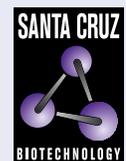


CD4 (A-1): sc-514571



The Power to Question

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

- Maddon, P.J., et al. 1987. Structure and expression of human and mouse T4 genes. Proc. Natl. Acad. Sci. USA 84: 9155-9159.
- 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.
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- 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.
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- Vignali, D.A. 1994. The interaction between CD4 and MHC class II molecules and its effect on T cell function. Behring Inst. Mitt. 94: 133-147.

CHROMOSOMAL LOCATION

Genetic locus: CD4 (human) mapping to 12p13.31.

SOURCE

CD4 (A-1) is a mouse monoclonal antibody raised against amino acids 26-396 of 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.

RESEARCH USE

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

APPLICATIONS

CD4 (A-1) is recommended for detection of CD4 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of CD4: 54 kDa.

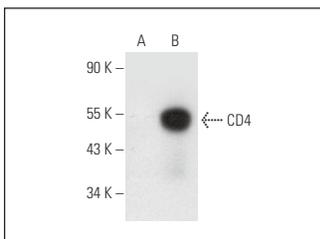
Positive Controls: CD4 (h): 293T Lysate: sc-114217 or SUP-T1 whole cell lysate: sc-364796.

RECOMMENDED SUPPORT REAGENTS

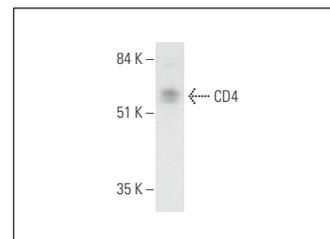
To ensure optimal results, the following support reagents are recommended:

- Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.
- 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 (A-1): sc-514571. Western blot analysis of CD4 expression in non-transfected: sc-117752 (A) and human CD4 transfected: sc-114217 (B) 293T whole cell lysates.



CD4 (A-1): sc-514571. Western blot analysis of CD4 expression in SUP-T1 whole cell lysate.

SELECT PRODUCT CITATIONS

- Repici, A., et al. 2024. Novel findings on CCR1 receptor in CNS disorders: a pathogenic marker useful in controlling neuroimmune and neuroinflammatory mechanisms in Parkinson's disease. Int. J. Mol. Sci. 25: 4337.

STORAGE

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



See **CD4 (MT310): sc-19641** for CD4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.