

Human Siglec-14 Alexa Fluor® 405-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2457E
Catalog Number: FAB4905V
100 µg

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
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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	HEK293 Human Cell Line Transfected with Human Siglec-14

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. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

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:

1. Varki, A. and T. Angata (2006) *Glycobiology* **16**:1R.
2. Crocker, P.R. *et al.* (2007) *Nat. Rev. Immunol.* **7**:255.
3. Angata, T. *et al.* (2006) *FASEB J.* **20**:1964.
4. Turnbull, I.R. and M. Colonna (2007) *Nat. Rev. Immunol.* **7**:155.
5. Angata, T. *et al.* (2007) *Glycobiology* **17**:838.
6. Connolly, N.P. *et al.* (2002) *Br. J. Haematol.* **119**:221.
7. Erickson-Miller, C.L. *et al.* (2003) *Exp. Hematol.* **31**:382.

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