

# CD4 (MEM-115) : sc-51545

## 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 55 kDa 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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- Allison, J.P., et al. 1991. The immunobiology of T cells with invariant  $\gamma$   $\delta$  antigen receptors. Annu. Rev. Immunol. 9: 679-705.
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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.
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## CHROMOSOMAL LOCATION

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

## SOURCE

CD4 (MEM-115) is a mouse monoclonal antibody raised against human thymocytes and T lymphocytes.

## STORAGE

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

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

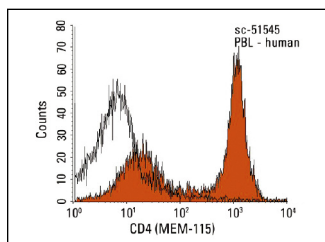
## APPLICATIONS

CD4 (MEM-115) is recommended for detection of an epitope in the D1 domain of CD4 of human origin by immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] 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 shRNA Plasmid (h): sc-29246-SH and CD4 shRNA (h) Lentiviral Particles: sc-29246-V.

Molecular Weight of CD4: 54 kDa.

## DATA



CD4 (MEM-115): sc-51545. Indirect FCM analysis of human peripheral blood leukocytes stained with CD4 (MEM-115), followed by PE-conjugated goat anti-mouse IgG<sub>2a</sub>: sc-3765. Black line histogram represents the isotype control, normal mouse IgG<sub>2a</sub>: sc-3878.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CONJUGATES

See **CD4 (MT310): sc-19641** for CD4 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647.