

CD19 (PDR134): sc-53191

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. Pezzutto, 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.
7. Uckun, F.M., et al. 1993. Signal transduction through the CD19 receptor during discrete developmental stages of human B cell ontogeny. *J. Biol. Chem.* 268: 21172-21184.

CHROMOSOMAL LOCATION

Genetic locus: CD19 (human) mapping to 16p11.2.

SOURCE

CD19 (PDR134) is a mouse monoclonal antibody raised against Pokeweed-stimulated Daudi and Raji cells of human origin.

PRODUCT

Each vial contains 200 μ g IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD19 (PDR134) is available conjugated to either phycoerythrin (sc-53191 PE) or fluorescein (sc-53191 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

RESEARCH USE

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

APPLICATIONS

CD19 (PDR134) is recommended for detection of CD19 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1×10^6 cells).

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

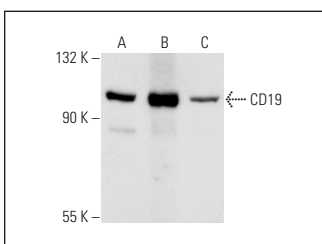
Molecular Weight of CD19: 95 kDa.

Positive Controls: Daudi cell lysate: sc-2415, GA-10 whole cell lysate: sc-364230 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 (PDR134): sc-53191. Western blot analysis of CD19 expression in GA-10 (A), Daudi (B) and HeLa (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, G., et al. 2019. The possible role of PD-1 protein in *Ganoderma lucidum*-mediated immunomodulation and cancer treatment. *Integr. Cancer Ther.* 18: 1534735419880275.

STORAGE

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

CONJUGATES

See **CD19 (B-1): sc-390244** for CD19 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.