Human Siglec-14 Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2457E
Catalog Number: MAB4905

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Siglec-14 in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2457E
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line, NS0-derived human Siglec-14 Lys18-Leu358 Accession # Q08ET2
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.

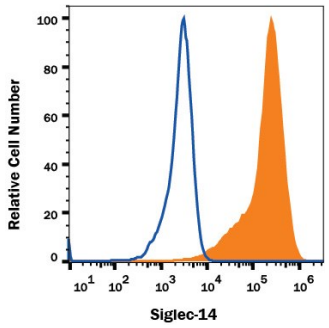
APPLICATIONS

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.*

	Recommended Concentration	Sample
Flow Cytometry	0.25 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Flow Cytometry



Detection of Siglec-14 in HEK293 Human Cell Line Transfected with Human Siglec-14 by Flow Cytometry. HEK293 human embryonic kidney cell line transfected with Human Siglec-14 (filled histogram) or irrelevant protein (open histogram) were stained with Rabbit Anti-Human Siglec-14 Monoclonal Antibody (Catalog # MAB4905) followed by Allophycocyanin-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # F0111). Gate was set based on Rabbit IgG isotype control antibody staining (Catalog # MAB1050). View our protocol for Staining Membrane-associated Proteins.

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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BACKGROUND

Siglecs are sialic acid specific I-type lectins that belong to the immunoglobulin superfamily. Structurally, they are transmembrane proteins with an N-terminal Ig-like V-set domain followed by a varying number of Ig-like C2-set domains (1, 2). Orthologs of Siglec-14 have not been described in mouse or rat. Mature human Siglec-14 consists of a 342 amino acid (aa) extracellular domain (ECD) with one Ig-like V-set domain and two Ig-like C2-set domains, a 23 aa transmembrane segment, and a 15 aa cytoplasmic tail (3). Within the first two Ig-like domains, Siglec-14 shares 99.5% aa sequence identity with Siglec-5, and 51% - 56% with Siglec-3, -6, -7, -8, and -9. Siglec-5 and -14 exhibit similar ligand preference among sialylated glycans, although Siglec-14 binds with higher avidity (3). Siglec-14 does not have the cytoplasmic ITIM sequence that mediates inhibitory signaling of most other Siglecs (2, 3). However, its transmembrane segment contains a charged arginine residue that enables association with the adaptor protein DAP12 (3, 4). Siglec-15 is the only other human Siglec identified to date that associates with DAP12 (5). Siglec-14 mRNA is primarily expressed in bone marrow, spleen, and fetal liver (3). The protein may be expressed on neutrophils, monocytes, and macrophages, as reports describing Siglec-5 on these cells employed some antibodies that also detect Siglec-14 (3, 6, 7). Siglec-5 and -14 likely function as paired receptors with similar ligand specificity and cellular expression but potentially opposing effects on cellular activation (3).

References:

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3. Angata, T. *et al.* (2006) FASEB J. **20**:1964.
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5. Angata, T. *et al.* (2007) Glycobiology **17**:838.
6. Connolly, N.P. *et al.* (2002) Br. J. Haematol. **119**:221.
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