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Product datasheet for SM019LE

Cd4 (non-polymorphic epitope) Rat Monoclonal Antibody [Clone ID: YTS177.9]

Product data:

Product Type:	Primary Antibodies
Clone Name:	YTS177.9
Applications:	FC
Recommended Dilution:	Flow Cytometry: Use 10 µl of 1/50-1/200 diluted antibody to label 10e6 cells in 100 µl.
Reactivity:	Mouse
Host:	Rat
Isotype:	IgG2a
Clonality:	Monoclonal
Immunogen:	Mouse spleen cells. Spleen cells from immunised DA rats were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.
Specificity:	SM019LE recognises Murine CD4, a 55kD cell surface antigen expressed by a subset of T lymphocytes. This Low Endotoxin CD4 antibody is reported to block MHC class II dependant T-cell responses *in vitro* and *in vivo* and induces tolerance.
Formulation:	PBS, pH 7.4 without preservatives. State: Low Endotoxin State: Liquid purified IgG fraction.
Concentration:	lot specific
Purification:	Protein G Affinity chromatography from tissue culture supernatant
Conjugation:	Unconjugated
Storage:	Store the antibody at -20°C. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Gene Name:	CD4 antigen
Database Link:	Entrez Gene 12504 Mouse P06332

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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 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).

Synonyms:

T-cell surface antigen T4/Leu-3