FITC anti-human CD4 Antibody

Catalog# / Size
- 300505 / 25 tests
- 300506 / 100 tests
- 300538 / 500 tests

Clone
RPA-T4

Regulatory Status
RUO

Workshop
IV T114

Other Names
T4

Isotype
Mouse IgG1, κ

Description
CD4, also known as T4, is a 55 kD single-chain type I transmembrane glycoprotein expressed on most thymocytes, a subset of T cells, and monocytes/macrophages. CD4, a member of the Ig superfamily, recognizes antigens associated with MHC class II molecules, and participates in cell-cell interactions, thymic differentiation, and signal transduction. CD4 acts as a primary receptor for HIV, binding to HIV gp120. CD4 has also been shown to interact with IL-16.

Product Details

Verified Reactivity
Human

Reported Reactivity
Chimpanzee

Antibody Type
Monoclonal

Host Species
Mouse

Formulation
Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)

Preparation
The antibody was purified by affinity chromatography, and conjugated with FITC under optimal conditions.

Concentration
Lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our Certificate of Analysis online tool.)

Storage & Handling
The CD4 antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.

Application
FC - Quality tested
SB - Reported in the literature, not verified in house

Recommended Usage
Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood.

Excitation Laser
Blue Laser (488 nm)

Application Notes
The RPA-T4 antibody binds to the D1 domain of CD4 (CDR1 and CDR3 epitopes) and can block HIV gp120 binding and inhibit syncytia formation. Additional reported applications (for the relevant formats) include: immunohistochemistry of acetone-fixed frozen sections, blocking of T cell activation, and spatial biology (IBEX). This clone was tested in-house and does not work on formalin fixed paraffin-embedded (FFPE) tissue. The Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 300569-300574).

Additional Product Notes
Iterative Bleaching Extended multi-pleXity (IBEX) is a fluorescent imaging technique capable of highly-multiplexed spatial analysis. The method relies on cyclical bleaching of panels of fluorescent antibodies in order to image and analyze many markers over multiple cycles of staining, imaging, and bleaching. It is a community-developed open-access method developed by the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).

Application References

Version: 3  Revision Date: 04/25/2022

Product Citations

RRID
AB_314073 (BioLegend Cat. No. 300505)
AB_314074 (BioLegend Cat. No. 300506)
AB_2562052 (BioLegend Cat. No. 300538)

Antigen Details
Structure
Ig superfamily, type I transmembrane glycoprotein, 55 kD

Distribution
T cell subset, majority of thymocytes, monocytes/macrophages

Function
MHC class II co-receptor, lymphocyte adhesion, thymic differentiation, HIV receptor

Ligand/Receptor
MHC class II molecules, HIV gp120, IL-16

Cell Type
Dendritic cells, Macrophages, Monocytes, T cells, Thymocytes, Tregs

Biology Area
Immunology

Molecular Family
CD Molecules

Antigen References

Gene ID
920

Related Protocols
Cell Surface Flow Cytometry Staining Protocol

Other Formats
Product Data

Human peripheral blood lymphocytes stained with RPA-T4 FITC

Confocal image of human lymph node sample acquired using the IEEX method of highly multiplexed antibody-based imaging: CD163 (red) in Cycle 3 and CD4 (blue) in Cycle 5. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).