

# CD53 (B-12): sc-390185

## BACKGROUND

The CD53 antigen is a member of the tetraspanin membrane protein family that is expressed in the lymphoid-myeloid lineage. The tetraspanin superfamily (CD9, CD37, CD53, CD63, CD81 and CD82) comprises a group of cell-surface proteins that are involved in cell activation and signal transduction as well as in cell adhesion, motility and metastasis. Tetraspanin transmembrane proteins have a metastasis suppressor effect by acting as cell motility brakes in tumor cells. Human neutrophils express high levels of CD53, an N-glycosylated pan-leukocyte antigen and the true homolog of the rat MRC-OX-44 antigen. CD53 is expressed on B cells, monocytes, macrophages, neutrophils, single (CD4 or CD8) positive thymocytes and peripheral T cells.

## REFERENCES

1. Bazil, V., et al. 1989. Monoclonal antibodies against human leucocyte antigens. III. Antibodies against CD45R, CD6, CD44 and two newly described broadly expressed glycoproteins MEM-53 and MEM-102. *Folia Biol.* 35: 289-297.
2. Angelisova, P., et al. 1990. The human leucocyte surface antigen CD53 is a protein structurally similar to the CD37 and MRC OX-44 antigens. *Immunogenetics* 32: 281-285.
3. Olweus, J., et al. 1993. CD53, a protein with four membrane-spanning domains, mediates signal transduction in human monocytes and B cells. *J. Immunol.* 151: 707-716.
4. Rasmussen, A.M., et al. 1994. Cross-linking of CD53 promotes activation of resting human B lymphocytes. *J. Immunol.* 153: 4997-5007.
5. Okochi, H., et al. 1997. Expression of tetraspanins transmembrane family (CD9, CD37, CD53, CD63, CD81 and CD82) in normal and neoplastic human keratinocytes: an association of CD9 with  $\alpha 3 \beta 1$  Integrin. *Br. J. Dermatol.* 137: 856-863.

## CHROMOSOMAL LOCATION

Genetic locus: CD53 (human) mapping to 1p13.3; Cd53 (mouse) mapping to 3 F2.3.

## SOURCE

CD53 (B-12) is a mouse monoclonal antibody raised against amino acids 100-219 mapping at the C-terminus of CD53 of human origin.

## PRODUCT

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

CD53 (B-12) is available conjugated to agarose (sc-390185 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390185 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390185 PE), fluorescein (sc-390185 FITC), Alexa Fluor® 488 (sc-390185 AF488), Alexa Fluor® 546 (sc-390185 AF546), Alexa Fluor® 594 (sc-390185 AF594) or Alexa Fluor® 647 (sc-390185 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390185 AF680) or Alexa Fluor® 790 (sc-390185 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

CD53 (B-12) is recommended for detection of CD53 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), immunohistochemistry (including paraffin-embedded sections) (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 CD53 siRNA (h): sc-42796, CD53 siRNA (m): sc-42797, CD53 shRNA Plasmid (h): sc-42796-SH, CD53 shRNA Plasmid (m): sc-42797-SH, CD53 shRNA (h) Lentiviral Particles: sc-42796-V and CD53 shRNA (m) Lentiviral Particles: sc-42797-V.

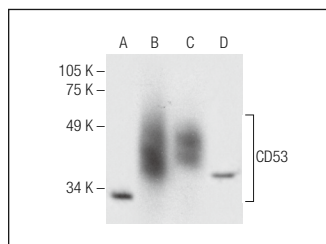
Molecular Weight of CD53: 32-45 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213, WR19L cell lysate: sc-3805 or Jurkat whole cell lysate: sc-2204.

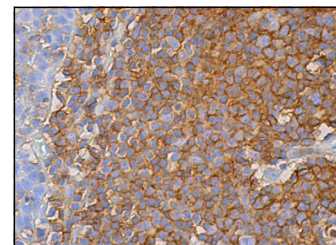
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



CD53 (B-12): sc-390185. Western blot analysis of CD53 expression in WEHI-231 (A), human PBL (B), Jurkat (C) and WR19L (D) whole cell lysates.



CD53 (B-12): sc-390185. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing membrane and cytoplasmic staining of cells in germinal center and cells in non-germinal center.

## STORAGE

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

## RESEARCH USE

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

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