

Monoclonal Antibody to CD4 (non-polymorphic epitope) - FITC

Alternate names:	T-cell surface antigen T4/Leu-3, T-cell surface glycoprotein CD4
Catalog No.:	SM019FT
Quantity:	25 µg
Concentration:	0.1 mg/ml
Background:	<p>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.</p> <p>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</p> <p>Intracellular ligands: p56Lck</p> <p>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).</p>
Uniprot ID:	P06332
NCBI:	NP_038516.1
GeneID:	12504
Host / Isotype:	Rat / IgG2a
Clone:	YTS177.9
Immunogen:	<p>Mouse spleen cells.</p> <p>Spleen cells from immunised DA rats were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.</p>
Format:	<p>State: Liquid purified IgG fraction.</p> <p>Purification: Affinity Chromatography on Protein G.</p> <p>Buffer System: PBS, pH 7.2 containing 0.09% Sodium Azide as preservative and 1% BSA as stabilizer.</p> <p>Label: FITC – Fluorescein Isothiocyanate Isomer 1</p>

- Applications:** Flow Cytometry: Use 10 µl of Neat-1/10 diluted antibody to label 10e6 cells or 100µl whole blood. The Fc region of monoclonal antibodies may bind non-specifically to cells expressing low affinity Fc receptors.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
- Specificity:** This antibody reacts with the CD4 antigen; non polymorphic epitope.
The antibody is reported to block MHC class II dependant T-cell responses *in vitro* and *in vivo* and induces tolerance.
Species: Mouse.
Other species not tested.
- Storage:** Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
This product is photosensitive and should be protected from light.
Shelf life: one year from despatch.
- General Readings:** 1. Qin, S. et al. (1990) Induction of tolerance in peripheral T-cells with monoclonal antibodies. Eur. J. Immunol. 20: 2737-2745.
2. Cobbold, S.P. et al. (1990) The induction of skin graft tolerance in MHC-mismatched or primed recipients: primed T-cells can be tolerised in the periphery with CD4 and CD8 antibodies. Eur. J. Immunol. 20: 2747-2755.
3. Wise MP, Bemelman F, Cobbold SP, Waldmann H. Linked suppression of skin graft rejection can operate through indirect recognition. J Immunol. 1998 Dec 1;161(11):5813-6. PubMed PMID: 9834057.
- Pictures:** Staining of mouse peripheral blood lymphocytes with Rat Anti Mouse CD4 antibody -FITC.

