Recombinant Human CD22 Protein, His tagged

Cat. No. CD22-080H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Human CD22 protein (Asp20-Arg687) with C-terminus His tag is expressed in CHO cells
Species	Human
Source	CHO
Conjugation/Label	20-687 aa
Description	CD22 is a B cell–specific transmembrane glycoprotein that functions as an important regulator of B cell receptor (BCR) signaling and immune tolerance. Also known as Siglec-2, CD22 belongs to the sialic acid–binding immunoglobulin-like lectin (Siglec) family and is expressed almost exclusively on mature B cells, with expression increasing as B cells progress from the naïve to mature stages. Through its inhibitory signaling capacity, CD22 helps fine-tune B cell activation and prevent inappropriate immune responses. Structurally, CD22 is a type I transmembrane protein with a large extracellular region composed of seven immunoglobulin-like domains. The N-terminal domain mediates binding to sialic acid–containing glycans, which serve as its primary ligands. CD22 preferentially recognizes α2,6-linked sialic acids that are commonly present on glycoproteins and glycolipids expressed on B cells themselves (cis interactions) as well as on neighboring cells (trans interactions). The cytoplasmic tail of CD22 contains multiple immunoreceptor tyrosine-based inhibitory motifs (ITIMs), which are essential for its signaling function. Functionally, CD22 acts as a negative regulator of BCR signaling. Upon BCR engagement, CD22 becomes phosphorylated

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	and recruits phosphatases such as SHP-1 to its ITIM motifs. These phosphatases attenuate downstream signaling pathways, thereby raising the threshold for B cell activation. Through this mechanism, CD22 contributes to the maintenance of B cell tolerance and limits excessive antibody production. CD22 also influences B cell survival, migration, and interactions within lymphoid tissues. Dysregulation of CD22 expression or signaling has been linked to immune-mediated diseases and malignancy. Reduced CD22 function can lead to hyperactive B cells and has been associated with autoimmune diseases such as systemic lupus erythematosus. In contrast, CD22 is frequently overexpressed on B cell malignancies, including B cell acute lymphoblastic leukemia (B-ALL) and certain non-Hodgkin lymphomas, making it an attractive diagnostic and therapeutic target. CD22 plays a significant role in therapeutics, particularly in the treatment of B cell cancers. Antibody-based therapies targeting CD22 have been developed to selectively eliminate malignant B cells. Notably, antibody–drug conjugates and immunotoxins that bind CD22 deliver cytotoxic agents directly to cancerous B cells, sparing most non–B cell populations. CD22 is also being explored as a target for engineered cell therapies and for strategies aimed at modulating B cell activity in autoimmune disease. Together, these approaches highlight CD22 as a key molecule at the intersection of B cell biology, disease, and targeted therapy.
Form	Liquid, 1×PBS buffer, pH7.4, 0.22 μm filtered
Molecular Mass	The protein has a predicted molecular weight of 76.6 kDa. Under DTT-reducing conditions, it migrates at approximately 100 kDa on SDS-PAGE.
Purity	>95% based on SDS-PAGE under reducing condition
Applications	ELISA, BLI
Storage	Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4

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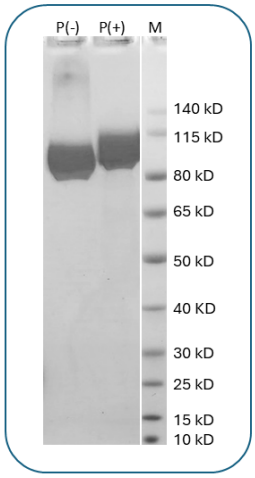
	centigrade for up to 2 weeks, or at -20 centigrade or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 μm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ –70 centigrade to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.
Concentration	25 μg size is bottled at 0.2 mg/mL concentration. 100 μg size is supplied at a lot-specific concentration.

GENE INFORMATION

Gene Name	CD22 CD22 molecule [Homo sapiens (human)]
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
UniProt ID	P20273

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SDS-PAGE



Human CD22 Protein (C-His) on SDS-PAGE under reducing condition (P+) and non-reducing condition (P-). The gel was stained for 1 hour with BlinkBlue. The purity of this protein appears to be greater than 95%

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