

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Siglec-1/CD169 in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 908102
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Siglec-1/CD169 Ser20-Gln1641 Accession # Q9BZZ2
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 ⁶ cells	Human peripheral blood mononuclear cells (PBMCs) treated with Recombinant Human IFN-γ (Catalog # 285-IF)

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 V-set domain followed by varying numbers of Ig-like C2-set domains (1, 2). Human Siglec-1, also known as sialoadhesin and CD169, is a 175-185 kDa glycoprotein. It contains a 1622 amino acid (aa) extracellular domain (ECD) with one Ig-like V-set domain and 16 Ig-like C2-set domains, a 21 aa transmembrane segment, and a 44 aa cytoplasmic domain (3). Within the ECD, human Siglec-1 shares approximately 70% aa sequence identity with mouse and rat Siglec-1. Alternate splicing generates a potentially soluble form of the ECD, and a second isoform with a substituted cytoplasmic domain. Siglec-1 expression is restricted to lymph node and splenic macrophages, plus some tissue macrophages (3). The adhesive function of Siglec-1 is supported by the N-terminal Ig-like domain which shows a selectivity for α2,3-linked sialic acid residues (3-5). Siglec-1 binds a number of sialylated molecules including the mannose receptor, MGL1, MUC1, PSGL-1, and different glycoforms of CD43 (6-9). Its binding capacity can be masked by endogenous sialylated molecules (10, 11). The sialylated and sulfated N-linked carbohydrates that modify Siglec-1 itself are required for ligand binding (6, 7). Siglec-1 is expressed on dendritic cells following rhinovirus exposure, and these DC promote T cell anergy (12). It is also induced on circulating monocytes during systemic sclerosis and HIV-1 infection (13-15). Siglec-1 can trap HIV-1 particles for *trans* infection of permissive cells (14).

References:

- Varki, A. and T. Angata (2006) *Glycobiology* **16**:1R.
- Crocker, P.R. *et al.* (2007) *Nat. Rev. Immunol.* **7**:255.
- Hartnell, A. *et al.* (2001) *Blood* **97**:288.
- Nath, D. *et al.* (1995) *J. Biol. Chem.* **270**:26184.
- Crocker, P.R. *et al.* (1991) *EMBO J.* **10**:1661.
- Martinez-Pomares, L. *et al.* (1999) *J. Biol. Chem.* **274**:35211.
- Kumamoto, Y. *et al.* (2004) *J. Biol. Chem.* **279**:49274.
- Nath, D. *et al.* (1999) *Immunology* **98**:213.
- van den Berg, T.K. *et al.* (2001) *J. Immunol.* **166**:3637.
- Nakamura, K. *et al.* (2002) *Glycobiology* **12**:209.
- Barnes, Y.C. *et al.* (1999) *Blood* **93**:1245.
- Kirchberger, S. *et al.* (2005) *J. Immunol.* **175**:1145.
- York, M.R. *et al.* (2007) *Arthritis Rheum.* **56**:1010.
- Rempel, H. *et al.* (2008) *PLoS ONE* **3**:e1967.
- van der Kuyl, A.C. *et al.* (2007) *PLoS ONE* **2**:e257.

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