

## anti-human CD4 (no azide)

monoclonal antibody MEM-115 to human CD4

Cat-No: **21279040**

100 µg in 100 µl

**Clone:** MEM-115

**Specificity:** The antibody MEM-115 recognizes an epitope in the D1 domain 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. It is negative in Western blotting even with non-reduced samples of cell lysates.

**HLDA V; WS Code T T-CD04.09**

**Immunogen:** Human thymocytes and T lymphocytes.

**Isotype subclass:** Mouse IgG2a

**Form:** Purified from ascites by protein-A affinity chromatography.

**Purity:** > 95% (by SDS-PAGE)

**Physical state:** Liquid

**Buffer/Additives/Preservative:** PBS, sterile, pH 7.4

**Expiration date:** The reagent is stable until the expiry date stated on the vial label.

**Storage conditions:**

Aliquot and store at -20°C. Avoid freeze/thaw cycles. Should be handled under aseptic conditions.

**Application:**

Immunoprecipitation: excellent

Functional Application: The antibody MEM-115 blocks binding of HIV gp120 to CD4 molecule and it also strongly inhibits CD4-MHC Class II interactions.

**Background: CD4** 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).

**References:** \*Millan J, Cerny J, Horejsi V, Alonso MA: 1999 Jan;53(1):33-40.

\*Foti M, Phelouzat MA, Holm A, Rasmusson BJ, Carpentier JL: p56Lck anchors CD4 to distinct microdomains on microvilli. Proc Natl Acad Sci U S A. 2002 Feb 19;99(4):2008-13.

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