Datasheet for ABIN125679

anti-CD4 antibody

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Overview

Quantity:	100 µg
Target:	CD4
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This CD4 antibody is un-conjugated
Application:	Flow Cytometry (FACS), Immunoprecipitation (IP), Functional Studies (Func)

Product Details

Purpose:	Anti-Hu CD4 Purified Azide Free
Immunogen:	Human thymocytes and T lymphocytes.
Clone:	MEM-115
Isotype:	IgG2a
Specificity:	The antibody MEM-115 recognizes an extracellular epitope in the D1 domain 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. It is negative in Western blotting even with non-reduced samples of cell lysates.
Cross-Reactivity (Details):	Human
Purification:	Purified by protein-A affinity chromatography.
Purity:	> 95 % (by SDS-PAGE)

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:	Functional application: The antibody MEM-115 blocks binding of HIV gp120 to CD4 Molecule and it also strongly inhibits CD4-MHC Class II interactions. Immunoprecipitation: Excellent. Flow cytometry: Recommended dilution: 3 µg/mL. Although it has not been tested rigorously, following data suggest that the antibody MEM-115 is a low-affinity antibody: its binding to T cells increases at elevated temperature, monovalent Fab fragments essentially do not bind to T cells.
Restrictions:	For Research Use only

Handling

Concentration:	1 mg/mL
Buffer:	Phosphate buffered saline (PBS), pH 7.4
Preservative:	Azide free
Handling Advice:	**Do not freeze.**
Storage:	4 °C
Storage Comment:	Store at 2-8°C. Do not freeze.

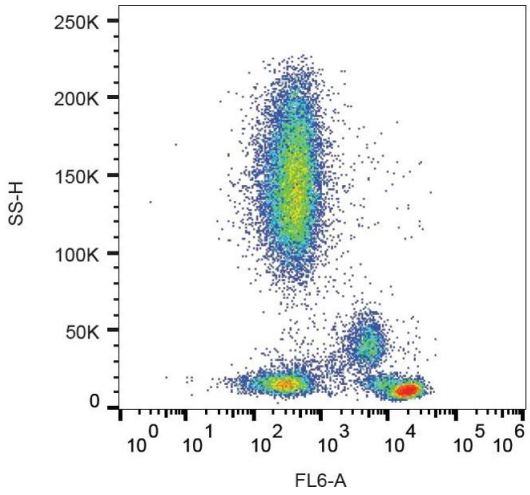
Publications

Product cited in:

Bosze, Caccamo, Majer, Mezo, Dieli, Hudecz: "In vitro T-cell immunogenicity of oligopeptides derived from the region 92-110 of the 16-kDa protein of Mycobacterium tuberculosis." in: **Biopolymers**, Vol. 76, Issue 6, pp. 467-76, (2004) (PubMed).

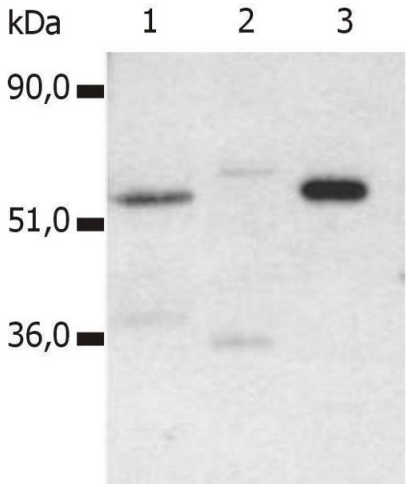
Brdicková, Brdicka, Angelisová, Horváth, Spicka, Hilgert, Paces, Simeoni, Kliche, Merten, Schraven, Horejsí: "LIME: a new membrane Raft-associated adaptor protein involved in CD4 and CD8 coreceptor signaling." in: **The Journal of experimental medicine**, Vol. 198, Issue 10, pp. 1453-62, (2003) (PubMed).

Singer, Scott, Kawka, Chin, Daugherty, DeMartino, DiSalvo, Gould, Lineberger, Malkowitz, Miller, Mitnaul, Siciliano, Staruch, Williams, Zweerink, Springer: "CCR5, CXCR4, and CD4 are clustered and closely apposed on microvilli of human macrophages and T cells." in: **Journal of virology**, Vol. 75, Issue 8, pp. 3779-90, (2001) (PubMed).



Flow Cytometry

Image 1. Flow cytometry analysis (surface staining) of human peripheral blood with anti-human CD4 (MEM-115) purified antibody (azide free), GAM-APC.



Immunoprecipitation

Image 2. Immunoprecipitation of human CD4 from the lysate T cells isolated from fresh buffy coats. Western blot was immunostained by anti-human CD4 (MEM-241). Lane 1: original lysate of T cells Lane 2: immunoprecipitate by negative control antibody Lane 3: immunoprecipitate by anti-human CD4 (MEM-115)