

InVivo Anti-Mouse CD4 Antibody (GK1.5)

CatalogNo: YV0007

Key Features

Host Species

- Rat

Reactivity

- Mouse

Applications

- In vivo

Isotype

- IgG2b

Storage

Storage*

Use a manual defrost freezer and avoid repeated freeze thaw cycles. Store at 2 to 8°C for frequent use. Store at -20 to -80°C for twelve months from the date of receipt.

Formulation

0.01M PBS, pH 7.4.

Recommended Dilution Ratios

Basic Information

Purity

Endotoxin level <1 EU/mg. Purity>95% as determined by SDS-PAGE.

Clonality

Monoclonal

Immunogen Information

Target Information

Gene name

CD4

Protein Name

T-cell surface glycoprotein CD4 (T-cell surface antigen T4/Leu-3) (CD antigen CD4)

Organism

Human

Gene ID

[920](#);

UniProt ID

[P01730](#);

**Cellular
Localization**

Cell membrane ; Single-pass type I membrane protein . 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 specificity

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.

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. ; (Microbial infection) Primary receptor for human immunodeficiency virus-1 (HIV-1) . Down-regulated by HIV-1 Vpu . Acts as a receptor for Human Herpes virus 7/HHV-7 .

| Validation Data

| Contact information

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CD4 Antibody
(GK1.5)**

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