Recombinant Human Siglec-1/CD169  
Catalog Number: 5197-SL

DESCRIPTION

Source  Mouse myeloma cell line, NS0-derived  Se20-Gin1641, with a C-terminal 6-His tag  Accession # Q8BZZ2

N-terminal Sequence Analysis Ser20

Predicted Molecular Mass 173.9 kDa

SPECIFICATIONS

SDS-PAGE  175 kDa - 190 kDa, reducing conditions

Activity  Measured by the ability of the immobilized protein to support the adhesion of human red blood cells. Kelm, S. et al. (1994) Current Biology 4:965.  The ED₅₀ for this effect is 0.6-3 µg/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >80%, by SDS-PAGE under reducing conditions and visualized by silver stain.

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 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.
  - 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 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:


Rev. 2/6/2018 Page 1 of 1