10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CD4 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1496a

Product Information

Application	WB, FC, E
Primary Accession	P01730
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	51111
Antigen Region	58-86

Additional Information

Gene ID	920
Other Names	T-cell surface glycoprotein CD4, T-cell surface antigen T4/Leu-3, CD4, CD4
Target/Specificity	This CD4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 58-86 amino acids from the N-terminal region of human CD4.
Dilution	WB~~1:1000 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CD4 Antibody (N-term) 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

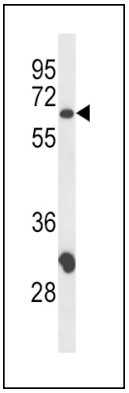
Background

CD4 is a single chain transmembraneous glycoprotein (59 kDa) which belongs to the immunoglobulin superfamily. CD4 is present on a subset of T lymphocytes (helper/inducer T cells) and is also expressed at a lower level on monocytes, tissue macrophages and granulocytes. The antigen is involved in binding to MHC class II molecules. The intracellular domain of the antigen is associated with p56lck protein tyrosine kinase.

References

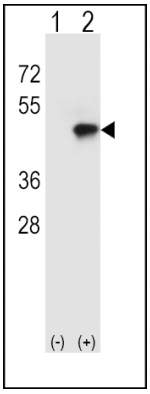
Garron,M.L., J. Mol. Biol. 375 (5), 1320-1328 (2008)
Rychert,J., J. Acquir. Immune Defic. Syndr. 46 (3), 261-267 (2007)

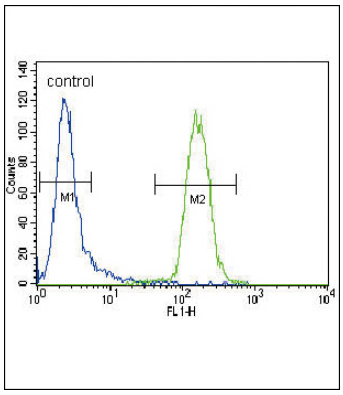
Images



Western blot analysis of CD4 Antibody (N-term) in CEM cell line lysates (35ug/lane). CD4(arrow) was detected using the purified Pab.

Western blot analysis of CD4 (arrow) using rabbit polyclonal CD4 Antibody (N-term) (RB12862). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the CD4 gene (Lane 2) (Origene Technologies).





CD4 Antibody (N-term) (Cat. #AP1496a) flow cytometric analysis of CEM cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.