

# WC4 (CC57): sc-101844



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  $\beta$ 1, CD21 and CD81, which are involved in regulating B-cell development. Bovine WC4 (workshop cluster 4) may be a homolog of CD19, and has been observed in B-cells, tonsil and mesenteric lymph node.

## REFERENCES

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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. Naessens, J. and Howard, C.J. 1991. Individual antigens of cattle. Monoclonal antibodies reacting with bovine B cells (BoWC3, BoWC4 and BoWC5). *Vet. Immunol. Immunopathol.* 27: 77-85.
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.
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7. Mukwede, D.T., et al. 1996. Analysis of bovine B cell reactive monoclonal antibodies. *Vet. Immunol. Immunopathol.* 52: 285-294.
8. Purwar, S., et al. 2010. Basal expression studies of cystatins during specific growth stages of wheat spikes for defining their possible role in differential and stage dependent immunity against Karnal bunt (*Tilletia indica*). *Mol. Biol. Rep.* 37: 1377-1389.

## SOURCE

WC4 (CC57) is a mouse monoclonal antibody raised against mesenteric lymph node cells of bovine origin.

## 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](http://www.scbt.com) for detailed protocols and support products.

## 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.

WC4 (CC57) is available conjugated to agarose (sc-101844 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101844 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101844 PE), fluorescein (sc-101844 FITC), Alexa Fluor® 488 (sc-101844 AF488), Alexa Fluor® 546 (sc-101844 AF546), Alexa Fluor® 594 (sc-101844 AF594) or Alexa Fluor® 647 (sc-101844 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101844 AF680) or Alexa Fluor® 790 (sc-101844 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

WC4 (CC57) is recommended for detection of WC4 of ovine, caprine and bovine origin by Western Blotting (starting dilution 1:200, 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 flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Molecular Weight of WC4: 16 kDa.

## 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™ 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RESEARCH USE

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