SONY

Product Data Sheet

Brilliant Violet 421™ anti-mouse CD4

Catalog # / Size: 1102190 / 500 µl
1102185 / 125 µl
1102215 / 50 µg

Clone: GK1.5

Isotype: Rat IgG2b, κ

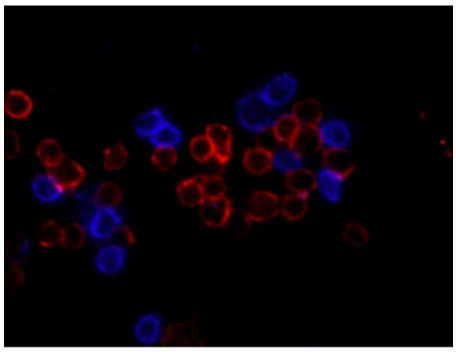
Immunogen: Mouse CTL clone V4

Reactivity: Mouse

Preparation: The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 421™ under optimal conditions.

Formulation: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).

Concentration: Lot-specific



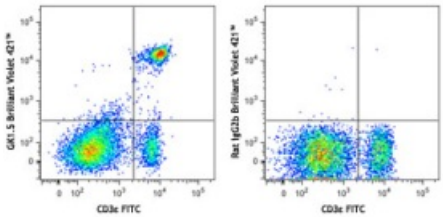
C57BL/6 mouse splenocytes were fixed with 2% paraformaldehyde (PFA), and then stained with 5 µg/ml CD4 (clone GK1.5) Brilliant Violet 421™ (blue) and 5 µg/ml CD19 (clone 6D5) Alexa Fluor® 647 (red) for 30 minutes at room temperature. The image was captured by 40X objective.

Applications:

Applications: Flow Cytometry, Immunocytochemistry

Recommended Usage: Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining using the µg size, the suggested use of this reagent is ≤0.125 µg per million cells in 100 µl volume. For flow cytometric staining using the µl size, the suggested use of this reagent is ≤5 µl per million cells or 5 µl per 100 µl of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.

Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd.



C57BL/6 mouse splenocytes were stained with CD3ε FITC and CD4 (clone GK1.5) Brilliant Violet 421™ (left) or rat IgG2b, κ Brilliant Violet 421™ isotype control (right).

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Application Notes: Additional reported applications (for the relevant formats) include: blocking of $CD4^+$ T cell activation[1,4,11], thymocyte costimulation3, *in vitro* and *in vivo* depletion[2,5-8], blocking of egg-sperm cell adhesion[1,4], immunohistochemical staining of acetone-fixed frozen sections[9,10], and immunoprecipitation[1,2]. 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 (Cat. No. 100506), but not RM4-4 antibody (Cat. No. 116002). The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 100416). 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/microg).

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)

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.

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