



Antibodies

PB-580-C025

## Monoclonal Antibody to CD4 (mouse) Pacific Blue™ conjugated (0.025 mg)

<b>Clone:</b>	GK1.5
<b>Isotype:</b>	Rat IgG2b
<b>Specificity:</b>	The rat monoclonal antibody GK1.5 reacts with an extracellular epitope of mouse CD4 transmembrane glycoprotein (55 kDa).
<b>Immunogen:</b>	Mouse CTL clone V4 cells
<b>Species Reactivity:</b>	Mouse
<b>Preparation:</b>	The purified antibody is conjugated with Pacific Blue™ under optimum conditions. The conjugate is purified by size-exclusion chromatography.
<b>Storage Buffer:</b>	The reagent is provided in phosphate buffered saline (PBS) containing 15 mM sodium azide and 0.2% (w/v) high-grade protease free Bovine Serum Albumin (BSA) as a stabilizing agent.
<b>Storage / Stability:</b>	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label. Short-term exposure to room temperature should not affect the quality of the reagent. However, if reagent is stored under any conditions other than those specified, the conditions must be verified by the user.
<b>Usage:</b>	The reagent is designed for Flow Cytometry analysis. The suggested working concentration is 2 µg/ml.
<b>Expiration:</b>	See vial label
<b>Lot Number:</b>	See vial label
<b>Background:</b>	<b>CD4</b> is a single chain transmembrane glycoprotein of immunoglobulin supergene family. In its extracellular region there are 4 immunoglobulin-like domains (1 Ig-like V-type and 3 Ig-like C2-type). The intracellular region of CD4 associates with p56Lck, a Src-like protein tyrosine kinase. It was described that CD4 segregates into specific detergent-resistant T-cell membrane microdomains. CD4 binds to MHC class II molecules (by CDR2-like region in CD4 domain 1), HIV envelope protein gp120 (by CDR2-like region in CD4 domain 1) and other ligands, such as IL-16 (by to CD4 domain 3) or L-selectin. CD4 is a co-receptor involved in immune response (co-receptor activity in binding to MHC class II molecules) and HIV infection. 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).

**For laboratory research only, not for drug, diagnostic or other use.**

**Antibodies****References:**

- \*Dialynas DP, Wilde DB, Marrack P, Pierres A, Wall KA, Havran W, Otten G, Loken MR, Pierres M, Kappler J, et al.: Characterization of the murine antigenic determinant, designated L3T4a, recognized by monoclonal antibody GK1.5: expression of L3T4a by functional T cell clones appears to correlate primarily with class II MHC antigen-reactivity. *Immunol Rev.* 1983;74:29-56.
- \*Dialynas DP, Quan ZS, Wall KA, Pierres A, Quintáns J, Loken MR, Pierres M, Fitch FW: Characterization of the murine T cell surface molecule, designated L3T4, identified by monoclonal antibody GK1.5: similarity of L3T4 to the human Leu-3/T4 molecule. *J Immunol.* 1983 Nov;131(5):2445-51.
- \*Wilde DB, Marrack P, Kappler J, Dialynas DP, Fitch FW: Evidence implicating L3T4 in class II MHC antigen reactivity; monoclonal antibody GK1.5 (anti-L3T4a) blocks class II MHC antigen-specific proliferation, release of lymphokines, and binding by cloned murine helper T lymphocyte lines. *J Immunol.* 1983 Nov;131(5):2178-83.
- \*Wu L, Antica M, Johnson GR, Scollay R, Shortman K: Developmental potential of the earliest precursor cells from the adult mouse thymus. *J Exp Med.* 1991 Dec 1;174(6):1617-27.
- \*Godfrey DI, Kennedy J, Gately MK, Hakimi J, Hubbard BR, Zlotnik A: IL-12 influences intrathymic T cell development. *J Immunol.* 1994 Mar 15;152(6):2729-35.
- \*Gavett SH, Chen X, Finkelman F, Wills-Karp M: Depletion of murine CD4+ T lymphocytes prevents antigen-induced airway hyperreactivity and pulmonary eosinophilia. *Am J Respir Cell Mol Biol.* 1994 Jun;10(6):587-93.
- \*Zheng B, Han S, Kelsoe G: T helper cells in murine germinal centers are antigen-specific emigrants that downregulate Thy-1. *J Exp Med.* 1996 Sep 1;184(3):1083-91.
- \*Felix NJ, Donermeyer DL, Horvath S, Walters JJ, Gross ML, Suri A, Allen PM: Alloreactive T cells respond specifically to multiple distinct peptide-MHC complexes. *Nat Immunol.* 2007 Apr;8(4):388-97.
- \*Hu M, Watson D, Zhang GY, Graf N, Wang YM, Sartor M, Howden B, Fletcher J, Alexander SI: Long-term cardiac allograft survival across an MHC mismatch after "pruning" of alloreactive CD4 T cells. *J Immunol.* 2008 May 15;180(10):6593-603.
- \*Yi H, Zhen Y, Zeng C, Zhang L, Zhao Y: Depleting anti-CD4 monoclonal antibody (GK1.5) treatment: influence on regulatory CD4+CD25+Foxp3+ T cells in mice. *Transplantation.* 2008 Apr 27;85(8):1167-74.
- \*And many other.

**For laboratory research only, not for drug, diagnostic or other use.**