Antibodies

Anti-Human CD4 Antibody, Clone RPA-T4, PE

Mouse monoclonal IgG1 antibody against human, chimpanzee CD4, PE-conjugated

Catalog #100-0304	25 tests	5 µL/test
Catalog #100-0305	100 tests	5 µL/test
Catalog #100-0306	500 tests	5 µL/test

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Product Description

The RPA-T4 antibody reacts with CD4, an ~59 kDa single-chain type 1 transmembrane glycoprotein and member of the immunoglobulin (Ig) superfamily; CD4 contains four extracellular Ig-like domains (D1 - D4). The epitope for RPA-T4 has been localized to the D1 domain of the protein, which has a structure resembling an Ig variable domain. CD4 is expressed at relatively high levels by most thymocytes and a subpopulation of T cells (T helper cells), and at lower levels by peripheral blood monocytes and macrophages. CD4 binds to a nonpolymorphic region of MHC II and acts as a co-receptor to the T cell receptor (TCR) in MHC II-restricted antigen recognition by enhancing the affinity of the association between the TCR and MHC II-antigen complex. CD4 also functions to amplify signals from the TCR to the cytoplasm through the interaction of its intracellular domain with cytoplasmic tyrosine kinases, such as Lck. Moreover, CD4 is a receptor for the human immunodeficiency virus (HIV). Binding of the RPA-T4 antibody blocks HIV binding and mixed lymphocyte reaction (MLR), and inhibits the activation of CD4+ T cells in vitro by interfering with the association of CD4 and HLA-DR. It also partially blocks the binding of antibody clone SK3. The epitope of the RPA-T4 antibody is reportedly sensitive to formaldehyde fixation.

Target Antigen Name:	CD4
Alternative Names:	Leu-3, L3T4, T4
Gene ID:	920
Species Reactivity:	Human, Chimpanzee
Host Species:	Mouse (BALB/c)
Clonality:	Monoclonal
Clone:	RPA-T4
Isotype:	IgG1, kappa
Immunogen:	Phytohemagglutinin (PHA)-stimulated human peripheral blood mononuclear cells (PBMCs)
Conjugate:	PE (Phycoerythrin)

Applications

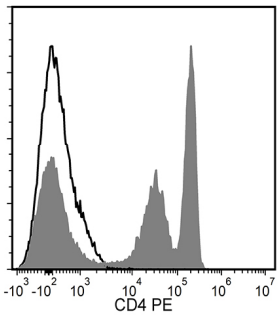
Verified:	FC
Reported:	FC
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ kits, including EasySep™ Human CD4+CD127lowCD25+ Regulatory T Cell Isolation Kit (Catalog #18063), EasySep™ Human ILC2 Isolation Kit (Catalog #17782), and EasySep™ Human Central and Effector Memory CD4+ T Cell Isolation Kit (Catalog #17865).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered saline, pH 7.2, containing 0.09% sodium azide, 0.1% gelatin, and < 0.2% (w/v) bovine serum albumin
Purification:	The antibody was purified by affinity chromatography and conjugated with PE under optimal conditions. The solution is free of unconjugated PE.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. Protect product from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com.
Directions for Use:	For flow cytometry, the suggested use of this reagent is ≤ 5 µL per 1 x 10^6 cells in 100 µL. It is recommended that the antibody be titrated for optimal performance for each application.

Data



Flow cytometry analysis of human PBMCs labeled with Anti-Human CD4 Antibody, Clone RPA-T4, PE (filled histogram) or a mouse IgG1, kappa PE isotype control antibody (solid line histogram).

Related Products

For a complete list of antibodies, including other conjugates, sizes, and clones, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

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4. Abrahimi P et al. (2015) Efficient gene disruption in cultured primary human endothelial cells by CRISPR/Cas9. Circ Res 117(2): 121–8. (FC)
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7. Huang Y et al. (2015) CD4+ and CD8+ T cells have opposing roles in breast cancer progression and outcome. Oncotarget 6(19): 17462–78. (IHC)
8. Fukuda S et al. (2014) Cannabinoid receptor 2 as a potential therapeutic target in rheumatoid arthritis. BMC Musculoskelet Disord 15(1): 275. (IF, IHC)