

# Human Siglec-2 / CD22 Protein (ECD,His Tag)



Sino Biological  
Biological Solution Specialist

Catalog Number: 11958-H08H

## General Information

### Gene Name Synonym:

SIGLEC-2; SIGLEC2

### Protein Construction:

A DNA sequence encoding the human CD22 isoform-beta (P20273-1) extracellular domain (Met 1-Arg 687) was fused with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

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

### Bio Activity:

**Measured by its binding ability in a functional ELISA. Immobilized human CD22 (Cat:11958-H08H) at 0.02 µg/ml (100uL/well) can bind anti-human CD22 Mab with a linear range of 0.2-50 ng/ml.**

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

**Predicted N terminal:** Asp 20

### Molecular Mass:

The recombinant human CD22 consists of 679 amino acids and predicts a molecular mass of 76.6 kDa. As a result of glycosylation, it migrates as an approximately 108 kDa band in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

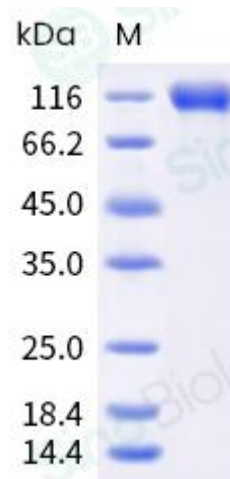
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

CD22 is a member of the immunoglobulin superfamily, SIGLEC family of lectins. It is first expressed in the cytoplasm of pro-B and pre-B cells, and on the surface as B cells mature to become IgD+. CD22 serves as an adhesion receptor for sialic acid-bearing ligands expressed on erythrocytes and all leukocyte classes. In addition to its potential role as a mediator of intercellular interactions, signal transduction through CD22 can activate B cells and modulate antigen receptor signaling in vitro. The phenotype of CD22-deficient mice suggests that CD22 is primarily involved in the generation of mature B cells within the bone marrow, blood, and marginal zones of lymphoid tissues. CD22 recruits the tyrosine phosphatase Src homology 2 domain-containing phosphatase 1 (SHP-1) to immunoreceptor tyrosine-based inhibitory motifs (ITIMs) and inhibits B-cell receptor (BCR)-induced Ca<sup>2+</sup> signaling on normal B cells. CD22 interacts specifically with ligands carrying alpha2,6-linked sialic acids. As an inhibitory coreceptor of the B-cell receptor (BCR), CD22 plays a critical role in establishing signalling thresholds for B-cell activation. Like other coreceptors, the ability of CD22 to modulate B-cell signalling is critically dependent upon its proximity to the BCR, and this in turn is governed by the binding of its extracellular domain to alpha2,6-linked sialic acid ligands. However, genetic studies in mice reveal that some CD22 functions are regulated by ligand binding, whereas other functions are ligand-independent and may only require expression of an intact CD22 cytoplasmic domain at the B-cell surface. CD19 regulates CD22 phosphorylation by augmenting Lyn kinase activity, while CD22 inhibits CD19 phosphorylation via SHP-1.

## References

1. Tedder TF, et al. (1997) CD22, a B lymphocyte-specific adhesion molecule that regulates antigen receptor signaling. *Annu Rev Immunol.* 15: 481-504.
2. Tedder TF, et al. (2005) CD22: a multifunctional receptor that regulates B lymphocyte survival and signal transduction. *Adv Immunol.* 88: 1-50.
3. Fujimoto M, et al. (2007) B cell signaling and autoimmune diseases: CD19/CD22 loop as a B cell signaling device to regulate the balance of autoimmunity. *J Dermatol Sci.* 46(1): 1-9.