

CD4 (GK1.5): sc-13573

BACKGROUND

The T cell receptor (TCR) is a heterodimer composed of either α and β or γ and δ 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 μ g IgG_{2b} 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 μ g/0.1 ml.

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

In addition, CD4 (GK1.5) is available conjugated to Alexa Fluor® 405 (sc-13573 AF405, 200 μ g/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 μ g per 100-500 μ 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 μ g per 1 x 10⁶ 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.

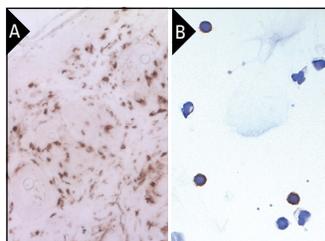
Molecular Weight of CD4: 54 kDa.

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

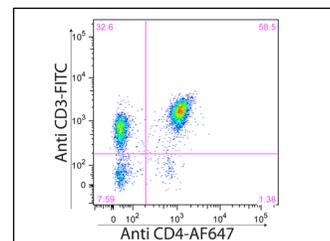
STORAGE

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⁺ 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® 647: sc-13573 AF647. Mouse lymph nodes. Kindly provided by The M.C. Zúñiga Lab, University of California Santa Cruz.

SELECT PRODUCT CITATIONS

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- Venuti, A., et al. 2015. ERK1-based pathway as a new selective mechanism to modulate CCR5 with natural antibodies. *J. Immunol.* 195: 3045-3057.
- Yang, J., et al. 2016. Targeting LOXL2 for cardiac interstitial fibrosis and heart failure treatment. *Nat. Commun.* 7: 13710.
- 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⁺, CD8⁺, FoxP3⁺ and HSP-60⁺ expressions in Sarcoma 180-bearing mice. *J. Ethnopharmacol.* 220: 159-168.
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- Özverel, C.S., et al. 2020. Investigation of the combination of anti-PD-L1 mAb with HER2/neu-loaded dendritic cells and QS-21 saponin adjuvant: effect against HER2 positive breast cancer in mice. *Immunopharmacol. Immunotoxicol.* 42: 346-357.
- Scuderi, S.A., et al. 2021. NLRP3 inflammasome inhibitor BAY-117082 reduces oral squamous cell carcinoma progression. *Int. J. Mol. Sci.* 22: 11108.
- Xu, X., et al. 2022. Thymosin β 15 alters the spatial development of thymic epithelial cells. *Cells* 11: 3679.

RESEARCH USE

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

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