

# CD4 (MEM-241): sc-51547

## 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.

## REFERENCES

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- Cinek, T., et al. 1995. An alternative way of CD4 and CD8 association with protein kinases of the Src family. *Immunogenetics* 41: 110-106.
- Millan, J., et al. 1999. CD4 segregates into specific detergent-resistant T cell membrane microdomains. *Tissue Antigens* 53: 33-40.
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## CHROMOSOMAL LOCATION

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

## SOURCE

CD4 (MEM-241) is a mouse monoclonal antibody raised against 2 N-terminal domains of human CD4 fused to IgG<sub>1</sub> Fc domain.

## 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>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

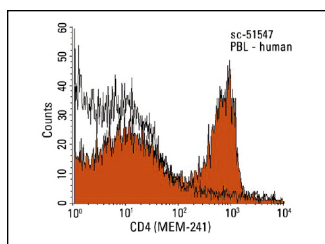
CD4 (MEM-241) is recommended for detection of CD4 of human origin by Western Blotting (non-reducing) (starting dilution 1:200, dilution range 1:100-1:1000) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

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.

Positive Controls: HL-60 whole cell lysate: sc-2209 or CCRF-CEM cell lysate: sc-2225.

## DATA



CD4 (MEM-241): sc-51547. Indirect FCM analysis of human peripheral blood leukocytes stained with CD4 (MEM-241), followed by PE-conjugated goat anti-mouse IgG<sub>1</sub>: sc-3764. Black line histogram represents the isotype control, normal mouse IgG<sub>1</sub>: sc-3877.

## 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.