Mouse Siglec-F Antibody

Monoclonal Rat IgG_{2A} Clone # 238047

Catalog Number: MAB17061

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Siglec-F in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse Siglec-2 or -3, or recombinant human Siglec-5, -7, -9, -10, or -11 is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 238047
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Siglec-F Asp18-Thr437 Accession # Q920G3
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 either lyophilized or as a 0.2 µm filtered solution in PBS.

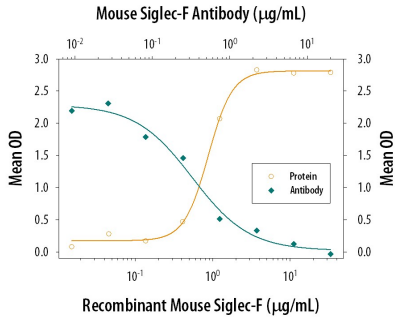
APPLICATIONS

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.*

Neutralization	Measured by its ability to neutralize Siglec-F-mediated adhesion of human red blood cells. Kelm, S. *et al.* (1994) Current Biology **4**:965. The Neutralization Dose (ND_{50}) is typically 0.1-0.5 µg/mL in the presence of 5 µg/mL Recombinant Mouse Siglec-F Fc Chimera.

DATA

Neutralization



Cell Adhesion Mediated by Siglec-F and Neutralization by Mouse Siglec-F Antibody. Recombinant Mouse Siglec-F Fc Chimera (Catalog # 1706-SF), 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-F Fc Chimera (5 µg/mL) is neutralized (green line) by increasing concentrations of Mouse Siglec-F Monoclonal Antibody (Catalog # MAB17061). The ND_{50} is typically 0.1-0.5 µg/mL.

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. *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.

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Catalog Number: MAB17061

BACKGROUND

Siglecs (1) (sialic acid binding Ig-like lectins) are I-type (Ig-type) lectins (2) belonging to the Ig superfamily. They are characterized by an N-terminal Ig-like V-type domain which mediates sialic acid binding (3), followed by varying numbers of Ig-like C2-type domains (1, 4). Eleven human Siglecs have been cloned and characterized (1, 4). They are sialoadhesin/CD169/Siglec-1, CD22/Siglec-2, CD33/Siglec-3, Myelin-Associated Glycoprotein (MAG/Siglec-4a) and Siglec 5 to 11 (4-6). To date, no Siglec has been shown to recognized any cell surface ligand other than sialic acids, suggesting that interactions with glycans containing this carbohydrate are important in mediating the biological functions of Siglecs. Siglec 5 to 11 share a high degree of sequence similarity with CD33/Siglec-3 both in their extracellular and intracellular regions. They are collectively referred to as CD33-related Siglecs. One remarkable feature of the CD33-related Siglecs is their differential expression pattern within the hematopoietic system (4, 5). This fact, together with the presence of two conserved immunoreceptor tyrosine-based inhibition motifs (ITIMs) in their cytoplasmic tails, suggests that CD33-related Siglecs are involved in the regulation of cellular activation within the immune system.

Mouse Siglec-F cDNA encodes a 569 amino acid polypeptide with a hydrophobic signal peptide, an N-terminal Ig-like V-type domain, three Ig-like C2-type domains, a transmembrane region and a cytoplasmic tail (7). The expression of Siglec-F is restricted to the cells of myelomonocytic lineage. Mouse Siglec-F is likely an ortholog of human Siglec-5. Unlike many human CD33-related Siglecs, which show similar binding to both α2,3- and α2,6-linked sialic acids, mouse Siglec-F preferentially recognize α2,3-linked sialic acid.

References:

1. Crocker, P.R. *et al.* (1998) Glycobiology **8**:v.
2. Powell, L.D. *et al.* (1995) J. Biol. Chem. **270**:14243.
3. May, A.R. *et al.* (1998) Mol. Cell 1998. **1**:719.
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5. Crocker, P.R. *et al.* (2001) Immunology **103**:137.
6. Angata, T. *et al.* (2002) J. Biol Chem. **277**:24466.
7. Angata, T. *et al.* (2001) J. Biol Chem. **276**:45128.

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