

# Anti-Human CD22 (S-HLC-1)

	<b>REF</b>		
StarBright Violet 610	22SBV6102-100T	100 test	<b>RUO</b>
APC	22A2-100T	100 test	

## 1. PRODUCT DESCRIPTION

- **Clone:** S-HLC-1
- **Isotype:** Mouse IgG2b, κ
- **Immunogen:** Whole hairy cell leukemia cells and membrane preparation
- **Tested application:** flow cytometry
- **Species reactivity:** Human
- **Storage instruction:** store in the dark at 2-8 °C
- **Storage buffer:** aqueous buffered solution containing protein stabilizer and 0.09% sodium azide (NaN<sub>3</sub>).
- **Recommended usage:** Immunostep's CD22, clone S-HLC-1, is a monoclonal antibody intended for the identification and enumeration of the CD22 antigen, a 130 kD type I transmembrane glycoprotein also known as Siglec-2 and BL-CAM. This member of the immunoglobulin superfamily (sialoadhesion subgroup) is expressed in the cytoplasm of pro-B and pre-B cells, and on the surface of mature B and activated B cells, but not on plasma cells. This reagent is effective for direct immunofluorescence staining of human tissue for flow cytometric analysis using 1 test for 10<sup>6</sup> cells.
- **Presentation:** liquid
- **Source:** Supernatant proceeding from an in vitro cell culture of a cell hybridoma.
- **Purification:** Affinity chromatography.

## 2. ANTIGEN DETAILS

**Large description:** CD22, also known as Siglec-2 (sialic acid-binding immunoglobulin-like lectin-2) and B-cell adhesion molecule (BL-CAM), is a 130 kD type I transmembrane glycoprotein belonging to the sialoadhesion subgroup of the immunoglobulin superfamily. CD22 is a lectin that preferentially binds alpha2,6-linked sialic acid-bearing ligands, a property that contributes to its roles in cell signaling and adhesion<sup>1,2</sup>.

CD22 expression is developmentally regulated within the B cell lineage. It is detected in the cytoplasm of pro-B and pre-B cells and is present on the cell surface of mature B cells and activated B cells, while being absent on plasma cells. As a component of the B cell receptor (BCR) complex, CD22 closely associates with various signaling molecules including SHP-1, Syk, Lck, Lyn, and phospholipase Cγ1. The cytoplasmic domain of CD22 contains immunoreceptor tyrosine-based inhibitory motifs (ITIMs), which, upon phosphorylation, recruit the protein tyrosine phosphatase SHP-1. This interaction is pivotal for the negative regulation of BCR signaling, as it sets a threshold for B cell activation and helps maintain immune tolerance<sup>2</sup>.

Functionally, CD22 acts as a key modulator of B cell activation by attenuating BCR-mediated signaling. It is also implicated in the regulation of B-cell responses through its involvement in the CD19/CD21-Src-family protein tyrosine kinase amplification pathway as well as in CD40 signaling. CD22 has been shown to interact with other cell surface molecules such as CD45RO and CD75, though its physiologic ligands remain a subject of ongoing research. Additionally, CD22 undergoes clathrin-mediated endocytosis, a process that further modulates its surface expression and signaling capacity<sup>2,4</sup>. Through its multifaceted roles in B cell development, signaling, and immune regulation, CD22 represents not only an important biomarker for B lineage cells but also a potential therapeutic target in various B cell-mediated diseases.

**Other Names:** BL-CAM, Lyb8, SIGLEC2, SIGLEC-2

**Gene ID:** 933

**Molecular weight:** 130 kDa

## 3. WARRANTY

Warranted only to conform to the quantity and contents stated on the label or in the product labelling at the time of delivery to the customer. Immunostep disclaims hereby other warranties.

Immunostep's sole liability is limited to either the replacement of the products or refund of the purchase price.

## 4. ADDITIONAL INFORMATION

For research use only. Not for diagnostic use.

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Unless otherwise indicated by Immunostep by written authorization, this product is intended for research only and is not to be used for any other purpose, including without limitation, for human or animal diagnostic, therapeutic or commercial purposes.

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## 5. REFERENCES

1. Nitschke L. The role of CD22 and other inhibitory co-receptors in B-cell activation. *Curr Opin Immunol.* 2005 Jun;17(3):290-7. doi: 10.1016/j.coi.2005.03.005. PMID: 15886119. O'Rourke AM, Ybarrodo B, Mescher MF. CD8 and antigen-specific T cell adhesion cascades. *Semin Immunol.* 1993 Aug;5(4):263-70.
2. Nitschke L, Carsetti R, Ocker B, Köhler G, Lamers MC. CD22 is a negative regulator of B-cell receptor signalling. *Curr Biol.* 1997 Feb 17;7(2):133-43.
3. Sgroi D, Varki A, Braesch-Andersen S, Stamenkovic I. CD22, a B cell-specific immunoglobulin superfamily member, is a sialic acid-binding lectin. *J Biol Chem.* 1993 Apr 5;268(10):7011-8.
4. Doody GM, Justement LB, Delibrias CC, Matthews RJ, Lin J, Thomas ML, Fearon DT. A role in B cell activation for CD22 and the protein tyrosine phosphatase SHP. *Science.* 1995 Jul 14;269(5221):242-4

## 6. EXPLANATION OF SYMBOLS

	Form
<b>REF</b>	Catalog reference
	Contains sufficient for > test
	Quantity per test
	Regulatory Status
<b>RUO</b>	Research Use Only
<b>[A]</b>	Concentration
	Manufacturer

## 7. MANUFACTURED BY:



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