

CD4 FITC Monoclonal Antibody (Clone RPA-T4)
Mouse Monoclonal Antibody
Catalog # ABV11465**Specification**

CD4 FITC Monoclonal Antibody (Clone RPA-T4) - Product Information

Application	FC
Primary Accession	P01730
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1, Kappa

CD4 FITC Monoclonal Antibody (Clone RPA-T4) - Additional Information**Gene ID 920**

Positive Control
Application & Usage

FACS: Human PMBCs
Flow (Cell Surface): 5 µl/1x10⁶ cells,
Volume per test: 5 µl (1 µg).

Other Names
CD4

Target/Specificity
CD4

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
Phosphate-buffered aqueous solution pH 7.2, ≤0.09% Sodium azide, may contain carrier protein/stabilizer.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
4°C

Background Descriptions

Precautions
CD4 FITC Monoclonal Antibody (Clone RPA-T4) is for research use only and not for use in diagnostic or therapeutic procedures.

CD4 FITC Monoclonal Antibody (Clone RPA-T4) - 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; 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

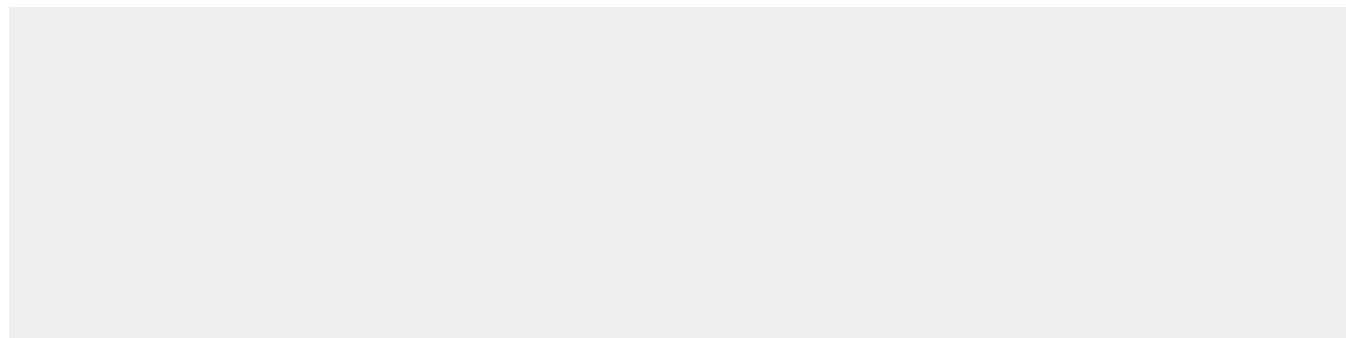
Highly expressed in T-helper cells. The presence of CD4 is a hallmark of T-helper cells which are specialized in the activation and growth of cytotoxic T-cells, regulation of B cells, or activation of phagocytes. CD4 is also present in other immune cells such as macrophages, dendritic cells or NK cells

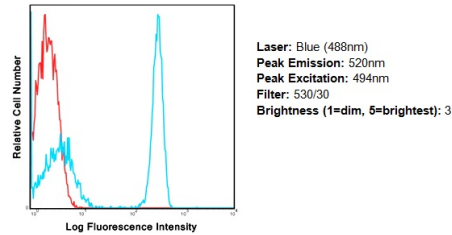
CD4 FITC Monoclonal Antibody (Clone RPA-T4) - Protocols

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](#)

CD4 FITC Monoclonal Antibody (Clone RPA-T4) - Images





Human peripheral blood lymphocytes were stained with FITC RPA-T4 with relevant isotype control in Red.

Human peripheral blood lymphocytes were stained with FITC RPA-T4 with relevant isotype control in Red.

CD4 FITC Monoclonal Antibody (Clone RPA-T4) - Background

CD3 (T3), a complex T cell marker, is known to associate noncovalently with the α/β or γ/δ heterodimer of the T cell antigen receptor (TCR) to form the most complex transmembrane (TM) receptor structures. CD3 is specially engaged in antigen recognition and is known to play an important role in mediating signals that are critical for T cell development in the thymus, proliferation, and induction of T cell-mediated immune responses against infectious agents and also in the differentiation of T cells into effector and memory populations. CD3 usually expresses in the cytoplasm of prothymocytes, and on the surface of about 95% of thymocytes, but cytoplasmic CD3 is lost as the cells differentiate into medullary thymocytes. Apart from its role as an important marker in the classification of malignant lymphomas and lymphoid leukemia, CD3 can also be useful for the identification of T cells in celiac disease, lymphocytic colitis and colorectal carcinomas associated with loss of a mismatch repair protein. CD3 indirectly plays an important role in immunomodulation whereas the anti-CD3 antibody may be used in in vitro Treg assays to generate effector T cells. The CD3 complex contains γ , δ , and ϵ chains, and it is part of the TCR complex, expressed by all mature T lymphocytes and by the thymocyte lineage. The OKT3 monoclonal antibody specifically reacts with the ϵ chain of the CD3/T lymphocyte antigen receptor complex. CD3 enhances the antigen recognition by signal transduction. The OKT3 antibody is an immunosuppressive, which has proven to be an effective therapeutic agent in liver, heart, and renal allograft rejection.