ARG43715
anti-CD4 antibody

Package: 50 µg
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes CD4
Tested Reactivity	Ms
Predict Reactivity	Rat
Tested Application	FACS, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	CD4
Species	Rat
Immunogen	Recombinant protein corresponding to K28-I457 of Rat CD4.
Conjugation	Un-conjugated
Alternate Names	CD4mut; CD antigen CD4; T-cell surface glycoprotein CD4; T-cell surface antigen T4/Leu-3; p55; W3/25

Application Instructions

Application table

Application	Dilution
FACS	1:150 - 1:500
IHC-P	1:200 - 1:1000
WB	1:500 - 1:2000

Application Note	IHC-P: Antigen Retrieval: By heat mediation. * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Positive Control	mouse PBMC, Raw264.7, ANA-1, mouse thymus tissue
Observed Size	54 kDa

Properties

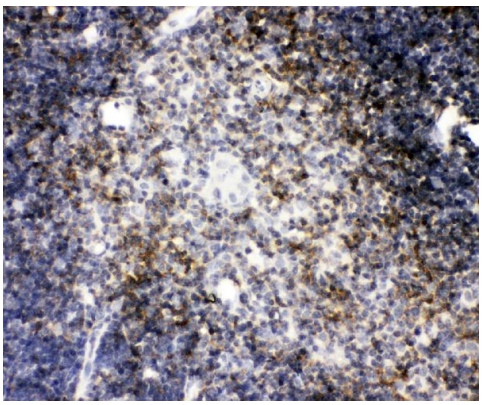
Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	0.2% Na2HPO4, 0.9% NaCl, 0.01% Sodium azide and 4% Trehalose.
Preservative	0.01% Sodium azide
Stabilizer	4% Trehalose
Concentration	0.5 mg/ml

Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

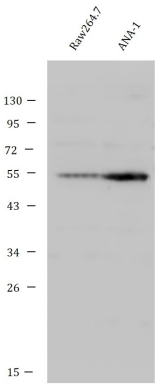
Gene Symbol	Cd4
Gene Full Name	Cd4 molecule
Background	This gene encodes a membrane glycoprotein of T lymphocytes that interacts with major histocompatibility complex class II antigenes and is also a receptor for the human immunodeficiency virus. This gene is expressed not only in T lymphocytes, but 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]
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) (PubMed:2214026, PubMed:16331979, PubMed:9641677, PubMed:12089508). Down-regulated by HIV-1 Vpu (PubMed:17346169). Acts as a receptor for Human Herpes virus 7/HHV-7 (PubMed:7909607). [UniProt]
Calculated Mw	51 kDa
PTM	Palmitoylation and association with LCK contribute to the enrichment of CD4 in lipid rafts. [UniProt]
Cellular Localization	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. [UniProt]

Images



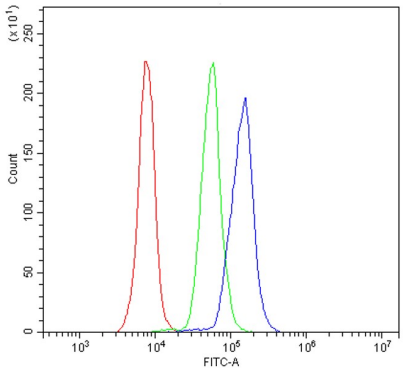
ARG43715 anti-CD4 antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Mouse thymus tissue. Antigen Retrieval: Heat mediation was performed in EDTA buffer (pH 8.0). The tissue section was blocked with 10% goat serum. The tissue section was then stained with ARG43715 anti-CD4 antibody at 1 µg/ml dilution, and incubated overnight at 4°C.



ARG43715 anti-CD4 antibody WB image

Western blot: 50 µg of samples under reducing conditions. Mouse Raw264.7 and ANA-1 whole cell lysates stained with ARG43715 anti-CD4 antibody at 0.5 µg/ml dilution, and incubated overnight at 4°C.



ARG43715 anti-CD4 antibody FACS image

Flow Cytometry: Mouse PBMC cells were blocked with 10% normal goat serum and then stained with ARG43715 anti-CD4 antibody (blue) at 1 µg/10^6 cells for 30 min at 20°C, followed by incubation with DyLight®488 labelled secondary antibody. Isotype control antibody (green) was rabbit IgG (1 µg/10^6 cells) used under the same conditions. Unlabelled sample (red) was also used as a control.