SANTA CRUZ BIOTECHNO

CD19 (HD37): sc-18894

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.

CHROMOSOMAL LOCATION

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

SOURCE

CD19 (HD37) is a mouse monoclonal antibody raised against hairy cell leukemia cells.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD19 (HD37) is available conjugated to either phycoerythrin (sc-18894 PE) or fluorescein (sc-18894 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

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 (HD37) is recommended for detection of CD19 of human origin by immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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.

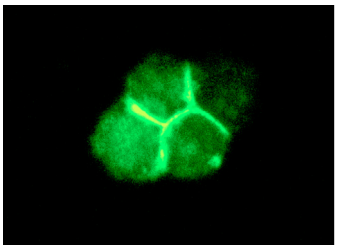
Molecular Weight of CD19: 95 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, BJAB whole cell lysate: sc-2207 or BJAB whole cell lysate: sc-2207.

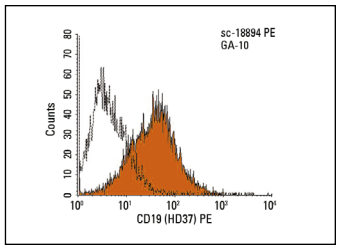
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) 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 (HD37): sc-18894. Immunofluorescence staining of methanol-fixed GA-10 cells showing membrane localization.



CD19 (HD37) PE: sc-18894 PE. FCM analysis of GA-10 cells. Black line histogram represents the isotype control, normal mouse IgG_1-PE: sc-2866.

SELECT PRODUCT CITATIONS

1. Galindo-Albarrán, A.O., et al. 2014. CD43 signals prepare human T cells to receive cytokine differentiation signals. J. Cell. Physiol. 229: 172-180.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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.