PRODUCT INFORMATION

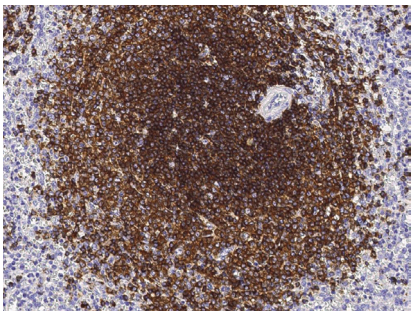
CD22 Rabbit Monoclonal Antibody (Clone 340)

Item No. 38106

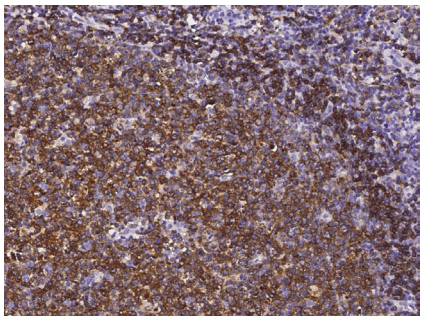
Overview and Properties

Contents:	This vial contains 50 or 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	B Cell Receptor CD22, B-lymphocyte Cell Adhesion Molecule, BL-CAM, Sialic Acid-binding Ig-like Lectin 2, Siglec-2, T Cell Surface Antigen Leu-14
Immunogen:	Recombinant human CD22
Cross Reactivity:	(+) CD22
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-80°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.2 µm filtered solution in PBS
Clone:	340
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA and immunohistochemistry (IHC-P); the recommended starting dilution is 1:5,000-1:10,000 for ELISA an 1:100-1:500 for IHC-P. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Immunohistochemical labeling of CD22 in human spleen using CD22 Rabbit Monoclonal Antibody (Clone 340) at a dilution of 1:200.



Immunohistochemical labeling of CD22 in human tonsil using CD22 Rabbit Monoclonal Antibody (Clone 340) at a dilution of 1:200.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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Description

CD22 is a transmembrane receptor and member of the sialic acid-binding immunoglobulin-type (Ig-type) lectin (SIGLEC) family.[1,2] It is composed of N-terminal extracellular Ig-like variable (IgV) and Ig-like constant 2 (IgC2) domains, a membrane-spanning region, and an intracellular immunoreceptor tyrosine-based inhibitory motif (ITIM) domain. CD22 has two isoforms formed *via* alternative splicing, CD22β, which is the full-length form and contains six IgC2 domains, and CD22α, which lacks the third and fourth IgC2 domains. It is expressed in the cytosol of premature B cells and on the cell surface of resting and activated B lymphocytes but is not expressed in differentiated B cells.[3] CD22 is an inhibitory receptor activated by binding of α2,6-linked sialic acid-containing molecules, such as glycoproteins, which stimulates phosphorylation of tyrosine in the ITIM domain, leading to recruitment of Src homology 2 domain-containing phosphatases (SHPs), including SHP-1, spleen tyrosine kinase (Syk), LYN, and PI3K.[1,2] Knockout of *Cd22* decreases IgG1 titers in mice immunized with OVA/alum and expression of human *CD22* in *Cd22* $^{-/-}$ mice rescues this phenotype.[4] CD22 is overexpressed in cancer cells isolated from patients with hairy cell leukemia.[3] Cayman's CD22 Rabbit Monoclonal Antibody (Clone 340) can be used for ELISA and immunohistochemistry (IHC; paraffin) applications.

References

1. Clark, E.A. and Giltiay, N.V. CD22: A regulator of innate and adaptive B cell responses and autoimmunity. *Front. Immunol.* **9**, 2235 (2018).
2. Tuscano, J., Sato, S., *et al.* CD22, a B lymphocyte-specific adhesion moleculre that regulates antigen receptor signaling. *Annu. Rev. Immunol.* **15**, 481-504 (1997).
3. Dörken, B., Moldenhauer, G., Pezzutto, A., *et al.* HD39 (B3), a B lineage-restricted antigen whose cell surface expression is limited to resting and activated human B lymphocytes. *J. Immunol.* **136(12)**, 4470-4479 (1986).
4. Bednar, K.J., Shanina, E., Ballet, R., *et al.* Human CD22 inhibits murine B cell receptor activation in a human CD22 transgenic mouse model. *J. Immunol.* **199(9)**, 3116-3128 (2017).

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