

# CD4 (GK1.5): sc-13573

## BACKGROUND

The T cell receptor (TCR) is a heterodimer composed of either  $\alpha$  and  $\beta$  or  $\gamma$  and  $\delta$  chains. CD3 chains and the CD4 or CD8 co-receptors are also required for efficient signal transduction through the TCR. The TCR is expressed on T helper and T cytotoxic cells that can be distinguished by their expression of CD4 and CD8; T helper cells express CD4 proteins and T cytotoxic cells display CD8. CD4 is also expressed on cortical cells, mature medullary thymocytes, microglial cells and dendritic cells. CD4 (also designated T4 and Leu 3), is a membrane glycoprotein that contains four extracellular immunoglobulin-like domains. The TCR in association with CD4 can bind class II MHC molecules presented by the antigen-presenting cells. The CD4 protein functions by increasing the avidity of the interaction between the TCR and an antigen-class II MHC complex. An additional role of CD4 is to function as a receptor for HIV.

## CHROMOSOMAL LOCATION

Genetic locus: CD4 (human) mapping to 12p13.31; Cd4 (mouse) mapping to 6 F2.

## SOURCE

CD4 (GK1.5) is a rat monoclonal antibody raised against CTL clone V4 cells of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for blocking of T cell activation and ligand binding, sc-13573 L, 200  $\mu$ g/0.1 ml.

CD4 (GK1.5) is available conjugated to either phycoerythrin (sc-13573 PE), fluorescein (sc-13573 FITC), Alexa Fluor<sup>®</sup> 488 (sc-13573 AF488), Alexa Fluor<sup>®</sup> 546 (sc-13573 AF546), Alexa Fluor<sup>®</sup> 594 (sc-13573 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-13573 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-13573 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-13573 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, CD4 (GK1.5) is available conjugated to Alexa Fluor<sup>®</sup> 405 (sc-13573 AF405), 100  $\mu$ g/2 ml, for IF, IHC(P) and FCM.

## APPLICATIONS

CD4 (GK1.5) is recommended for detection of an extracellular region of CD4 of mouse, rat and human origin by 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 flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for CD4 siRNA (h): sc-29246, CD4 siRNA (m): sc-29997, CD4 shRNA Plasmid (h): sc-29246-SH, CD4 shRNA Plasmid (m): sc-29997-SH, CD4 shRNA (h) Lentiviral Particles: sc-29246-V and CD4 shRNA (m) Lentiviral Particles: sc-29997-V.

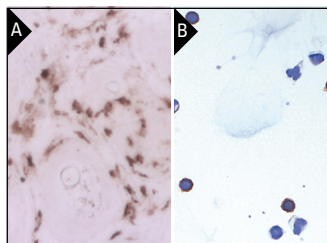
Molecular Weight of CD4: 54 kDa.

Positive Controls: mouse thymus extract: sc-2406 or WEHI-231 whole cell lysate: sc-2213.

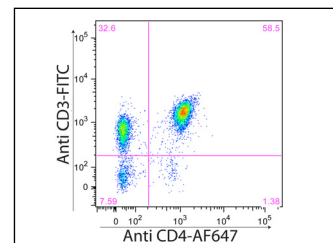
## STORAGE

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

## DATA



CD4 (GK1.5): sc-13573. Immunoperoxidase staining of paraformaldehyde-fixed, frozen tissue sections. Infiltrating CD4<sup>+</sup> T cells in allogeneic skin engrafted onto mouse. Kindly provided by The M.C. Zúñiga Lab, University of California Santa Cruz (A). Immunoperoxidase staining of formalin-fixed mouse peripheral blood lymphocytes showing membrane staining of lymphocytes (B).



CD3 (17A2) FITC: sc-18843 FITC. CD4 (GK1.5) Alexa Fluor<sup>®</sup> 647: sc-13573 AF647. Mouse lymph nodes. Kindly provided by The M.C. Zúñiga Lab, University of California Santa Cruz.

## SELECT PRODUCT CITATIONS

- Nanki, T., et al. 2004. Inhibition of fractalkine ameliorates murine collagen-induced arthritis. *J. Immunol.* 173: 7010-7016.
- Florian, C., et al. 2010. An advanced approach for the characterization of dendritic cell-induced T cell proliferation in situ. *Immunobiology* 215: 855-862.
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- Cavaretta, J.P., et al. 2014. Polarized axonal surface expression of neuronal KCNQ potassium channels is regulated by calmodulin interaction with KCNQ2 subunit. *PLoS ONE* 9: e103655.
- Venuti, A., et al. 2015. ERK1-based pathway as a new selective mechanism to modulate CCR5 with natural antibodies. *J. Immunol.* 195: 3045-3057.
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- Furukawa, S., et al. 2017. Databases for technical aspects of immunohistochemistry. *J. Toxicol. Pathol.* 30: 79-107.
- Lemos Santos, G.J., et al. 2018. *Himatanthus drasticus* (Apocynaceae) latex reduces oxidative stress and modulates CD4<sup>+</sup>, CD8<sup>+</sup>, FoxP3<sup>+</sup> and HSP-60<sup>+</sup> expressions in Sarcoma 180-bearing mice. *J. Ethnopharmacol.* 220: 159-168.

## RESEARCH USE

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

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