Active Recombinant Human CD33 protein, Fc/Avi-tagged, Biotinylated

Cat. No. CD33-052H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human CD33(Met17-His259) protein, fused to Fc/Avi tag at the C-terminus, was expressed in HEK293 cells .
Species	Human
Source	HEK293
ProteinLength	Met17-His259
Description	Siglecs (sialic acid binding Ig-like lectins) are I-type (Ig-type) lectins belonging to the Ig superfamily. They are characterized by an N-terminal Ig-like V-type domain which mediates sialic acid binding, followed by varying numbers of Ig-like C2-type domains (1, 2). Eleven human Siglecs have been cloned and characterized. They are sialoadhesin/CD169/Siglec-1, CD22/Siglec-2, CD33/Siglec-3, Myelin-Associated Glycoprotein (MAG/Siglec-4a) and Siglecs 5 to 11 (1-3). To date, no Siglec has been shown to recognized any cell surface ligand other than sialic acids, suggesting that interactions with glycans containing this carbohydrate are important in mediating the biological functions of Siglecs. Siglecs 5 to 11 share a high degree of sequence similarity with CD33/Siglec-3 both in their extracellular and intracellular regions. They are collectively referred to as CD33-related Siglecs. One remarkable feature of the CD33-related Siglecs is their differential expression pattern within the hematopoietic system (1, 2). This fact, together with the presence of two conserved immunoreceptor tyrosine-based inhibition motifs (ITIMs) in their cytoplasma tails, suggests that CD33-

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	related Siglecs are involved in the regulation of cellular activation within the immune system. Human Siglec-3 is alternatively known as myeloid cell surface antigen CD33 and GP67. Human Siglec-3 cDNA encodes a 364 amino acid (aa) polypeptide with a hydrophobic signal peptide, an N-terminal Ig-like V-type domain, one Ig-like C2-type domains, a transmembrane region and a cytoplasmic tail (1, 4). Siglec-3 expression is restricted to cells of myelomonocytic lineage (2). It binds sialic acid preferring alpha 2,3- linkage over alpha 2,6- linkage (5). Studies indicated that Siglec-3 recruits SHP-1 and SHP-2 to its ITIMs (6, 7). When co-crosslinking with Fc gamma R1, Siglec-3 inhibits tyrosine phosphorylation and calcium mobilization, suggesting Siglec-3 can mediate inhibitory signals (7). Our Avi-tag Biotinylated Siglec-3 features biotinylation at a single site contained within the Avi-tag, a unique 15 aa peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.
Predicted N Terminal	Met17
Form	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.
Bio-activity	Measured by the ability of the immobilized protein to support the adhesion of human red blood cells. The ED50 for this effect is 0.2-1.4 μg/mL.
Molecular Mass	67-78 kDa, under reducing conditions
Endotoxin	<0.10 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.
Applications	Bioactivity

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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.
Reconstitution	Reconstitute at 500 µg/mL in PBS.
Conjugation	Biotin

GENE INFORMATION

Gene Name	CD33 CD33 molecule [Homo sapiens]
Official Symbol	CD33
Synonyms	CD33; CD33 molecule; CD33 antigen (gp67); myeloid cell surface antigen CD33; FLJ00391; p67; sialic acid binding Ig like lectin 3; SIGLEC 3; SIGLEC3; gp67; sialic acid binding Ig-like lectin 3; sialic acid-binding Ig-like lectin 3; SIGLEC-3;
Gene ID	945
mRNA Refseq	NM_001082618
Protein Refseq	NP_001076087
MIM	159590
UniProt ID	P20138

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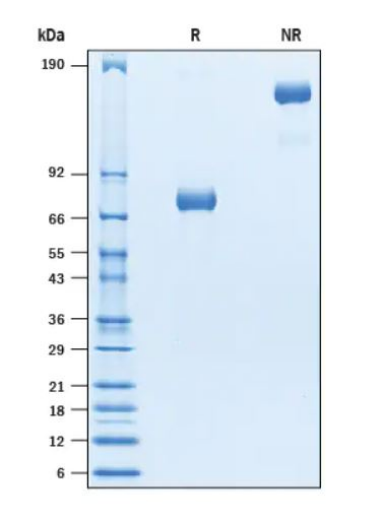
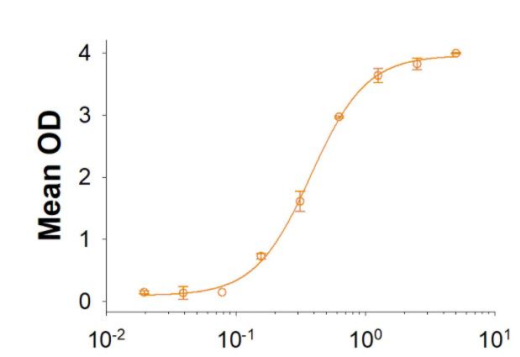
SDS-PAGE	 2 μg/lane Protein was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining.
Binding Activity	

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