

CD4 Recombinant Rabbit mAb

Catalog # AP97035

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P06332
Other Accession	P06332
Reactivity	Mouse
Host	Rabbit
Clonality	Recombinant
Calculated MW	51297
Immunogen	KLH conjugated synthetic peptide derived from mouse CD4
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	PBS with 0.02% Proclin300, 100 µg/ml BSA and 50% glycerol.
SIMILARITY	Contains 3 Ig-like C2-type (immunoglobulin-like) domains. Contains 1 Ig-like V-type (immunoglobulin-like) domain.
SUBUNIT	Associates with LCK. Binds to HIV-1 gp120 and to P4HB/PDI and upon HIV-1 binding to the cell membrane, is part of P4HB/PDI-CD4-CXCR4-gp120 complex. Interacts with HIV-1 Envelope polyprotein gp160 and protein Vpu. Interacts with Human Herpes virus 7 capsid proteins. Interacts with PTK2/FAK1; this interaction requires the presence of HIV-1 gp120.
Post-translational modifications	Palmitoylation and association with LCK contribute to the enrichment of CD4 in lipid rafts.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a membrane glycoprotein of T lymphocytes that interacts with major histocompatibility complex class II antigens and is also a receptor for the human immunodeficiency virus. This gene is expressed not only in T lymphocytes, but also in B cells, macrophages, and granulocytes. It is also expressed in specific regions of the brain. The protein functions to initiate or augment the early phase of T-cell activation, and may function as an important mediator of indirect neuronal damage in infectious and immune-mediated diseases of the central nervous system. Multiple alternatively spliced transcript variants encoding different isoforms have been identified in this gene. [provided by RefSeq, Aug 2010]. The CD4 antigen is involved in the recognition of MHC class II molecules and is a co-receptor for HIV. CD4 is primarily expressed in a subset of T-lymphocytes, also referred to as T helper cells, but may also be expressed by other cells in the immune system, such as monocytes, macrophages, and dendritic cells. At the tissue level, CD4 expression may be detected in thymus, lymph nodes, tonsils, and spleen, and also in specific regions of the brain, gut, and other non-lymphoid tissues. CD4 functions to initiate or augment the early phase of T-cell activation through its association with the T-cell receptor complex and protein tyrosine kinase, Lck. It may also function as an important mediator of direct neuronal damage in infectious and immune-mediated diseases of the central nervous system. Multiple alternatively spliced transcripts have been identified in this gene [RefSeq, July 2017].

Additional Information

Gene ID	12504
Other Names	CD4mut; IMD79; Leu-3; OKT4D; T4; CD4_HUMAN; CD4; T-cell surface antigen T4/Leu-3; CD4_MOUSE; T-cell differentiation antigen L3T4; L3T4; Ly-4; CD4_RABIT; CD4 molecule; CD4 antigen (p55); T-cell surface glycoprotein CD4
Dilution	WB=1:1000-5000,IHC-P=1:200-1000,IHC-F=1:200-1000,IF=1:200-1000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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 {ECO:0000250 UniProtKB:P01730}; Single-pass type I membrane protein {ECO:0000250 UniProtKB:P01730}
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

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