

**Spark NIR™ 685 anti-mouse CD4**

**Catalog # / Size:** 1102375 / 25 µg  
1102380 / 100 µg

**Clone:** GK1.5

**Isotype:** Rat IgG2b, κ

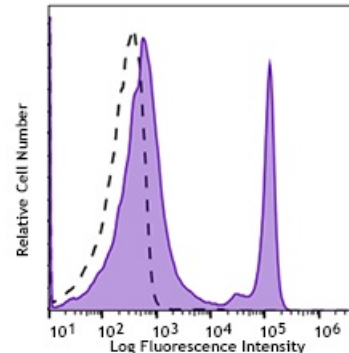
**Immunogen:** Mouse CTL clone V4

**Reactivity:** Mouse

**Preparation:** The antibody was purified by affinity chromatography and conjugated with Spark NIR™ 685 under optimal conditions.

**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide

**Concentration:** 0.5 mg/mL



C57BL/6 mouse splenocytes were stained with CD4 (clone GK1.5) Spark NIR™ 685 (filled histogram.) Open histogram represents unstained cells.

**Applications:**

**Applications:** Flow Cytometry

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is ≤ 0.5 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application.

Spark NIR™ 685 has a maximum excitation of 665 nm and a maximum emission of 685 nm.

**Application Notes:** Additional reported applications (for the relevant formats) include: blocking of CD4<sup>+</sup> T cell activation<sup>1,4,11</sup>, thymocyte costimulation<sup>3</sup>, *in vitro* and *in vivo* depletion<sup>2,5-8</sup>, blocking of egg-sperm cell adhesion<sup>1,4</sup>, immunohistochemical staining of acetone-fixed frozen sections<sup>9,10</sup>, and immunoprecipitation<sup>1,2</sup>. The GK1.5 antibody is able to block CD4 mediated cell adhesion and T cell activation. Binding of GK1.5 antibody to CD4 T cells can be blocked by RM4-5 antibody, but not RM4-4 antibody. For *in vivo* studies or highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 100442) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin < 0.01 EU/µg).

- Application References:**
1. Dialynas DP, *et al.* 1983. *J. Immunol.* 131:2445. (Block, IP)
  2. Dialynas DP, *et al.* 1983. *Immunol. Rev.* 74:29. (IP, Deplete)
  3. Wu L, *et al.* 1991. *J. Exp. Med.* 174:1617. (Costim)
  4. Godfrey DI, *et al.* 1994. *J. Immunol.* 152:4783. (Block)
  5. Gavett SH, *et al.* 1994. *Am. J. Respir. Cell. Mol. Biol.* 10:587. (Deplete)
  6. Schuyler M, *et al.* 1994. *Am. J. Respir. Crit. Care Med.* 149:1286. (Deplete)
  7. Ghobrial RR, *et al.* 1989. *Clin. Immunol. Immunopathol.* 52:486. (Deplete)
  8. Israelski DM, *et al.* 1989. *J. Immunol.* 142:954. (Deplete)
  9. Zheng B, *et al.* 1996. *J. Exp. Med.* 184:1083. (IHC)
  10. Frei K, *et al.* 1997. *J. Exp. Med.* 185:2177. (IHC)
  11. Felix NJ, *et al.* 2007. *Nat. Immunol.* 8:388. (Block)

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**Description:** CD4 is a 55 kD protein also known as L3T4 or T4. It is a member of the Ig superfamily, primarily expressed on most thymocytes, a subset of T cells, and weakly on macrophages and dendritic cells. It acts as a coreceptor with the TCR during T cell activation and thymic differentiation by binding MHC class II and associating with the protein tyrosin kinase, lck.

**Antigen**  
**References:**

1. Barclay A, *et al.* 1997. *The Leukocyte Antigen FactsBook* Academic Press.
2. Bierer BE, *et al.* 1989. *Annu. Rev. Immunol.* 7:579.
3. Janeway CA. 1992. *Annu. Rev. Immunol.* 10:645.