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Datasheet for ABIN94091

## anti-CD4 antibody (N-Term) (PE)

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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 PE
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 transmembrane 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 R-phycoerythrin (PE) under optimum conditions. Unconjugated antibody and free fluorochrome are removed by size-exclusion chromatography.

## Target Details

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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: p56Lck/CD4 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 differentiation, 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

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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<sup>6</sup> cells in a suspension. The content of a vial (2 ml) is sufficient for 100 tests.

Comment: The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.

Restrictions: For Research Use only

## Handling

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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:	<b>Do not freeze.</b> Avoid prolonged exposure to light.
Storage:	4 °C
Storage Comment:	Store at 2-8°C. Protect from prolonged exposure to light. Do not freeze.

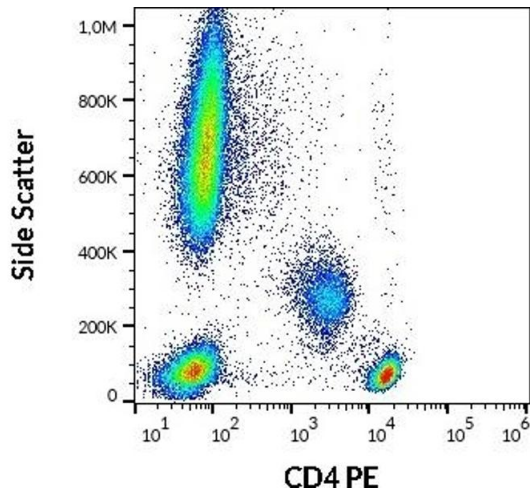
## Publications

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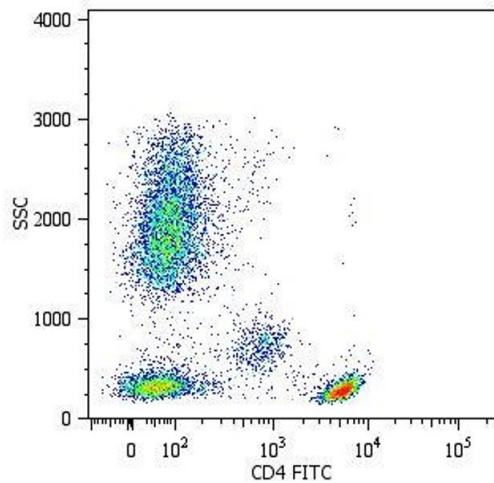
Product cited in:	<p>Hovden, Karlsen, Jonsson, Aarstad, Appel: "Maturation of monocyte derived dendritic cells with OK432 boosts IL-12p70 secretion and conveys strong T-cell responses." in: <b>BMC immunology</b>, Vol. 12, pp. 2, (2011) (<a href="#">PubMed</a>).</p> <p>Anderson, Sayers, Haniffa, Swan, Diboll, Wang, Isaacs, Hilkens: "Differential regulation of naïve and memory CD4+ T cells by alternatively activated dendritic cells." in: <b>Journal of leukocyte biology</b>, Vol. 84, Issue 1, pp. 124-33, (2008) (<a href="#">PubMed</a>).</p> <p>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: <b>Experimental hematology</b>, Vol. 36, Issue 9, pp. 1167-75, (2008) (<a href="#">PubMed</a>).</p> <p>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: <b>Clinical and vaccine immunology : CVI</b>, Vol. 14, Issue 3, pp. 293-8, (2007) (<a href="#">PubMed</a>).</p> <p>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: <b>Journal of immunological methods</b>, Vol. 319, Issue 1-2, pp. 1-5, (2007) (<a href="#">PubMed</a>).</p>
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There are more publications referencing this product on: [Product page](#)

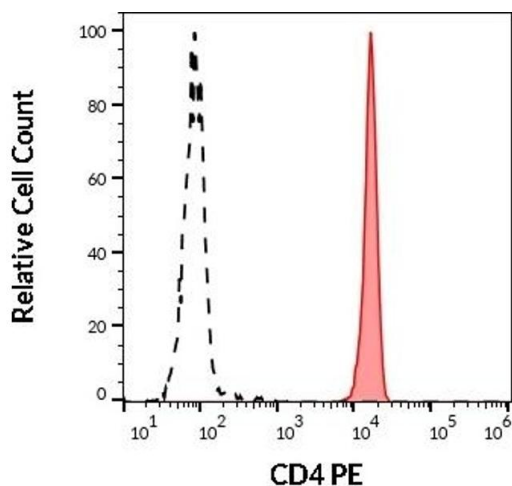
## Images

**Flow Cytometry**

**Image 1.** Flow cytometry surface staining pattern of human peripheral whole blood stained using anti-human CD4 (MEM-241) PE antibody (20  $\mu$ L reagent / 100  $\mu$ L 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 neutrophil granulocytes (black-dashed) in flow cytometry analysis (surface staining) of human peripheral whole blood stained using anti-human CD4 (MEM-241) PE antibody (20  $\mu$ L reagent / 100  $\mu$ L of peripheral whole blood).