

# WC1 (CC115): sc-101843



The Power to Question

## BACKGROUND

Workshop cluster 1 (WC1) molecules are transmembrane glycoproteins that are members of the scavenger receptor cysteine-rich (SRCR) large, multigene family and are uniquely expressed on  $\gamma\delta$  T cells.  $\gamma\delta$  T cells that express WC1 comprise a large proportion of circulating lymphocytes, suggesting these cells are biologically relevant as well as functionally different from  $\alpha\beta$  T cells. WC1 isoforms WC1.1, WC1.2 and WC1.3 are each expressed on discrete subpopulations of  $\gamma\delta$  T cells that play distinct roles in immune responses. WC1 proteins may play a role in augmenting cellular activation and inducing cell cycle arrest in  $\gamma\delta$  T cells. WC1 is a surface protein that has a conserved signaling motifs in the cytoplasmic tail implicating its function as an accessory molecule. Through a signaling pathway, WC1 affects cell fate via increases in cellular ceramide.

## REFERENCES

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- Wangoo, A., et al. 2005. Advanced granulomatous lesions in *Mycobacterium bovis*-infected cattle are associated with increased expression of type I procollagen,  $\gamma\delta$  (WC1<sup>+</sup>) T cells and CD 68<sup>+</sup> cells. *J. Comp. Pathol.* 133: 223-234.
- Blumerman, S.L., et al. 2006. Differential TCR gene usage between WC1<sup>-</sup> and WC1<sup>+</sup> ruminant  $\gamma\delta$  T cell subpopulations including those responding to bacterial antigen. *Immunogenetics* 58: 680-692.
- Lahmers, K.K., et al. 2006. Comparative gene expression by WC1<sup>+</sup>  $\gamma\delta$  and CD4<sup>+</sup>  $\alpha\beta$  T lymphocytes which respond to *Anaplasma marginale*, demonstrates higher expression of chemokine cell-associated genes by WC1<sup>+</sup>  $\gamma\delta$  T cells. *J. Leukoc. Biol.* 80: 939-952.
- Rogers, A.N., et al. 2006. Characterization of WC1 co-receptors on functionally distinct subpopulations of ruminant  $\gamma\delta$  T cells. *Cell. Immunol.* 239: 151-161.

## SOURCE

WC1 (CC115) is a mouse monoclonal antibody raised against thymocytes of bovine origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

WC1 (CC115) is available conjugated to agarose (sc-101843 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101843 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101843 PE), fluorescein (sc-101843 FITC), Alexa Fluor<sup>®</sup> 488 (sc-101843 AF488), Alexa Fluor<sup>®</sup> 546 (sc-101843 AF546), Alexa Fluor<sup>®</sup> 594 (sc-101843 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-101843 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-101843 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-101843 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

WC1 (CC115) is recommended for detection of WC1 of ovine and caprine 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 WC1: 215 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<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.

## 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.