Data Sheet (Cat.No.TMPY-03805)

TargetMol

Siglec-3/CD33 Protein, Human, Recombinant (His)

General Information

Synonyms: CD33 molecule;SIGLEC3;Siglec-3;p67

Protein Construction: A DNA sequence encoding the human CD33 (AAH28152.1) (Met1-His259) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Asp 18

Species: Human

Expression Host: HEK293 Cells

Accession: AAH28152.1

Molecular Weight: 28.2 kDa (predicted); 40-46 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity: 1.Immobilized Anti-CD33 Antibody (Lintuzumab), Human IgG1 at 2 μg/ml (100 μl/well) can bind Recombinant Human CD33/Siglec-3 Protein (ECD,His Tag) (Cat#TMPY-03805), the EC50 is 1.5-6 ng/mL.
2.Loaded anti-CD33 antibody on ProA Biosensor, can bind Recombinant Human Siglec-3/CD33 Protein, His Tag (Cat#TMPY-03805) with an affinity constant of 0.379 nM as determined in BLI assay (Sartorius Octet RED384) (Routinely tested).

Purity: ≥ 90 % as determined by SDS-PAGE ≥ 95 % as determined by SEC-HPLC.

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Lyophilized from a solution filtered through a 0.22 μm filter, containing 10 mM NaH_2PO_4, 2 mM EDTA, 150 mM NaCl, pH 7.2. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Myeloid cell surface antigen CD33 also known as Sialic acid binding Ig-like lectin 3, CD33 antigen or Siglec-3, is a member of the immunoglobulin superfamily and SIGLEC (sialic acid binding Ig-like lectin) family. This Single-pass

type I membrane protein contains 1 Ig-like C2-type (immunoglobulin-like) domain and 1 Ig-like V-type (immunoglobulin-like) domain. CD33 /Siglec-3 is a putative adhesion molecule of myelomonocytic-derived cells that mediates sialic-acid dependent binding to cells. CD33 /Siglec-3 preferentially binds to alpha-2,6-linked sialic acid. The sialic acid recognition site may be masked by cis interactions with sialic acids on the same cell surface. In the immune response, may act as an inhibitory receptor upon ligand induced tyrosine phosphorylation by recruiting cytoplasmic phosphatase(s) via their SH2 domain(s) that block signal transduction through dephosphorylation of signaling molecules. CD33/Siglec-3 induces apoptosis in acute myeloid leukemia (in vitro). CD33/Siglec-3 can function as a sialic acid-dependent cell adhesion molecule and that binding can be modulated by endogenous sialoglycoconjugates when CD33 is expressed in a plasma membrane.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

Simmons D,et al.(1988) Isolation of a cDNA encoding CD33, a differentiation antigen of myeloid progenitor cells. J Immunol. 141(8): 2797-800.

Ulyanova T,et al.(1999) The sialoadhesin CD33 is a myeloid-specific inhibitory receptor. Eur J Immunol. 29(11): 3440-9.

Freeman SD,et al.(1995) Characterization of CD33 as a new member of the sialoadhesin family of cellular interaction molecules. Blood. 85(8): 2005-12.

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