Human Siglec-3/CD33
Alexa Fluor® 750-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 6C5/2

Catalog Number: FAB1137S

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Siglec-3/CD33 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human Siglec-2, -5, -7, or -9 is observed.
Source	Monoclonal Mouse IgG_1 Clone # 6C5/2
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Recombinant human Siglec-3/CD33 Extracellular domain
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Flow Cytometry	0.25-1 µg/10^6 cells	Human whole blood granulocytes

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

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. They are sialoadhesin/CD169/Siglec-1, CD22/Siglec-2, CD33/Siglec-3, Myelin-Associated Glycoprotein (MAG/Siglec-4a) and Siglecs 5 to 11 (1-3). 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 (1, 2). This fact, together with the presence of two conserved immunoreceptor tyrosine-based inhibition motifs (ITIMs) in their cytoplasma tails, suggests that CD33-related Siglecs are involved in the regulation of cellular activation within the immune system.

Human Siglec-3 is alternatively known as myeloid cell surface antigen CD33 and GP67. Human Siglec-3 cDNA encodes a 364 amino acid (aa) polypeptide with a hydrophobic signal peptide, an N-terminal Ig-like V-type domain, one Ig-like C2-type domains, a transmembrane region and a cytoplasmic tail (1, 4). Siglec-3 expression is restricted to cells of myelomonocytic lineage (2). It binds sialic acid preferring α2,3- linkage over α2,6- linkage (5). Studies indicated that Siglec-3 recruits SHP-1 and SHP-2 to its ITIMs (6, 7). When co-crosslinking with FcγR1, Siglec-3 inhibits tyrosine phosphorylation and calcium mobilization, suggesting Siglec-3 can mediate inhibitory signals (7).

References:

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3. Angata, T. *et al.* (2002) J. Biol. Chem. **277**:24466.
4. Simmons, D. and B. Seed (1988) J. Immunol. **141**:2797.
5. Freeman, S.D. *et al.* (1995) Blood **85**:2002.
6. Taylor, V.C. *et al.* (1999) J. Biol. Chem. **274**:11505.
7. Ulyanova, T. *et al.* (1999) Eur. J. Immunol. **29**:3440.

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