

## Product datasheet for **SM019R**

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

#### **Product data:**

<b>Product Type:</b>	Primary Antibodies
<b>Clone Name:</b>	YTS177.9
<b>Applications:</b>	FC
<b>Recommended Dilution:</b>	Flow Cytometry: Use 10 µl of neat antibody to label 10e6 cells. The Fc region of monoclonal antibodies may bind non-specifically to cells expressing low affinity Fc receptors.
<b>Reactivity:</b>	Mouse
<b>Host:</b>	Rat
<b>Isotype:</b>	IgG2a
<b>Clonality:</b>	Monoclonal
<b>Immunogen:</b>	Mouse spleen cells. Spleen cells from immunised DA rats were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.
<b>Specificity:</b>	This antibody reacts with the CD4 antigen; non polymorphic epitope. The antibody is reported to block MHC class II dependant T-cell response <i>in vitro</i> and <i>in vivo</i> and induces tolerance. We recommend SM019A for such studies.
<b>Formulation:</b>	PBS, pH 7.2 containing 0.09% Sodium Azide as preservative and 1% BSA as stabilizer. Label: PE State: Lyophilized purified IgG fraction. Label: R. Phycoerythrin (RPE)
<b>Reconstitution Method:</b>	Restore with 1 ml distilled water.
<b>Concentration:</b>	lot specific
<b>Purification:</b>	Affinity chromatography on Protein G
<b>Conjugation:</b>	PE
<b>Storage:</b>	Prior to and following reconstitution store the antibody undiluted at 2-8°C. <b>DO NOT FREEZE!</b> This product is photosensitive and should be protected from light.
<b>Stability:</b>	Shelf life: one year from despatch.
<b>Gene Name:</b>	CD4 antigen



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**Database Link:** [Entrez Gene 12504 Mouse P06332](#)

**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).

**Synonyms:** T-cell surface antigen T4/Leu-3