Mouse Siglec-E Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF5806

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Siglec-E in direct ELISAs and Western blots. In direct ELISAs, less than 3% cross-reactivity with recombinant human (rh) Siglec-6, rhSiglec-7, and rhSiglec-9 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Siglec-E Gln20-Phe355 Accession # Q6PJ50
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.

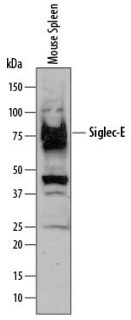
APPLICATIONS

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	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

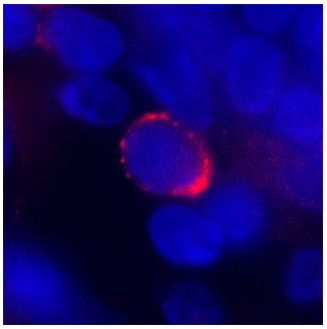
DATA

Western Blot



Detection of Mouse Siglec-E by Western Blot. Western blot shows lysates of mouse spleen tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Mouse Siglec-E Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5806) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for Siglec-E at approximately 80 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



Siglec-E in Mouse Spleen. Siglec-E was detected in perfusion fixed frozen sections of mouse spleen using Goat Anti-Mouse Siglec-E Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5806) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to plasma membrane. View our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.

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.** ● 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 are sialic acid specific I-type lectins that are characterized by an extracellular domain (ECD) with an N-terminal Ig-like V-set domain followed by varying numbers of Ig-like C2-set domains (1, 2). Mouse Siglec-E, also known as Myeloid Inhibitory Siglec (MIS), is an 80 - 85 kDa member of the CD33-related subfamily of Siglecs. It consists of a 335 amino acid (aa) ECD with one Ig-like V-set domain and two Ig-like C2-set domains, a 21 aa transmembrane segment, and a 93 aa cytoplasmic domain that contains two immunoreceptor tyrosine-based inhibitory motifs (ITIM) (3, 4). Rodent and primate Siglec gene families have significantly diverged, and Siglec-9 is the most likely human ortholog of mouse Siglec-E (1). Within the ECD, mouse Siglec-E shares 56% and 80% aa sequence identity with human Siglec-9 and rat Siglec-E, respectively. Siglec-E is expressed as a heavily N-glycosylated disulfide-linked homodimer and shows binding preference for disialic acids in the α2-8 linkage (3, 5). It is expressed on the surface of several hematopoietic cell types including neutrophils, NK cells, monocytes, peritoneal macrophages and B1 cells, and splenic myeloid dendritic cells and marginal zone B cells (5). Tyrosine phosphorylation of the cytoplasmic ITIMs mediates the association of Siglec-E with the phosphatases SHP-1 and SHP-2 (3, 4). Siglec-E is up-regulated and additionally phosphorylated following cellular stimulation by a variety of TLR agonists (6). Siglec-E signaling negatively regulates the LPS-induced production of TNF-α and IL-6 by macrophages (4, 6). Its up-regulation in macrophages parallels the development of endotoxin tolerance (6). Siglec-E recognition of sialylated determinants on virulent T. cruzi contributes to the suppression of dendritic cell IL-12 p40 production (7).

References:

1. Varki, A. and T. Angata (2006) Glycobiology **16**:1R.
2. Crocker, P.R. *et al.* (2007) Nat. Rev. Immunol. **7**:255.
3. Yu, Z. *et al.* (2001) Biochem. J. **353**:483.
4. Ulyanova, T. *et al.* (2001) J. Biol. Chem. **276**:14451.
5. Zhang, J.Q. *et al.* (2004) Eur. J. Immunol. **34**:1175.
6. Boyd, C.R. *et al.* (2009) J. Immunol. **183**:7703.
7. Erdmann, H. *et al.* (2009) Cell. Microbiol. **11**:1600.