Human Siglec-7/CD328 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1138

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Siglec-7/CD328 in direct ELISAs and Western blots. In direct ELISAs, approximately 15% cross-reactivity with recombinant human (rh) Siglec-9 is observed, approximately 5% cross-reactivity with rhSiglec-3, rhSiglec-6, and rhSiglec-8 is observed, and less than 1% cross-reactivity with rhSiglec-2, rhSiglec-5, rhSiglec-10, rhSiglec-11, and rhSiglec-14 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Siglec-7/CD328 Gln19-Gly357 Accession # Q9Y286
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.

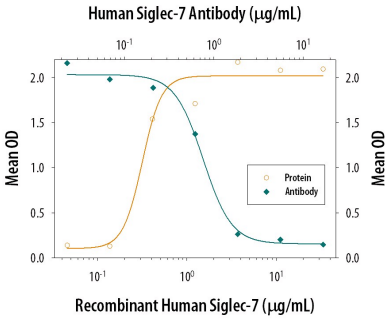
APPLICATIONS

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 Human Siglec-7/CD328 Fc Chimera (Catalog # 1138-SL)
Flow Cytometry	2.5 µg/10^6 cells	Human whole blood monocytes
Immunohistochemistry	5-15 µg/mL	Immersion fixed paraffin-embedded sections of human lung
Neutralization	Measured by its ability to neutralize Siglec-7-mediated adhesion of human red blood cells. Kelm, S. *et al*. (1994) Current Biology **4**:965. The Neutralization Dose (ND_{50}) is typically 0.3-0.9 µg/mL in the presence of 5 µg/mL Recombinant Human Siglec-7 Fc Chimera.	

DATA

Neutralization



Cell Adhesion Mediated by Siglec-7 and Neutralization by Human Siglec-7 Antibody. Recombinant Human Siglec-7 Fc Chimera (Catalog # 1138-SL), immobilized onto a microplate, supports the adhesion of human red blood cells in a dose-dependent manner (orange line). Adhesion elicited by Recombinant Human Siglec-7 Fc Chimera (5 µg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human Siglec-7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1138). The ND_{50} is typically 0.3-0.9 µg/mL.

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.
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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BACKGROUND

Siglecs (1) (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 Siglecs 5 to 11 (1-4). 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. Siglecs 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 (2, 3). 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.

Human Siglec-7 encodes a 467 amino acid (aa) polypeptide with a hydrophobic signal peptide, an N-terminal Ig-like V-type domain, two Ig-like C2-type domains, a transmembrane region and a cytoplasmic tail (5). Siglec-7 exists as a monomer on the cell surface and is expressed on natural killer cells, $CD8^+$ T cells and monocytes (3, 5). It binds equally well to both α2,3- and α2,6-linked sialic acid (5). The gene encoding Siglec-7 was mapped to chromosome 19q13.3.

References:

1. Crocker, P.R. *et al.* (1998) Glycobiology **8**:v.
2. Crocker, P.R. and A. Varki (2001) Trends Immunol. **22**:337.
3. Crocker, P.R. and A. Varki (2001) Immunology **103**:137.
4. Angata, T. *et al.* (2002) J. Biol. Chem. **277**:24466.
5. Nicoll, G. *et al.* (1999) J. Biol. Chem. **274**:34089.