ARG11099
anti-CD4 antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes CD4
Tested Reactivity	Zfsh
Tested Application	ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	CD4
Species	Zebrafish
Immunogen	Synthetic peptides corresponding to aa. 31-44 and 151-164 of Zebrafish CD4.
Conjugation	Un-conjugated
Alternate Names	CD4mut; CD antigen CD4; T-cell surface glycoprotein CD4; T-cell surface antigen T4/Leu-3

Application Instructions

Application table

Application	Dilution
ICC/IF	Assay-dependent
IHC-P	Assay-dependent
WB	Assay-dependent

Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Positive Control	WB: Zebrafish blood cell and kidney. IHC: M. marinum infected zebrafish.
Observed Size	~ 53 kDa

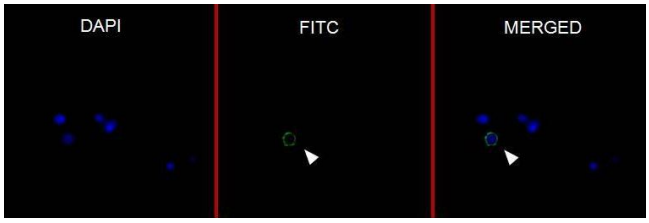
Properties

Form	Liquid
Purification	Unpurified.
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. 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

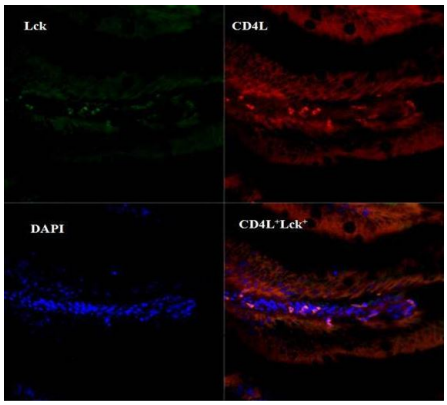
Gene Symbol	CD4
Gene Full Name	CD4 molecule
Background	This gene encodes a membrane glycoprotein of T lymphocytes that interacts with major histocompatibility complex class II antigenes and is also a receptor for the human immunodeficiency virus. This gene is expressed not only in T lymphocytes, but 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	53 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



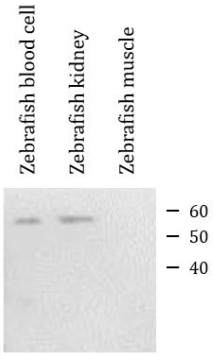
ARG11099 anti-CD4 antibody ICC/IF image

Immunofluorescence: Zebrafish leukocytes stained with ARG11099 anti-CD4 antibody.



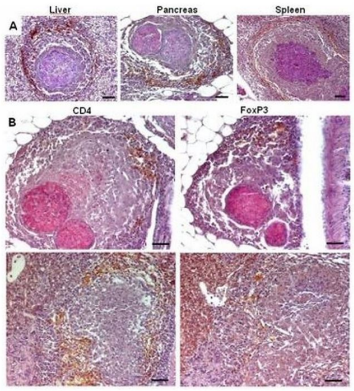
ARG11099 anti-CD4 antibody IHC image

Immunohistochemistry: Zebrafish peripheral lymphocytes in gut. Samples were stained with ARG11099 anti-CD4 antibody.



ARG11099 anti-CD4 antibody WB image

Western blot: Zebrafish blood cell, Zebrafish kidney and Zebrafish muscle (negative control) lysates stained with ARG11099 anti-CD4 antibody.



ARG11099 anti-CD4 antibody IHC-P image

Immunohistochemistry: (A) CD4+ cell surround granulomas in the liver, spleen and pancreas of zebrafish infected for 28 days. (B) ARG11099 anti-CD4 antibody and anti-FoxP3 antibody stain the same areas of both necrotic and solid granulomas in zebrafish infected for 28 days with ESX-5 deficient M. marinum. Scale bars are 50 µm.