

# CD19 (LE-CD19): sc-69735

## BACKGROUND

CD19 is a transmembrane glycoprotein that contains two extracellular immunoglobulin-like domains. CD19 is selectively expressed on the cell surface of B lymphocytes, where it activates intracellular signaling cascades involving both Ras and phosphatidylinositol 3-kinase pathways. Activation of CD19 results in cross-linking of the membrane protein immunoglobulin chains and the subsequent association with Src family protein tyrosine kinases (PTK). Expression of CD19 is continuous throughout B cell development and through terminal differentiation of B cells into plasma cells. CD19 forms functional complexes with B lymphocyte surface proteins, including integrin  $\beta 1$ , CD21 and CD81, which are involved in regulating B cell development.

## REFERENCES

1. Pezutto, A., et al. 1987. CD19 monoclonal antibody HD37 inhibits anti-immunoglobulin-induced B cell activation and proliferation. *J. Immunol.* 138: 2793-2799.
2. Tedder, T.F. and Isaacs, C.M. 1989. Isolation of cDNAs encoding the CD19 antigen of human and mouse B lymphocytes. A new member of the immunoglobulin superfamily. *J. Immunol.* 143: 712-717.
3. Bregni, M., et al. 1989. B-cell restricted saporin immunotoxins: activity against B-cell lines and chronic lymphocytic leukemia cells. *Blood* 73: 753-762.
4. Zhou, L.J., et al. 1992. Structure of the genes encoding the CD19 antigen of human and mouse B lymphocytes. *Immunogenetics* 35: 102-111.
5. Bradbury, L.E., et al. 1992. The CD19/CD21 signal transducing complex of human B lymphocytes includes the target of antiproliferative antibody-1 and Leu-13 molecules. *J. Immunol.* 149: 2841-2850.
6. Carter, R.H. and Fearon, D.T. 1992. CD19: lowering the threshold for antigen receptor stimulation of B lymphocytes. *Science* 256: 105-107.

## CHROMOSOMAL LOCATION

Genetic locus: CD19 (human) mapping to 16p11.2; Cd19 (mouse) mapping to 7 F3.

## SOURCE

CD19 (LE-CD19) is a mouse monoclonal antibody raised against the intracytoplasmic C-terminus of CD19 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 mL PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

CD19 (LE-CD19) is recommended for detection of CD19 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CD19 siRNA (h): sc-29968, CD19 siRNA (m): sc-29969, CD19 shRNA Plasmid (h): sc-29968-SH, CD19 shRNA Plasmid (m): sc-29969-SH, CD19 shRNA (h) Lentiviral Particles: sc-29968-V and CD19 shRNA (m) Lentiviral Particles: sc-29969-V.

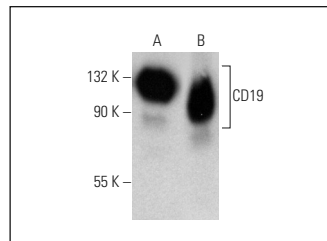
Molecular Weight of CD19: 95 kDa.

Positive Controls: Daudi cell lysate: sc-2415, Ramos cell lysate: sc-2216 or U-698-M whole cell lysate: sc-364799.

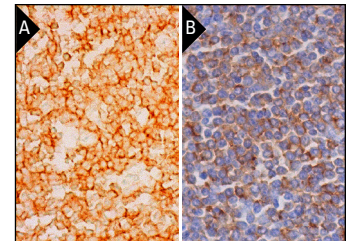
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



CD19 (LE-CD19): sc-69735. Western blot analysis of CD19 expression in Ramos (A) and U-698-M (B) whole cell lysates.



CD19 (LE-CD19): sc-69735. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing membrane and cytoplasmic staining of cells in non-germinal centers (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in white pulp and cells in red pulp (B).

## SELECT PRODUCT CITATIONS

1. Sotillo, E., et al. 2015. Convergence of acquired mutations and alternative splicing of CD19 enables resistance to CART-19 immunotherapy. *Cancer Dis.* 5: 1282-1295.



See **CD19 (B-1): sc-390244** for CD19 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.