

## Siglec-2/CD22 Protein, Human (668a.a, HEK293, His)

<b>Cat. No.:</b>	HY-P70559
<b>Synonyms:</b>	B-cell receptor CD22; BL-CAM; B-lymphocyte cell adhesion molecule; CD22 antigen MGC130020; CD22 molecule; CD22; sialic acid binding Ig-like lectin 2; Siglec-2; SIGLEC2FLJ22814; T-cell surface antigen Leu-14
<b>Species:</b>	Human
<b>Source:</b>	HEK293
<b>Accession:</b>	P20273 (D20-R687)
<b>Gene ID:</b>	933
<b>Molecular Weight:</b>	100-140 kDa

### PROPERTIES

#### AA Sequence

D S S K W V F E H P	E T L Y A W E G A C	V W I P C T Y R A L	D G D L E S F I L F
H N P E Y N K N T S	K F D G T R L Y E S	T K D G K V P S E Q	K R V Q F L G D K N
K N C T L S I H P V	H L N D S G Q L G L	R M E S K T E K W M	E R I H L N V S E R
P F P P H I Q L P P	E I Q E S Q E V T L	T C L L N F S C Y G	Y P I Q L Q W L L E
G V P M R Q A A V T	S T S L T I K S V F	T R S E L K F S P Q	W S H H G K I V T C
Q L Q D A D G K F L	S N D T V Q L N V K	H T P K L E I K V T	P S D A I V R E G D
S V T M T C E V S S	S N P E Y T T V S W	L K D G T S L K K Q	N T F T L N L R E V
T K D Q S G K Y C C	Q V S N D V G P G R	S E E V F L Q V Q Y	A P E P S T V Q I L
H S P A V E G S Q V	E F L C M S L A N P	L P T N Y T W Y H N	G K E M Q G R T E E
K V H I P K I L P W	H A G T Y S C V A E	N I L G T G Q R G P	G A E L D V Q Y P P
K K V T T V I Q N P	M P I R E G D T V T	L S C N Y N S S N P	S V T R Y E W K P H
G A W E E P S L G V	L K I Q N V G W D N	T T I A C A A C N S	W C S W A S P V A L
N V Q Y A P R D V R	V R K I K P L S E I	H S G N S V S L Q C	D F S S S H P K E V
Q F F W E K N G R L	L G K E S Q L N F D	S I S P E D A G S Y	S C W V N N S I G Q
T A S K A W T L E V	L Y A P R R L R V S	M S P G D Q V M E G	K S A T L T C E S D
A N P P V S H Y T W	F D W N N Q S L P Y	H S Q K L R L E P V	K V Q H S G A Y W C
Q G T N S V G K G R	S P L S T L T V Y Y	S P E T I G R R	

**Biological Activity** Measured by the ability of the immobilized protein to support the adhesion of Jurkat human T-lymphocyte leukemia cells. The ED<sub>50</sub> this effect is 0.8919 µg/mL, corresponding to a specific activity is 1.121×10<sup>3</sup> units/mg.

**Appearance** Lyophilized powder.

**Formulation** Lyophilized from a 0.2 µm filtered solution of PBS, 1 mM EDTA, 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<sub>2</sub>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**

Siglec-2/CD22 Protein serves as a crucial mediator in B-cell interactions, potentially playing a role in the localization of B-cells within lymphoid tissues. Known for its ability to bind sialylated glycoproteins, including CD45, it exhibits a preference for alpha-2,6-linked sialic acid. The sialic acid recognition site may be masked by cis interactions with sialic acids on the same cell surface. During the immune response, ligand-induced tyrosine phosphorylation suggests its involvement in the regulation of B-cell antigen receptor signaling. The protein's multifaceted role encompasses positive regulation through interaction with Src family tyrosine kinases, while concurrently acting as an inhibitory receptor by recruiting cytoplasmic phosphatases via their SH2 domains to block signal transduction through dephosphorylation of signaling molecules. Siglec-2/CD22 predominately exists as a monomer of isoform CD22-beta and can also form a heterodimer with a shorter isoform. Its intricate interactions with key molecules such as PTPN6/SHP-1, LYN, SYK, PIK3R1/PIK3R2, PLCG1, GRB2, INPP5D, and SHC1, especially upon phosphorylation, highlight its pivotal role in orchestrating complex signaling networks within B-cells. Further research is essential to unravel the precise molecular pathways and functional consequences of Siglec-2/CD22 in B-cell regulation and immune responses.

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

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