### RD SYSTEMS a biotechne brand

## Human Siglec-14 Alexa Fluor® 700-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2457E Catalog Number: FAB4905N

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 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 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 <sup>6</sup> 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.

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 Vset 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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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956 USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373 Europe | Middle East | Africa TEL +44 (0)1235 529449