

CD19 (R-20): sc-8499

BACKGROUND

CD19 is 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

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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.
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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.

CHROMOSOMAL LOCATION

Genetic locus: Cd19 (mouse) mapping to 7 F3.

SOURCE

CD19 (R-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of CD19 of mouse origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-8499 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin conjugate for flow cytometry, sc-8499 PE, 100 tests.

APPLICATIONS

CD19 (R-20) is recommended for detection of CD19 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (m): sc-29969, CD19 shRNA Plasmid (m): sc-29969-SH and CD19 shRNA (m) Lentiviral Particles: sc-29969-V.

Molecular Weight of CD19: 95 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Navarro, F., et al. 2013. Moderate exercise increases the metabolism and immune function of lymphocytes in rats. *Eur. J. Appl. Physiol.* 113: 1343-1352.

RESEARCH USE

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

PROTOCOLS

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



Try **CD19 (F-3): sc-373897**, our highly recommended monoclonal alternative to CD19 (R-20).