

# CD19 (HIB19): sc-19650

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

CD19 (HIB19) is a mouse monoclonal antibody raised against purified CD19 from tonsil 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 (HIB19) is available conjugated to agarose (sc-19650 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-19650 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-19650 PE), fluorescein (sc-19650 FITC), Alexa Fluor<sup>®</sup> 488 (sc-19650 AF488), Alexa Fluor<sup>®</sup> 546 (sc-19650 AF546), Alexa Fluor<sup>®</sup> 594 (sc-19650 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-19650 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-19650 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-19650 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

CD19 (HIB19) is recommended for detection of CD19 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> 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.

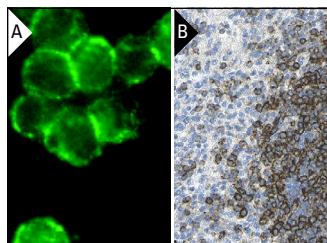
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) 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. 2) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

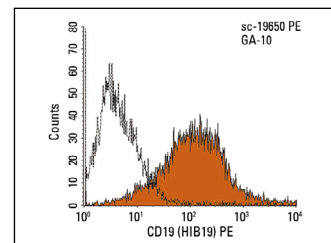
## STORAGE

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

## DATA



CD19 (HIB19): sc-19650. Immunofluorescence staining of methanol-fixed GA-10 cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing membrane staining of cells in red and white pulps. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).



CD19 (HIB19) PE: sc-19650 PE. FCM analysis of GA-10 cells. Black line histogram represents the isotype control, normal mouse IgG<sub>1</sub>-PE: sc-2866.

## SELECT PRODUCT CITATIONS

- Ochoa-Hernández, A.B., et al. 2012. Peripheral T-lymphocytes express WNT7A and its restoration in leukemia-derived lymphoblasts inhibits cell proliferation. *BMC Cancer* 12: 60.
- García-Castro, B., et al. 2013. Restoration of WNT4 inhibits cell growth in leukemia-derived cell lines. *BMC Cancer* 13: 557.
- Kodric, K., et al. 2019. Sex-determining region Y (SRY) attributes to gender differences in RANKL expression and incidence of osteoporosis. *Exp. Mol. Med.* 51: 97.
- Barreto-Vargas, C., et al. 2020. WNT7A expression is downregulated in T lymphocytes after T-cell receptor activation due to histone modifications and in T-ALL by DNA methylation. *Arch. Immunol. Ther. Exp.* 68: 18.
- Palor, M., et al. 2020. Cholesterol sensing by CD81 is important for hepatitis C virus entry. *J. Biol. Chem.* 295: 16931-16948.
- Sun, L., et al. 2020. A distinctive lineage-negative cell population produces IL-17A in cutaneous squamous cell carcinoma. *J. Interferon Cytokine Res.* 40: 418-424.
- Chen, X., et al. 2021. The prognostic and immunological effects of ZBTB7C across cancers: friend or foe? *Aging* 13: 12849-12864.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.