

Siglec-3/CD33 Protein, Human (HEK293, hFc)

Cat. No.:	HY-P73642
Synonyms:	Myeloid Cell Surface Antigen CD33; Siglec-3; gp67; CD33; SIGLEC3
Species:	Human
Source:	HEK293
Accession:	P20138/AAH28152.1 (D18-H259)
Gene ID:	945
Molecular Weight:	68-80 kDa (glycosylation)

PROPERTIES

AA Sequence	D P N F W L Q V Q E S V T V Q E G L C V L V P C T F F H P I P Y Y D K N S P V H G Y W F R E G A I I S G D S P V A T N K L D Q E V Q E E T Q G R F R L L G D P S R N N C S L S I V D A R R R D N G S Y F F R M E R G S T K Y S Y K S P Q L S V H V T D L T H R P K I L I P G T L E P G H S K N L T C S V S W A C E Q G T P P I F S W L S A A P T S L G P R T T H S S V L I I T P R P Q D H G T N L T C Q V K F A G A G V T T E R T I Q L N V T Y V P Q N P T T G I F P G D G S G K Q E T R A G V V H
Biological Activity	1.Immobilized Human Siglec-3 at 0.5 µg/mL(100 µl/well) on the plate. Dose response curvefor Biotinylated Anti-Siglec-3 Antibody, hFc Tagwith the EC ₅₀ of 21.8 ng/mL determined by ELISA. 2.Immobilized Human CD33 at 2 µg/mL (100 µL/well) can bind Anti-CD33 Antibody, the ED ₅₀ for this effect is 8.312 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4 or 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The Siglec-3/CD33 protein, a sialic-acid-binding immunoglobulin-like lectin, plays a crucial role in mediating cell-cell
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interactions and maintaining immune cells in a resting state. It exhibits a preference for recognizing and binding alpha-2,3- and more avidly alpha-2,6-linked sialic acid-bearing glycans. Upon engagement with ligands like C1q or sialylated glycoproteins, two immunoreceptor tyrosine-based inhibitory motifs (ITIMs) within CD33's cytoplasmic tail undergo phosphorylation by Src-like kinases such as LCK. These phosphorylated ITIMs serve as docking sites for recruiting and activating protein-tyrosine phosphatases PTPN6/SHP-1 and PTPN11/SHP-2, which, in turn, regulate downstream pathways through dephosphorylation of signaling molecules. CD33's repressive effect on monocyte activation involves phosphoinositide 3-kinase/PI3K. Structurally, the protein forms homodimers through disulfide linkages and interacts with PTPN6/SHP-1 and PTPN11/SHP-2 upon phosphorylation. It also engages with C1QA via its C-terminus, activating CD33 inhibitory motifs.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA