

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived human Siglec-14 protein		
	Human Siglec-14 (Lys18-Leu358) Accession #NP_001092082	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Lys18		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	64.5 kDa (monomer)		

SPECIFICATIONS

SDS-PAGE	75-80 kDa, reducing conditions
Activity	Measured by the ability of the immobilized protein to support the adhesion of human red blood cells. The ED ₅₀ for this effect is 1.5-6 µg/mL.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

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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7. Erickson-Miller, C.L. *et al.* (2003) *Exp. Hematol.* **31**:382.