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CD4 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1007a

Product Information

Application	FC, E
Primary Accession	P01730
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	B486A1
Isotype	IgG1
Calculated MW	51111
Description	The CD4 antigen is highly expressed on human T helper cells and thymocytes, and at lower levels on monocytes and dendritic cells. This integral membrane glycoprotein of approximately 58 kDa contains four external domains (D1 to D4) that show homology to members of the immunoglobulin (Ig) superfamily. It is responsible for the recognition of the MHC class II antigen. The CD4 antibody recognizes most thymocytes and about 65% of peripheral blood T cells.
Immunogen	Purified recombinant fragment of human CD4 expressed in E. Coli.
Formulation	Purified antibody in PBS containing 0.03% sodium azide.

Additional Information

Gene ID	920
Other Names	T-cell surface glycoprotein CD4, T-cell surface antigen T4/Leu-3, CD4, CD4
Dilution	FC~~1/200 - 1/400 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CD4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CD4
Function	Integral membrane glycoprotein that plays an essential role in the immune response and serves multiple functions in responses against both external

	and internal offenses. In T-cells, functions primarily as a coreceptor for MHC class II molecule:peptide complex. The antigens presented by class II peptides are derived from extracellular proteins while class I peptides are derived from cytosolic proteins. Interacts simultaneously with the T-cell receptor (TCR) and the MHC class II presented by antigen presenting cells (APCs). In turn, recruits the Src kinase LCK to the vicinity of the TCR-CD3 complex. LCK then initiates different intracellular signaling pathways by phosphorylating various substrates ultimately leading to lymphokine production, motility, adhesion and activation of T-helper cells. In other cells such as macrophages or NK cells, plays a role in differentiation/activation, cytokine expression and cell migration in a TCR/LCK-independent pathway. Participates in the development of T- helper cells in the thymus and triggers the differentiation of monocytes into functional mature macrophages.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Note=Localizes to lipid rafts (PubMed:12517957, PubMed:9168119). Removed from plasma membrane by HIV- 1 Nef protein that increases clathrin-dependent endocytosis of this antigen to target it to lysosomal degradation. Cell surface expression is also down-modulated by HIV-1 Envelope polyprotein gp160 that interacts with, and sequesters CD4 in the endoplasmic reticulum
Tissue Location	Highly expressed in T-helper cells. The presence of CD4 is a hallmark of T-helper cells which are specialized in the activation and growth of cytotoxic T-cells, regulation of B cells, or activation of phagocytes. CD4 is also present in other immune cells such as macrophages, dendritic cells or NK cells

References

1. M Benkirane J Virol. 1995 November; 69(11): 6898–6903.

Images

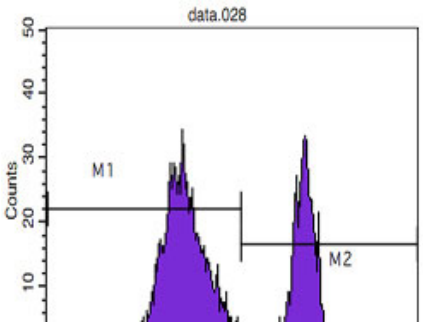

Figure 1: Flow cytometric analysis of blood T cells using CD4 mouse mAb (M2) and negative control (M1).