

CD4 Antibody
Mouse Monoclonal Antibody (Mab)
Catalog # AM1957b

Specification

CD4 Antibody - Product Information

Application	WB,E
Primary Accession	P01730
Other Accession	NP_000607.1
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2b,k

CD4 Antibody - 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 monoclonal antibody is generated from mouse immunized with CD4 recombinant protein.

Dilution

WB~1:500~1000

Format

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

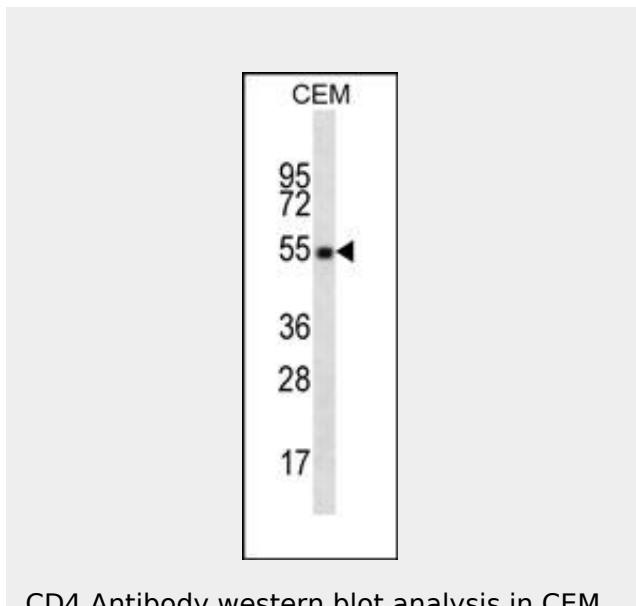
Storage

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 is for research use only and not for use in diagnostic or therapeutic procedures.

CD4 Antibody - Protein Information



CD4 Antibody western blot analysis in CEM cell line lysates (35µg/lane). This demonstrates the CD4 antibody detected the CD4 protein (arrow).

CD4 Antibody - Background

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.

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

CD4 Antibody - References

Pourghheysari, B., et al. Blood 116(16):2968-2974(2010)
Rudd, C.E., et al. J. Immunol. 185(5):2645-2649(2010)
Ammirati, E., et al. Arterioscler. Thromb. Vasc. Biol. 30(9):1832-1841(2010)
Schenkel, J.M., et al. J. Immunol. 185(4):2013-2019(2010)
Lee, K.M., et al. Am. J. Hematol. 85(8):560-563(2010)

CD4 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)