



CD4 (RIV6): sc-52385

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.

REFERENCES

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- Arthos, J., et al. 1989. Identification of the residues in human CD4 critical for the binding of HIV. *Cell* 57: 469-481.
- Healey, D., et al. 1990. Novel anti-CD4 monoclonal antibodies separate human immunodeficiency virus infection and fusion of CD4⁺ cells from virus binding. *J. Exp. Med.* 172: 1233-1242.
- Allison, J.P. and Havran, W.L. 1991. The immunobiology of T cells with invariant $\gamma\delta$ antigen receptors. *Annu. Rev. Immunol.* 9: 679-705.
- Janeway, C.A., Jr. 1992. The T cell receptor as a multicomponent signalling machine: CD4/CD8 coreceptors and CD45 in T cell activation. *Annu. Rev. Immunol.* 10: 645-674.
- Ehrlich, E.W., et al. 1993. T cell receptor interaction with peptide/major histocompatibility complex (MHC) and superantigen/MHC ligands is dominated by antigen. *J. Exp. Med.* 178: 713-722.
- Julius, M., et al. 1993. Distinct roles for CD4 and CD8 as coreceptors in antigen receptor signalling. *Immunol. Today* 14: 177-183.

CHROMOSOMAL LOCATION

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

SOURCE

CD4 (RIV6) is a mouse monoclonal antibody raised against CD4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD4 (RIV6) is available conjugated to fluorescein (sc-52385 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

CD4 (RIV6) is recommended for detection 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) 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.

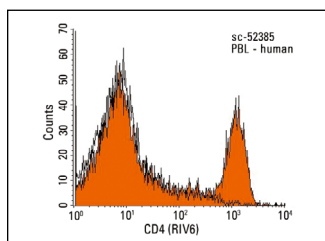
Positive Controls: HL-60 whole cell lysate: sc-2209, CCRF-CEM cell lysate: sc-2225 or mouse thymus extract: sc-2406.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

- Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



CD4 (RIV6): sc-52385. Indirect FCM analysis of human peripheral blood leukocytes stained with CD4 (RIV6), followed by PE-conjugated goat anti-mouse IgG_{2a}-PE: sc-3765. Black line histogram represents the isotype control, normal mouse IgG_{2a}: sc-3878.

SELECT PRODUCT CITATIONS

- Rodríguez-Muñoz, R., et al. 2015. Novel nuclear protein complexes of dystrophin 71 isoforms in rat cultured hippocampal GABAergic and glutamatergic neurons. *PLoS ONE* 10: e0137328.
- Choi, S.H., et al. 2018. Tumour-vasculature development via endothelial-to-mesenchymal transition after radiotherapy controls CD44v6⁺ cancer cell and macrophage polarization. *Nat. Commun.* 9: 5108.

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.