SANTA CRUZ BIOTECHNOLOGY, INC.

CD19 (HD237): sc-18884

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 β1, 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, et al. 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., et al. 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.
8. Weng, W.K., et al. 1994. Signaling through CD19 activates Vav/mitogen-activated protein kinase pathway and induces formation of a CD19/Vav/phosphatidylinositol 3-kinase complex in human B cell precursors. J. Biol. Chem. 269: 32514-32521.
9. Zhou, L.J., et al. 1994. Tissue-specific expression of the human CD19 gene in transgenic mice inhibits antigen-independent B-lymphocyte development. Mol. Cell. Biol. 14: 3884-3894.

CHROMOSOMAL LOCATION

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

SOURCE

CD19 (HD237) is a mouse monoclonal antibody raised against cells from a patient suffering from hairy cell leukemia.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for blocking, sc-18884 L, 200 µg/0.1 ml.

CD19 (HD237) is available conjugated to either phycoerythrin (sc-18884 PE) or fluorescein (sc-18884 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

CD19 (HD237) is recommended for detection of CD19 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

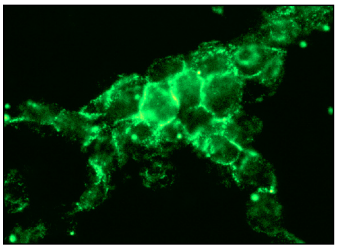
Suitable for use as control antibody for CD19 siRNA (h): sc-29968, CD19 shRNA Plasmid (h): sc-29968-SH and CD19 shRNA (h) Lentiviral Particles: sc-29968-V.

Molecular Weight of CD19: 95 kDa.

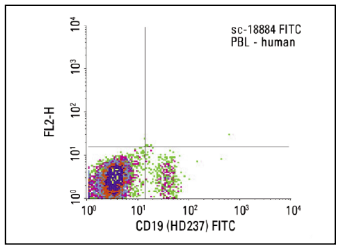
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 (HD237): sc-18884. Immunofluorescence staining of methanol-fixed GA-10 cells showing membrane localization.



CD19 (HD237) FITC: sc-18884 FITC. FCM analysis of human peripheral blood leukocytes. Quadrant markers were set based on the isotype control, normal mouse IgG_{2b}: sc-2857.

SELECT PRODUCT CITATIONS

1. Liu, X., et al. 2012. A new method for high speed, sensitive detection of minimal residual disease. Cytometry A 81: 169-175.

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.