

CD19 (M-20)-R: sc-8500-R

BACKGROUND

CD19 is a 95 kDa 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. 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.
2. Zhou, L.J., et al. 1992. Structure of the genes encoding the CD19 antigen of human and mouse B lymphocytes. *Immunogenetics* 35: 102-111.
3. 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.
4. 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.
5. 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.
6. Xiao, J., et al. 1996. Signal transduction through the beta1 integrin family surface adhesion molecules VLA-4 and VLA-5 of human B-cell precursors activates CD19 receptor-associated protein- tyrosine kinases. *J. Biol. Chem.* 271: 7659-7664.

CHROMOSOMAL LOCATION

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

SOURCE

CD19 (M-20)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of CD19 of mouse origin.

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-8500 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

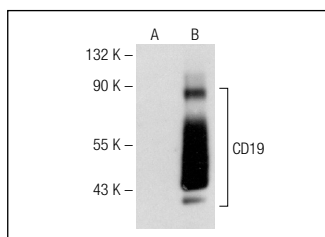
APPLICATIONS

CD19 (M-20)-R is recommended for detection of CD19 of mouse, rat and 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

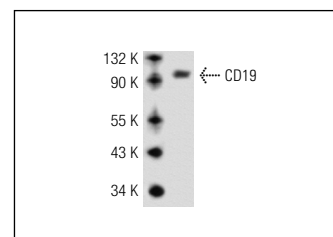
Molecular Weight of CD19: 95 kDa.

Positive Controls: CD19 (m): 293T Lysate: sc-178371, BJAB whole cell lysate: sc-2207 or NAMALWA cell lysate: sc-2234.

DATA



CD19 (M-20)-R: sc-8500-R. Western blot analysis of CD19 expression in non-transfected: sc-117752 (A) and mouse CD19 transfected: sc-178371 (B) 293T whole cell lysates.



CD19 (M-20)-R: sc-8500-R. Western blot analysis of CD19 expression in BJAB whole cell lysate.

SELECT PRODUCT CITATIONS

1. Singh, A.K., et al. 2003. Lipopolysaccharide (LPS) induced activation of the immune system in control rats and rats chronically exposed to a low level of the organothiophosphate insecticide, acephate. *Toxicol. Ind. Health* 19: 93-108.

STORAGE

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

PROTOCOLS

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

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Try **CD19 (B-1): sc-390244** or **CD19 (F-3): sc-373897**, our highly recommended monoclonal alternatives to CD19 (M-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **CD19 (B-1): sc-390244**.