

Active Recombinant Human CD22 protein, Fc/Avi-tagged, Biotinylated

Cat. No. CD22-055H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human CD22(Asp20-Arg687) protein, fused to Fc/Avi tag at the C-terminus, was expressed in CHO cells .
Species	Human
Source	CHO
ProteinLength	Asp20-Arg687
Description	Sialic acid-binding immunoglobulin-like lectin 2 (Siglec-2), also known as B-cell receptor CD22 or B-lymphocyte cell adhesion molecule (BL-CAM), is a I-type (Ig-type) lectin belonging to the sialoadhesin subclass of the immunoglobulin superfamily (1). Fourteen human and nine mouse Siglecs have been characterized and are divided into 2 families: CD33 related and evolutionarily conserved (2, 3). The extracellular domain (ECD) of Siglecs 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 -3). The predominant form of human Siglec-2 contains a N-terminal Ig-like V-type domain, six Ig-like C2-type domains, a transmembrane region and a cytoplasmic tail with six tyrosine residues and four immunoreceptor tyrosine-based inhibition motifs (ITIMs) (1 - 3). A variant form of Siglec-2 missing two Ig-like C2-type domains along with a truncated cytoplasmic tail has also been identified (4). The mature ECD of human Siglec-2 shares 59% and 58% amino acid sequence identity with mouse and rat Siglec-2, respectively. Siglec-2 is an adhesion molecule that

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preferentially binds alpha 2,6- linked sialic acid on the same (cis) or adjacent (trans) cells (5). Besides its role as an adhesion molecule, Siglec-2 is a coreceptor that physically interacts with B-cell receptor (BCR), negatively regulating BCR signals by recruiting tyrosine phosphatase SHP-1 to its ITIMs. Phosphorylated Siglec-2 can also interact with other intracellular effector proteins such as Syk, PLC gamma, PI3 kinase and Grb-2, suggesting it may play a role in positive signaling (2). Another function of Siglec-2 is that it mediates the anti-phagocytic effect of alpha 2,6-linked sialic acid, and inhibition of Siglec-2 promotes the clearance of myelin debris, amyloid-beta oligomers and alpha -synuclein fibrils in vivo (6). Siglec-2 also plays a role in autoimmunity and has great potential for Siglec-2-based immunotherapeutics for the treatment of autoimmune diseases such as systemic lupus erythematosus (SLE) (7). Our Avi-tag Biotinylated Recombinant Human Siglec-2 features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid 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	Asp20
Form	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
Bio-activity	Measured by its binding ability in a functional ELISA. When Human CD22 Antibody is immobilized at 0.2 g/mL (100 µ/well), Biotinylated Recombinant Human CD22 Fc Chimera Avi-tag binds with an ED50 of 1.5-18 ng/mL.
Molecular Mass	120-140 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

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	Coomassie® Blue Staining.
Applications	Bioactivity
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	CD22 CD22 molecule [Homo sapiens]
Official Symbol	CD22
Synonyms	CD22; CD22 molecule; CD22 antigen; B-cell receptor CD22; sialic acid binding Ig like lectin 2; SIGLEC 2; SIGLEC2; BL-CAM; T-cell surface antigen Leu-14; B-lymphocyte cell adhesion molecule; sialic acid binding Ig-like lectin 2; sialic acid-binding Ig-like lectin 2; SIGLEC-2; FLJ22814; MGC130020;
Gene ID	933
mRNA Refseq	NM_001185099
Protein Refseq	NP_001172028
MIM	107266

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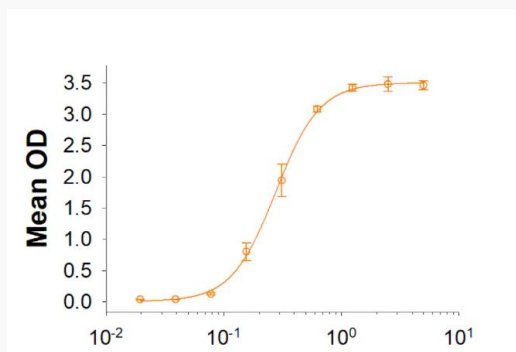
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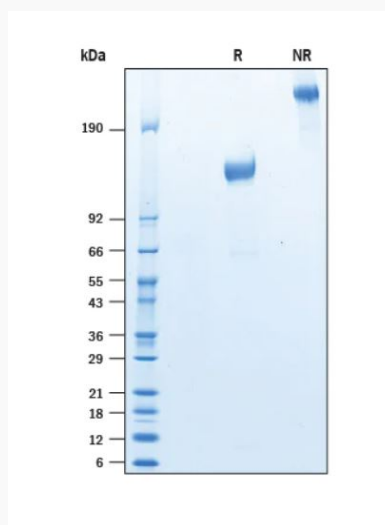
UniProt ID

P20273

Binding Activity



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.

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