SANTA CRUZ BIOTECHNOLOGY, INC.

CD19 (B-1): sc-390244

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

CD19 (B-1) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of CD19 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD19 (B-1) is available conjugated to agarose (sc-390244 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390244 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390244 PE), fluorescein (sc-390244 FITC), Alexa Fluor® 488 (sc-390244 AF488), Alexa Fluor® 546 (sc-390244 AF546), Alexa Fluor® 594 (sc-390244 AF594) or Alexa Fluor® 647 (sc-390244 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390244 AF680) or Alexa Fluor® 790 (sc-390244 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, CD19 (B-1) is available conjugated to biotin (sc-390244 B), 200 µg/ml, for WB, IHC(P) and ELISA.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

CD19 (B-1) is recommended for detection of CD19 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

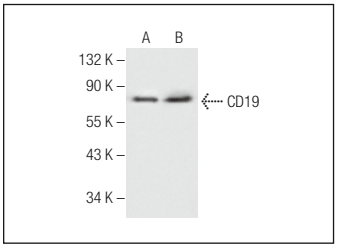
Molecular Weight of CD19: 95 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, C2C12 whole cell lysate: sc-364188 or NAMALWA cell lysate: sc-2234.

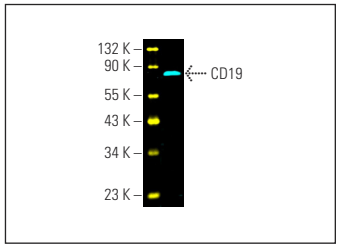
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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 (B-1): sc-390244. Western blot analysis of CD19 expression in BJAB (**A**) and NAMALWA (**B**) whole cell lysates.



CD19 (B-1) Alexa Fluor® 647: sc-390244 AF647. Direct fluorescent western blot analysis of CD19 expression in C2C12 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 488: sc-516790.

SELECT PRODUCT CITATIONS

1. Kim, K.H., et al. 2019. Sexually dimorphic leanness and hypermobility in $p16^{Ink4a}$/CDKN2A-deficient mice coincides with phenotypic changes in the cerebellum. Sci. Rep. 9: 11167.
2. Li, J., et al. 2021. Interaction between Ras and Bcl2L12 in B cells suppresses IL-10 expression. Clin. Immunol. 229: 108775.

RESEARCH USE

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