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CD4 Antibody

Rabbit mAb
Catalog # AP90427

Product Information

Application	WB, IHC, IF, FC, ICC, IHF
Primary Accession	P01730
Reactivity	Human
Clonality	Monoclonal
Other Names	CD4; Leu3; L3T4; Ly4; p55; W3/25;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	51111

Additional Information

Dilution	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200 FC 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human CD4
Description	Cluster of Differentiation 4 (CD4) is a glycoprotein composed of an amino-terminal extracellular domain (four domains: D1-D4 with Ig-like structures), a transmembrane part and a short cytoplasmic tail. CD4 is expressed on the surface of T helper cells, regulatory T cells, monocytes, macrophages and dendritic cells, and plays an important role in the development and activation of T cells. On T cells, CD4 is the co-receptor for the T cell receptor (TCR), and these two distinct structures recognize the Antigen–Major Histocompatibility Complex (MHC).
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

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.

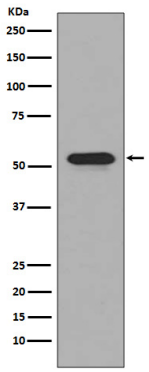
Cellular Location

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

Images



Western blot analysis of CD4 expression in THP-1 cell lysate.

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Immunohistochemical analysis of paraffin-embedded human colon, using CD4 Antibody.

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