

# CD19 (F-3): sc-373897

## 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  $\beta 1$ , CD21 and CD81, which are involved in regulating B-cell development.

## REFERENCES

1. Pezutto, 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 (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 529-556 at the C-terminus of CD19 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD19 (F-3) is available conjugated to agarose (sc-373897 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373897 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373897 PE), fluorescein (sc-373897 FITC), Alexa Fluor<sup>®</sup> 488 (sc-373897 AF488), Alexa Fluor<sup>®</sup> 546 (sc-373897 AF546), Alexa Fluor<sup>®</sup> 594 (sc-373897 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-373897 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-373897 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-373897 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373897 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## RESEARCH USE

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

## APPLICATIONS

CD19 (F-3) 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  $\mu$ g per 100-500  $\mu$ 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).

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.

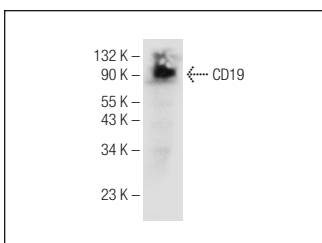
Molecular Weight of CD19: 95 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, NAMALWA cell lysate: sc-2234 or Raji whole cell lysate: sc-364236.

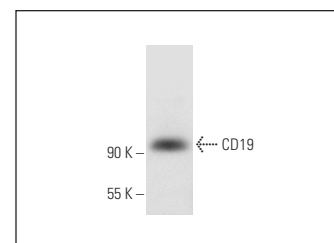
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



CD19 (F-3): sc-373897. Western blot analysis of CD19 expression in NAMALWA whole cell lysate.



CD19 (F-3): sc-373897. Western blot analysis of CD19 expression in Raji whole cell lysate.

## SELECT PRODUCT CITATIONS

1. De Oliveira, S.N., et al. 2013. A CD19/Fc fusion protein for detection of anti-CD19 chimeric antigen receptors. *J. Transl. Med.* 11: 23.
2. Liu, X., et al. 2020. Involvement of nuclear factor erythroid 2-related factor 2 in neonatal intestinal interleukin-17D expression in hyperoxia. *Int. J. Mol. Med.* 46: 1423-1432.

## STORAGE

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