner (orange line). Adhesion elicited by Recombinant Mouse Siglec-2/CD22 Fc Chimera (0.3 µg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse Siglec-2/CD22 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2296). The ND₅₀ is typically 0.1-0.5 µg/mL.

Immunocytochemistry

Siglec-2/CD22 in Mouse Splenocytes. Siglec-2/CD22 was detected in immersion fixed mouse splenocytes using Goat Anti-Mouse Siglec-2/CD22 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2296) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to cell surfaces. View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
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. <ul style="list-style-type: none"> • 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 activation (5, 6). Siglec-2/CD22 is an adhesion molecule that preferentially binds α 2,6- 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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