Datasheet for ABIN94090

anti-CD4 antibody (N-Term) (FITC)

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Overview

Quantity:	100 tests
Target:	CD4
Binding Specificity:	N-Term
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This CD4 antibody is conjugated to FITC
Application:	Flow Cytometry (FACS)

Product Details

Immunogen:	2 N-terminal domains of human CD4 fused to human IgG1 Fc
Clone:	MEM-241
Isotype:	IgG1
Specificity:	The antibody MEM-241 recognizes an extracellular epitope of CD4 antigen, a 55 kDa transmebrane glycoprotein expressed on a subset of T lymphocytes (",helper", T-cells) and also on monocytes, tissue macrophages and granulocytes.
Cross-Reactivity (Details):	Human, Other not tested
Purification:	Purified antibody is conjugated with fluorescein isothiocyanate (FITC) under optimum conditions and unconjugated antibody and free fluorochrome are removed by size-exclusion chromatography.

Target Details

Target:	CD4
Alternative Name:	CD4 (CD4 Products)
Background:	CD4 Molecule,CD4 (T4) is a single chain transmembrane glycoprotein and belongs to immunoglobulin supergene family. In extracellular region there are 4 immunoglobulin-like domains (1 Ig-like V-type and 3 Ig-like C2-type). Transmembrane region forms 25 aa, cytoplasmic tail consists of 38 aa. Domains 1,2 and 4 are stabilized by disulfide bonds. The intracellular domain of CD4 is associated with p56Lck, a Src-like protein tyrosine kinase. It was described that CD4 segregates into specific detergent-resistant T-cell membrane microdomains. Extracellular ligands: MHC class II molecules (binds to CDR2-like region in CD4 domain 1), HIV envelope protein gp120 (binds to CDR2-like region in CD4 domain 1), IL-16 (binds to CD4 domain 3), human seminal plasma glycoprotein gp17 (binds to CD4 domain 1), L-selectin. Intracellular ligands: p56LckCD4 is a co-receptor involved in immune response (co-receptor activity in binding to MHC class II molecules) and HIV infection (human immunodeficiency virus, CD4 is primary receptor for HIV-1 surface glycoprotein gp120). CD4 regulates T-cell activation, T/B-cell adhesion, T-cell diferentiation, T-cell selection and signal transduction. Defects in antigen presentation (MHC class II) cause dysfunction of CD4+ T-cells and their almost complete absence in patients blood, tissue and organs (SCID immunodeficiency).,T4/Leu-3, L3T4
Gene ID:	920
UniProt:	P01730
Pathways:	TCR Signaling, Maintenance of Protein Location, CXCR4-mediated Signaling Events

Application Details

Application Notes:	Flow cytometry: The reagent is designed for analysis of human blood cells using 20 µL reagent / 100 µL of whole blood or 10^6 cells in a suspension. The content of a vial (2 ml) is sufficient for 100 tests.
Comment:	The purified antibody is conjugated with Fluorescein isothiocyanate (FITC) under optimum conditions. The reagent is free of unconjugated FITC and adjusted for direct use. No reconstitution is necessary.
Restrictions:	For Research Use only

Handling

Reconstitution:	No reconstitution is necessary.
Buffer:	Stabilizing phosphate buffered saline (PBS), pH 7.4, 15 mM sodium azide
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Handling Advice:	**Do not freeze.** Avoid prolonged exposure to light.
Storage:	4 °C
Storage Comment:	Store at 2-8°C. Protect from prolonged exposure to light. Do not freeze.

Publications

Product cited in:

Hovden, Karlsen, Jonsson, Aarstad, Appel: "Maturation of monocyte derived dendritic cells with OK432 boosts IL-12p70 secretion and conveys strong T-cell responses." in: **BMC immunology**, Vol. 12, pp. 2, (2011) (PubMed).

Anderson, Sayers, Haniffa, Swan, Diboll, Wang, Isaacs, Hilkens: "Differential regulation of naïve and memory CD4+ T cells by alternatively activated dendritic cells." in: **Journal of leukocyte biology**, Vol. 84, Issue 1, pp. 124-33, (2008) (PubMed).

Karlsson, Cowley, Martinez, Shaw, Minger, James: "Homogeneous monocytes and macrophages from human embryonic stem cells following coculture-free differentiation in M-CSF and IL-3." in: **Experimental hematology**, Vol. 36, Issue 9, pp. 1167-75, (2008) (PubMed).

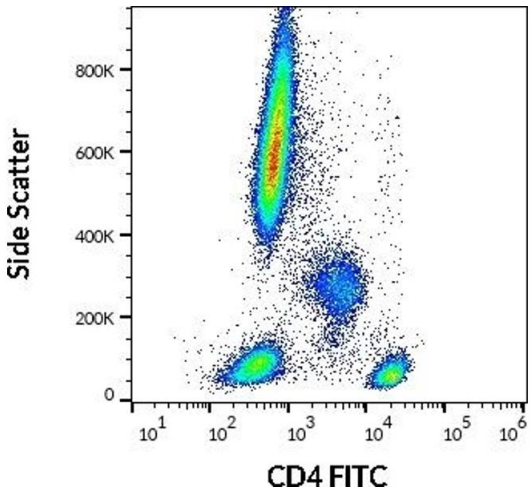
Manasa, Musabaike, Masimirembwa, Burke, Luthy, Mudzori: "Evaluation of the Partec flow cytometer against the BD FACSCalibur system for monitoring immune responses of human immunodeficiency virus-infected patients in Zimbabwe." in: **Clinical and vaccine immunology : CVI**, Vol. 14, Issue 3, pp. 293-8, (2007) (PubMed).

Zola, Swart, Banham, Barry, Beare, Bensussan, Boumsell, D Buckley, Bühring, Clark, Engel, Fox, Jin, Macardle, Malavasi, Mason, Stockinger, Yang: "CD molecules 2006--human cell differentiation molecules." in: **Journal of immunological methods**, Vol. 319, Issue 1-2, pp. 1-5, (2007) (PubMed).

Publications

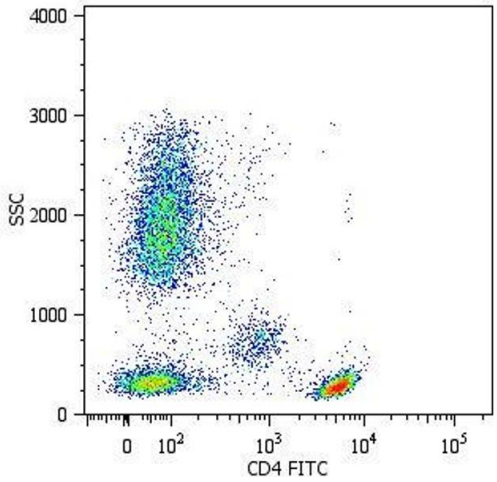
There are more publications referencing this product on: Product page

Images



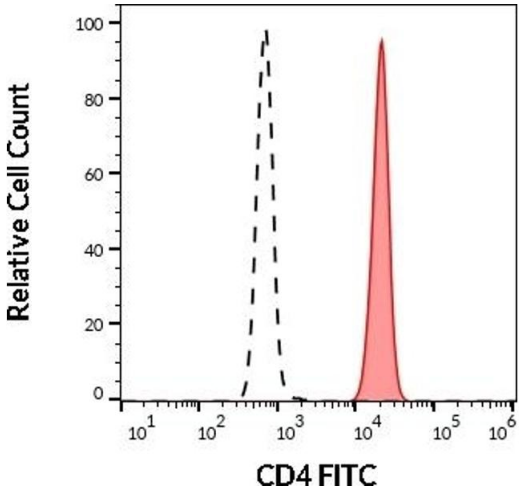
Flow Cytometry

Image 1. Flow cytometry surface staining pattern of human peripheral whole blood stained using anti-human CD4 (MEM-241) FITC (20 µL reagent / 100 µL of peripheral whole blood).



Flow Cytometry

Image 2. Surface staining of human peripheral blood cells with anti-human CD4 (MEM-241) FITC.



Flow Cytometry

Image 3. Separation of human CD4 positive lymphocytes (red-filled) from human CD4 negative neutrophil granulocytes (black-dashed) in flow cytometry analysis (surface staining) of human peripheral whole blood stained using anti-human CD4 (MEM-241) FITC (20 µL reagent / 100 µL of peripheral whole blood).

